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Just KOS!

Enriching Digital Collections with Hypertexts to Enhance Accessibility of Non-Western Knowledge Materials in Libraries†

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Abstract: The knowledge organization systems (KOS) in use at libraries are social constructs that were conceived in the Euro-American context to organize and retrieve Western knowledge materials. As social constructs of the West, the effectiveness of library KOSs is limited when it comes to organization and retrieval of non-Western knowledge materials. How can librarians respond if asked to make non-Western knowledge materials as accessible as Western materials in their libraries? The accessibility of Western and non-Western knowledge materials in libraries need not be an either-or proposition. By way of a case study, a practical way forward is presented by which librarians can use their professional agency and existing digital technologies to exercise social justice. More specifically I demonstrate the design and development of a specialized KOS that enriches digital collections with hypertext features to enhance the accessibility of non-Western knowledge materials in libraries.

† The author would like to thank Kristin Hoffmann, Associate Librarian at the University of Western Ontario, and the two anonymous reviewers for their very insightful suggestions and feedback.

1.0 Introduction

While the phrase "knowledge is power" may be a truism, having the skills to organize knowledge holds a similar agency. Librarians exercise their knowledge organization (KO) skills for the public good by utilizing knowledge organization systems (KOSs) such as the Library of Congress *Classification* (LCC), *Library of Congress Subject Headings* (*LCSH*), *Dewey Decimal Classification* (*DDC*), etc. While many perceive these KOSs to be "universal systems," library KOSs tend to marginalize non-Western knowledge materials (Moulaison Sandy and Bossaller 2017). Moulaison Sandy and Bossaller (2017) view this marginalization of non-Western materials in libraries as a social justice issue.

How can librarians respond to this issue of social justice in libraries? One may answer this question by engaging in a debate, which might yield polarizing approaches from doing nothing at one end to replacing the underlying Western epistemology in library KOSs at the other end. The purpose of this paper, however, is not to debate this question. In-

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stead, I assert that the accessibility of Western and non-Western knowledge materials in libraries need not be an either-or proposition. I showcase a local solution in the form of a specialized KOS that respects local community norms and needs by taking advantage of existing library information technology infrastructure. By exploring a case study I further assert that librarians can and must exercise their professional skills, courage and creativity to challenge systemic biases in Western libraries in order to make library systems socially just for non-Western knowledge traditions and materials.

Librarians have been at the forefront of utilizing digital technologies as an equalizer in restoring social justice in libraries. With the rise of digital and web technologies in the 1990s, most academic libraries, for instance, have been responsible for digitization and curation of unique and rare collections of their institutions. Digital collections have since become a *de facto* choice for organizing and sharing non-Western materials (Shiri 2006; Srinivasan et al. 2009). There are at least two reasons for the use of digital repositories for housing non-Western materials. First, among all the systems in use at libraries, digital repositories remain the most versatile in terms of ingesting materials of variable contents and formats (text, sound, images, and multimedia). For cultures and communities that are not as dependent on literal practices for transmission of knowledge, digital repositories are very accommodating for organizing their knowledge materials. Secondly, digital repositories impose minimal structure on the ingested materials in terms of KO and allow users to organize their materials based on their specific needs. While this flexibility has its advantages for storing and categorizing materials, it also makes digital repositories a poor tool for search and retrieval of materials. This drawback, however, seems less applicable to non-Western materials as these materials mostly remain hidden and inaccessible in libraries already. With this paper I show how existing digital collections in libraries can be enriched with hypertext features to serve as specialized KOSs.

2.0 Literature Review

Librarians are stewards of public knowledge. As responsible stewards, librarians must strive to make all knowledge available and accessible without prejudice and discrimination. However, library KOSs, particularly in the West, can be ineffective in the organization and retrieval of non-Western knowledge materials (Moulaison Sandy and Bossaller 2017). Some scholars argue that this ineffectiveness stems from the fact that all KOSs are social constructs, which limits their effectiveness to a specific time, geography and community of conception (Olsen 1998; Doyle et al. 2015; White 2018). The state of Indigenous knowledge in most libraries today is a stark exemplar of this ineffectiveness. As mentioned before, the inability of libraries to provide equal footing to Indigenous knowledge materials, for instance, has been recognized as a social justice issue (Moulaison Sandy and Bossaller 2017).

Even with an unwavering conviction of librarians for social justice, the practicality of making library systems socially and cognitively just for marginalized knowledge materials remains daunting. Many librarians find themselves asking whether or not it is right for them to disrupt or dismantle existing library KOSs that work well for the majority of library materials to accommodate marginalized materials. Finding a middle ground in the face of such a polarizing dilemma is perhaps the only practical way forward for librarians, at least in the short term. It is, therefore, important for librarians to identify and appreciate the root causes of some of the limitations of the existing library KOSs in charting a course forward.

2.1 Existing controlled vocabularies in library KOSs

The fact that most KOSs in the West are primarily in English poses practical problems for non-Western communities whose knowledge materials are seldom in English. Language is essential to humans as social beings and is used to communicate a shared worldview amongst communities. It is by assigning words to concepts and objects that communities simplify and make sense of their complex reality. Thus, vocabulary development, in any language, is a process of evaluating and organizing complex natural and artificial phenomena with a particular point of view and purpose (Izutsu 2009). It is not surprising then to understand why the use of *LCSH*, for example, is often criticized for its insensitivity toward non-Western worldviews. One of the ways librarians have addressed this issue in Indigenous communities, for instance, is through initiatives like the Decolonizing Description Project (Farnel et al. 2018). In this particular initiative, members of the community were consulted and empowered to develop local controlled vocabularies for inclusion in library KOSs. This approach is an example of how librarians have found a middle ground to accommodate complementary perspectives and priorities to make tangible progress toward social justice for marginalized knowledge.

2.2 Privileging commodified resources

Over the years, libraries have worked with various stakeholders, including authors, publishers, vendors, aggregators and others, to ensure the efficiency of library systems in managing Western materials. It is common to see Western knowledge resources packaged and indexed by vendors and aggregators in ways that make it easier for libraries to disseminate knowledge materials through local catalogues and

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discovery systems. Nevertheless, this desire for efficiency and the dependency on others have rendered libraries and librarians "complicit, if not responsible, for perpetuating colonial approaches to knowledge by replacing traditional knowledge with Western knowledge, especially in physical libraries established under colonial regimes" (Moulaison Sandy and Bossaller 2017, 132). Recognizing that it requires courage and perseverance to challenge established processes and biases in libraries, White (2018, 8) offers the following recommendations to librarians:

> As librarians we know that our systems are imperfect and flawed, yet we often spend time waiting for other groups, like vendors or programmers to fix these issues instead of taking the initiative and doing it ourselves. The first step to creating truly international, non-colonial, and unbiased systems is to acknowledge that there are perspectives not currently represented in library KOSs. As a profession we need to stop pretending that geographical diversity always means cultural diversity .... Finally, all cultures should be represented equally within the systems we create and the voice of librarians from the cultures themselves need[s] to be present from creation through revision.

2.3 Accepting the fallacy of "universal systems"

Library KOSs are generally perceived as "universal systems" as they have been able to gather, describe, and organize materials from various disciplines under increasingly unified and accessible interfaces. It is also evident that in the Western social context, library KOSs have been instrumental in making disparate knowledge materials discoverable and accessible to patrons. Today, however, the social context and local needs are more diverse and expansive than in the past. Some argue that the notion of "universal systems" is unrealistic and must be replaced by local approaches that recognize non-Western knowledge systems that remain marginalized in libraries (Nakata et al. 2005). Thus, rather than choosing to expand the definition of "universal systems" to include non-Western knowledge materials, many librarians are advocating for designing specialized KOSs for libraries to serve local community needs by taking advantage of digital technologies (Shiri 2006; Srinivasan et al. 2009; Chaudhry 2016; Farnel and Shiri 2018).

One of the services that have helped librarians manage non-Western knowledge materials is the digitization and digital collections service (Tharani 2019). This service, as Tharani notes (2019, 4), has proven useful for "librarians to collaborate with communities who are interested in sharing or safeguarding their history and heritage." While a digital repository is not a KOS in and of itself, it has the potential to be transformed into one by incorporating hypertexts.

Hypertextuality is "the ability to move without interruption from one information resource to another" (Feather and Sturges 2003, 232 quoted in Ridi 2018, 393). As this case study will demonstrate, the use of digital collections in conjunction with hypertexts can provide the necessary digital technology infrastructure to design and develop specialized KOSs for non-Western knowledge materials.

3.0 Context: the community and the collection

For this case study, the author partnered with members of the *Ismaili* community to understand the needs and aspirations of the community to organize and safeguard its revered tradition and collection of *ginans* (gnostic and devotional hymns).

3.1 The Ismaili community

The Ismaili Muslim community, generally known as the Ismailis, is a culturally pluralistic community that lives primarily in minority and diaspora settings around the world, including Canada, the United States, and the United Kingdom. The majority of the community members settled in the Euro-American countries today trace their religious and cultural origins to the pre-colonized India. In India, the community members were popularly known as the *Khojas*. The religious doctrine of the Khojas is known as *Satpanth* (True Path), and their corpus of gnostic and devotional hymns is known as *ginans*. Beyond their liturgical role today, *ginans* also remain deeply embedded in the personal and social lives of the Satpanth Ismailis even today (Asani 2002, 29):

> At a personal and family level, too, *ginans* are used in many different contexts: individual verses can be quoted as proverbs; verses can be recited at homes to bring baraka, spiritual and materials blessing; housewives, in a usage that stresses the links between the *ginans* and folk tradition, often recite them while working or as lullabies; audio cassettes can be found in many an Ismaili home and even cars!

3.2 The collection of *ginans*

Ginans were initially transmitted orally as early as the fifth century, and the community members sang them in various Indian *ragas* (or melodies) to aid in memorization and transmission of *ginans*. Additionally, the Ismaili community also developed and utilized a particular script called *Khojki* to transcribe *ginans* as early as the tenth century (Nanji 1978). Tracing its roots to mercantile communities of India, Khojki is not a language in itself but a script that served as a shorthand to render *ginans* to text. The language

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of the *ginans* itself is polyglottal (or multilingual) as it borrows vocabulary from Persian, Arabic, and several Indic languages (Shackle and Moir 1992). The community also founded the Khoja Press of India in 1903 to publish authorized texts of *ginans*. The press used specialized German-made fonts for the Khojki script for printing the ginan corpus (Asani, 2011). Later on, as the community embraced Gujarati as its *lingua franca*, a canon of *ginans* in Gujarati also started to emerge in the mid-twentieth century. The romanized transliterations of *ginans* became common during the 1970s as community members began to settle in the Euro-American countries.

With advances in technology, the Ismaili community members also started capturing sound recordings of the *ginans* on cassettes, CDs and digital audio files in the mid-to late- twentieth century (Asani 2002). The melodic aspect of *ginans* is perhaps the primary reason why many of the *ginans* continue to survive in the West. Kassam, an Ismaili academic specializing in *ginans*, fondly laments the role of *ginans* during her childhood (2001, 1): "There seemed nothing unusual about singing *ginans* ... on the way to the beach, city, or school. As a child, I learned to articulate my first requests to God and to express my first feelings of devotion and surrender through the language and music of *ginans*." Thus, the corpus of *ginans* today include manuscripts and lithographs in Khojki and Gujarati scripts, printed transliterations of the *ginans* in Gujarati and English alphabets, as well as analog and digital recordings of *ginans*.

4.0 Methods

The multilingual and multimedia collection of *ginans* presented itself as a befitting candidate for this case study to develop a specialized KOS for non-Western knowledge materials. The case study has used the corpus of *ginans* to present a pragmatic and hands-on account of how librarians can help enhance retrieval and access of non-Western materials by enriching digital collections with hypertext features. The following is a summary of the process followed in this case study.

4.1 Gathering and analyzing materials

This case study entailed gathering and analyzing 500 items of *ginans*, which included manuscripts, lithographs, books, CDs, as well as digital recordings. The items were primarily shared by community members and digitized for online retrieval and access. Many unique Khojki items housed at the Harvard University Library were also included in the case study. The contents of each selected item were further analyzed to identify and enumerate unique *ginans*.

4.2 Organizing knowledge materials

The materials gathered for the case study were divided into five collections primarily based on their material type and primary purpose, which are: "*ginan* archive," "*ginan* canon," "*ginan* commons," "*ginan* recitals" and "*ginan* studies." These collections also acknowledge and continue the historic multifaceted efforts of the Ismaili community to safeguard *ginans* for posterity. Materials in the "*ginan* archive" collection are primarily manuscripts in Khojki. These archival materials serve as primary sources for the academic study of *ginans*. The "*ginan* canon" collection comprises materials that were officially published by the community to standardize the *ginan* corpus with changing times. Several community elders and educators have also produced romanized English texts and translations of *ginans* which are available in the "*ginan* commons" digital collection. The "*ginan* studies" collection includes a bibliography and texts of research studies on *ginans*. The audio recordings, curated in the "*ginan* recitals" collection, make up the majority of the items gathered in this study. A dedicated website was developed for each of the five independent digital collections, as summarized in Table 1.

4.3 Identifying and ascribing metadata

Due to the diverse and dispersed nature of the items gathered, different types of information (metadata) attributes about the materials were also captured for provenance, description, retrieval, and access. While the metadata attrib-

Digital Collection	Purpose	Online Access
Ginan Archive	Collection of rare Khojki manuscripts of *ginan* texts.	http://*ginans*.usask.ca/archive/
Ginan Canon	Printed Khojki and Gujarati texts of *ginans* that are considered official.	http://*ginans*.usask.ca/canon/
Ginan Commons	Romanized texts of *ginans* in English developed by community individuals and institutions.	http://*ginans*.usask.ca/commons/
Ginan Recitals	Audio recordings of recitations of *ginans* by community members across the globe.	http://*ginans*.usask.ca/recitals/
Ginan Studies	A comprehensive list and texts of academic research on *ginans*.	http://*ginans*.usask.ca/studies/

Table 1. Digital collections of *ginans*.

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utes slightly varied amongst the five digital collections, the descriptive metadata for the *ginans* remained the same across all materials, as identified in Table 2. These metadata attributes of *ginans* were primarily identified based on the practices prevalent in the Ismaili community. For instance, not all *ginans* have assigned titles, and it is a common practice in the community to use the incipit (or the opening line of a *ginan*) as the title in such cases. Each *ginan* was assigned a common identifier (master ID) for enumeration across all the items, many of which had inconsistent wordings and transliteration conventions.

5.0 Designing a specialized KOS for digital collections of *ginans*

Before proceeding with the account of designing the specialized KOS for *ginans*, it is vital to orient such a KOS in the existing typologies of KOSs. Scholars have suggested various typologies of KOSs based on their purpose, function, and structure (Zeng 2008; Mazzocchi 2018). What can be seen in these typologies is the varying levels of semantic richness of KOSs, which can be as simple as lists of terms and as complex as ontologies. Thus, having the wherewithal to undertake semantic analysis in a foreign language is a critical determinant of the effectiveness of a KOS. Given that librarians generally lack foreign language skills and resources to commission semantic analysis, one can only expect specialized KOSs of non-Western materials to be metadata-based lists and directories of attributes and authority files. The use of metadata in specialized KOSs to replace semantic relations does not entirely exonerate librarians of their responsibility toward non-Western materials. However, it does allow them to move forward in enhancing the accessibility of marginalized knowledge materials in their libraries. Using this simple approach to designing specialized KOS also affords librarians and community members more flexibility to adjust the sophistication of specialized KOSs from simple list structures to semantically rich ontologies as resources become available.

5.1 The 5 Cs of specialized KOS—a conceptual design

It may be useful to visualize a specialized KOS as a graph of nodes (units of information) and vertices (metadata attributes) that facilitates retrieval and access. In this visualization, the conceptual design of a specialized KOS consists of a hierarchy of five decomposable nodes (or the 5 Cs), which are: "community," "collections," "carriers," "contents," and "containers." The community node represents the highest level of organization to emphasize the local context of the KOS in serving specific community needs. The node directly below is the collections node, which represents the scope of materials organized within the specialized KOS. The next node in the hierarchy represents carriers or items (such as manuscripts, books, CDs) across all collections that are included and served by the specialized KOS. The fourth node in the hierarchy represents contents and symbolizes the distinction between items and their contents (e.g., books and book chapters or albums and album tracks). The final node is represented by containers or digital collections, which is where digital surrogates of materials are indexed and stored for retrieval and access. In the case of *ginans*, this node includes all the digital collections of *ginans* mentioned before, including "*Ginan* Archive," "*Ginan* Canon," "*Ginan* Commons," "*Ginan* Recitals" and "*Ginan* Studies."

The relationships (or vertices) among these hierarchical nodes in the conceptual design of a specialized KOS are linked together by various metadata attributes to facilitate retrieval and access. The administrative metadata, for instance, is used for identifying and managing individual and institutional collections of the community. The descriptive metadata pertain to information on various items that are to be made available through the specialized KOS. The details of the contents of an item are captured via the structural metadata, which can include details like title, order and location of intellectual works contained with a given item. The reference metadata facilitate linking the intellectual knowledge organization of the materials with physical files. The information on digital collections and universal resource identifiers (URIs) assigned to various resources within the collections is part of the reference metadata suite.

Attributes	Purpose
master ID	A unique numeric value assigned to each *ginan* for identification.
incipit	The starting line of untitled *ginans*.
title (if any)	Any additional name assigned to *ginans* by the composer or community.
ginan type	An attribute to distinguish between short and long titled *ginans*.
composer	Name of the composer of a *ginan*.
state	An attribute to distinguish between published and unpublished *ginans*.
status	An attribute to differentiate *ginans* with verifiable evidentiary sources to substantiate their existence and validity.

Table 2. Descriptive metadata attributes used for *ginans*.

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With the use of metadata in defining relationships between nodes in specialized KOSs, the notion of hypertextuality—the ability to decompose, describe, navigate, and retrieve information resources—is at the forefront of the conceptual design of specialized KOSs. The nodes and vertices have an overlay of hypertext features for navigation and retrieval of resources as depicted in Figure 1.

According to Ridi (2018, 393), there are five fundamental characteristics of hypertextuality for KOSs: multilinearity, granularity, integrability, interactivity, and multimediality. These characteristics are also central to the design of the specialized KOS developed for the *ginans*.

5.1.1 Multilinearity

In hypertext, multilinearity refers to the ability to facilitate navigation of resources in any order, sequential or otherwise. Although the number and nature of links embedded are pre-determined, hypertexts do not impose any pre-de-

fined order or path for users to follow. The choice to access linked information, and which order, is left to the users to decide. For example, multilinearity allows a user to access English texts of a *ginan* in "*Ginan* Canon" and optionally navigate directly to the audio recitations of the same *ginan* available in "*Ginan* Recitals." This ability for a user to freely discover, retrieve, and access resources through hypertexts enriches these collections to function as a specialized KOS. Also, through the use of multilinearity, users can retrieve materials based on other facets (such as reciters, albums, and collections in the case of "*Ginan* Recitals" in Figure 2) without necessarily imposing any particular navigational path.

5.1.2 Granularity

Granularity, according to Ridi (2018, 394), is a precondition of hypertext and refers to the property of materials to be "decomposed into smaller self-contained parts [while] still making sense and usable." When working with Western
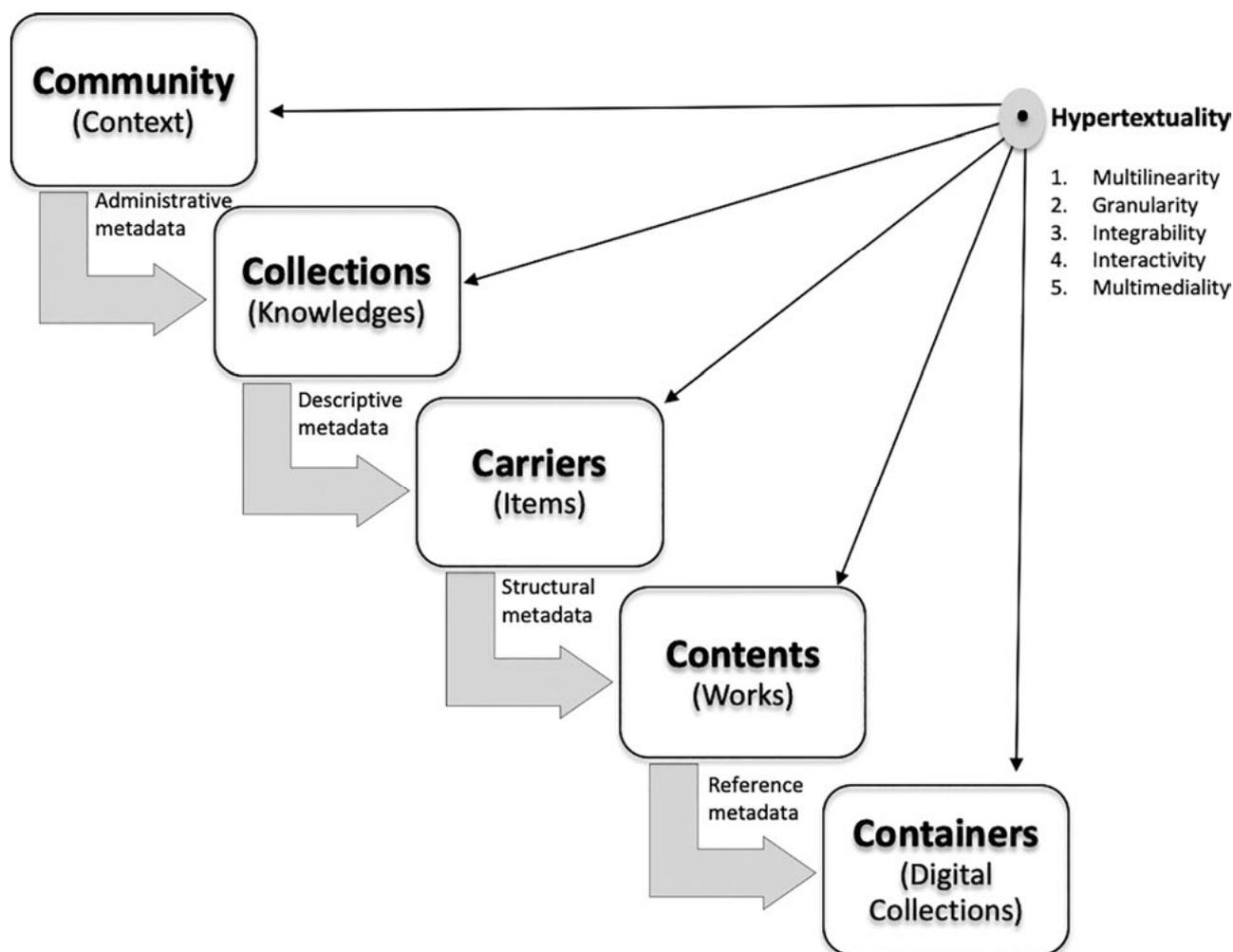

Figure 1. The 5 Cs of specialized KOS—a conceptual design.

Figure 2. The multilinear and contextual navigation across digital collections.

materials in libraries, for instance, librarians generally choose physical carriers such as books, serials, or CDs as still their preferred level of granularity for library KOSs. When working with non-Western knowledge, however, materials may not come neatly packaged as their Western counterparts. Additionally, the community needs and norms may also influence the extent of granularity of decomposing and describing resources. In the case of the *ginans*, for example, the community members typically seek to retrieve individual *ginans* regardless of their items (carriers). It was necessary, therefore, to decompose the physical carriers of *ginans* by their contents. Figure 3 illustrates how a published item in "*Ginan* Canon" has been decomposed based on its contents by using hypertexts. It is important to note that the

ability for users to navigate to particular items and collections remain intact regardless of the extent of granularity.

5.1.3 Integrability

Ridi (2018, 394) asserts that integrability presents the user with the possibility of "following links in a hypertext by moving from a node [or resource] to another ... without ever arriving to any definitive end." A key enabler of integrability for the *ginan* digital collections is the *Ginan* Master Index (GMI). Consistent with the granularity set at individual *ginans*, the GMI provides an alphabetical registry of *ginans* by enumerating and integrating all available materials across the five digital collections. Serving as the inter-

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Ginan Central: Canon

About | **Ginans** | Sources | Collections

100 Ginānni Chopaḍi: Bhāg Pehlo. Bombay, 1934. [Khojki]

Contents
(view in alphabetical order)

1-001	kahe pīr hasan kabīrdīn srevo nar har thān (sat vachan)	1
1-002	uṅchāre koṭ bahu vechanā	5
1-003	ādam ād nirījan (ruhāni visāl)	6
1-004	ramatā ramatā prabhu pāṭaṇ (1)	14
1-005	sohī sachā yārā munīvaro jenī gurnar (jodila 1 of 10)	19
1-006	dul dul ghoḍe nīpanuṅ te sovan lagāmnī (jodila 2 of 10)	21
1-007	sate chālo mārā munīvaro ane kāṅi chhoḍo te (jodila 3 of 10)	23
1-008	bāvā murakh loko te maram na jānīo (jodila 4 of 10)	25
1-009	tame gafalate ma suore munīvaro (jodila 5 of 10)	27
1-010	hetesuṅ mīlore mārā munīvaro (jodila 6 of 10)	29
1-011	hete mīlīne sate chālajo (jodila 7 of 10)	31
1-012	gur bharmājī jugā juge āveā (jodila 8 of 10)	33
1-013	jīv chhoḍāvā satpaṅth (jodila 9 of 10)	35
1-014	velā potīne ved vīchāro (jodila 10 of 10)	37

Figure 3. Granularity in the specialized KOS of *ginans.*

face of the specialized KOS for the *ginans*, the GMI, as shown in Figure 4, facilitates direct navigation and retrieval of specific resources by ginan titles.

5.1.4 Interactivity

An interactive specialized KOS provides users with multiple discovery paths and puts them in control to freely choose from the available choices. While standalone digital collections offer a certain level of interactivity to users in terms of accessing textual and multimedia resources, they generally have limited and fixed paths of interaction. For instance, to access a specific ginan from a particular item in a digital collection, a user would typically need to page through several images to arrive at the desired ginan. With a hypertext-enabled GMI interface, users can traverse through multiple paths in discovering collections, items, as well as *ginans* housed across multiple digital collections. Additionally, the descriptive metadata attributes such as contributors, recit-

ers, composers, and others (see Table 2 above) also provide alternate interactive navigational paths.

5.1.5 Multimediality

Multimediality refers to the versatility of materials that can be retrieved and accessed by a given KOS. As mentioned before, digital collections in libraries are versatile in terms of ingesting multimedia resources. Most of the available open and proprietary digital repository platforms have built-in support for standard media and file types, including PDF and MP3 formats. In the case of the *ginans*, scans of all digitized textual materials were converted to PDF files. Because community members recite *ginans* in various tunes, it is possible to digitally capture and store these melodies as MP3 files. Table 3 provides a summary of files by type accessible across the five ginan digital collections.

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Ginan Central: Ginan Master Index

No.	Ginan Master ID	Incipit (starting line)	Title (if any)	Authority (unverified)	Audio Sources (Recitals)	Manuscripts & Lithographs (Archive)	Khojki/Gujarati Sources (Canon)	English Community Resources (Commons)	Scholarly Reources (Studies)
1	500620	ab terī mahobat lāgī		Pir Shams	🔊	🏛	📦	😊	🎓
2	500630	abh bolaṇā kaesā tamāre sātheṅ	bāi buḍhāi no samvād - 71	Bai Buḍhai	🔊	🏛			
3	500640	abhī abhī antar buj bujantar		Pir Sadardin	🔊	🏛	📦		
4	500650	abuj na buje tene kem kahīe		Pir Sadardin	🔊		📦	😊	
5	500660	achhaḍā khojo añhī achhaḍā khojo		Pir Shams	🔊	🏛	📦	😊	
6	500680	aesā marg ham kabhue na dekheā	bāi buḍhāi no samvād - 39	Bai Buḍhai	🔊	🏛			
7	510170	ahi hae thaḷ nahi hae thām	sol thāl - 07	Sayyid Imam Shah	🔊				
8	500690	ahunkār madhe dhīyān dharīne		Sayyid Imam Shah	🔊	🏛	📦		
9	500700	ahunkāre pirī bhirmā boleā pram	gorakh ginān	Pir Sadardin		🏛			
10	500710	ahunkāre shabade shāh ārambh kīyā		Sayyid Imam Shah	🔊	🏛	📦		

Figure 4. Ginan Master Index (GMI).

Digital Collection	Media Type	Number of Resources
Ginan Archive	Portable Document Format (PDF)	914
Ginan Canon	Portable Document Format (PDF)	1243
Ginan Commons	Portable Document Format (PDF)	2610
Ginan Recitals	MP3 audio	5104
Ginan Studies	Portable Document Format (PDF)	250

Table 3. Summary of formats and files by digital collections.

6.0 Discussion and analysis

Any KOS is a social construct that derives its value and utility based on the geography, culture, time, and community it is conceived in and for. Many of the KOSs in use in libraries were conceived in the Euro-American context to serve the organization and retrieval needs of the West (White 2018). With this case study I have presented a practical way to address this challenge, without necessarily disrupting existing library processes that continue to work well for Western knowledge materials. I showcased how librarians can still enhance access to non-Western materials by devising practical KOSs that utilize existing library information technology infrastructure. Some of the general insights and lessons gleaned from this case study are summarized below.

6.1 Accommodating foreign scripts and languages

One of the challenges that librarians must surmount when working with non-Western knowledge resources is the language. For these materials to be available through existing library KOSs, access to standard romanization guides (for transliterating foreign language using English alphabets) is crucial. These guides can then be used in specialized KOS to consistently capture descriptive metadata about the knowledge materials using an agreed-upon convention. The case of the Ismaili community was particularly complex as the script used by the community to write *ginans* was distinct from the language of the *ginans*. In general, however, non-Western materials are often in a foreign language that may already have a standardized convention for romaniza-

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tion. The engagement of community members to lend their language expertise can also be extremely helpful for addressing this challenge.

6.2 Embracing plurality of sources and resources

As mentioned before, non-Western knowledge materials typically do not come packaged with well-defined metadata attributes. Consequently, the contents in available items can be repeated and reproduced within a community in multiple forms and media. It can require extensive effort on the part of librarians to identify and de-duplicate unique contents (works). Consultation and collaboration in this regard can not only lead to better results but also can save time and resources. An additional benefit of engaging the community is that the elders and educators in the community can share their domain knowledge in terms of gauging sensitivities surrounding materials that can and cannot be shared publicly. Librarians can reciprocate these community efforts by lending their professional expertise in organizing the materials for enhanced accessibility and preservation.

6.3 Describing works in addition to items

One of the insights gained from this project was the necessity to disambiguate carriers (items) from the contents (works) in the collections. Although the underlying library standards and systems are capable of cataloguing at multiple levels of granularity, cataloguing items of Western knowledge materials has become a best practice in many libraries. When it comes to organizing non-Western knowledge, the prevailing best practice of cataloguing carriers may need to be adjusted based on the local needs and norms of the community.

6.4 Incorporating local community needs

The plurality of materials gathered for this case study reinforced the diverse needs and audiences for *ginans*. For any specialized KOS to be acceptable and useful for the community, librarians must commit to putting the needs of the community at the forefront. This commitment requires building online interfaces with multiple views and access points for retrieval and access of materials.

7.0 Conclusion

Librarians have equal responsibility toward the accessibility of dominant and marginalized materials in their libraries. However, librarians need not think of these two as competing choices but as necessary complements. By way of a case study, a practical way forward was presented to enable librarians to use their professional agency and existing library information technology infrastructure to provide equal footing to non-Western knowledge materials. After a very brief discussion on the merits of creating local KOSs for digital collections of non-Western knowledge materials, a conceptual design identifying the 5 Cs of specialized KOSs was discussed using Ridi's characteristics of hypertextuality as a framework. The implementation of the conceptual design was also presented for the tradition of *ginans* (a collection of devotional and gnostic hymns) of the Ismaili community as a case study. This specialized KOS for the *ginans* was based on the division of a corpus of 500 source materials into five distinct digital collections, which were enriched with hypertexts.

References

Asani, Ali S. 2002. *Ecstasy and Enlightenment: The Ismaili Devotional Literature of South Asia*. London: I. B. Tauriss.

Asani, Ali S. 2011. "From Satpanthi to Ismaili Muslim: The Articulation of Ismaili Khoja Identity in South Asia. *A Modern History of the Ismailis.*" In *A Modern History of the Ismailis: Continuity and Change in a Muslim Community,* ed. Farhad Daftary. London: I. B. Tauris Publishers, 95-128.

Chaudhry, Abdus Sattar. 2016. "Re-conceptualization of Knowledge Organization: Imperatives of Networked Resources and Digitization." *International Journal of Knowledge Content Development & Technology* 6: 93-107.

Doyle, Ann M., Kimberley Lawson and Sarah Dupont. 2015. "Indigenization of Knowledge Organization at the Xwi7xwa Library." *Journal of Library and Information Studies* 13: 107-34. https://circle.ubc.ca/handle/2429/54261

Farnel, Sharon and Ali Shiri. 2018. "Community-Driven Knowledge Organization for Cultural Heritage Digital Libraries: The Case of the Inuvialuit Settlement Region." *Advances in Classification Research Online* 29: 9-12.

Farnel, Sharon, Denise Koufogiannakis, Ian Bigelow, Anne Carr-Wiggin, Debbie Feisst, Kayla Lar-Son and Sheila Laroque. 2018. "Unsettling Our Practices: Decolonizing Description at the University of Alberta Libraries." *International Journal of Information, Diversity, & Inclusion* 2, no. 1/2. https://jps.library.utoronto.ca/index.php/ijidi/article/view/32218/24644/

Feather, John and Paul Sturges. 2003. *International Encyclopedia of Information and Library Science*, ed. John Feather and Paul Sturges. 2nd ed. London: Routledge.

Izutsu, Toshihiko. 2002. *Ethico-Religious Concepts in the Qur'an*. Montreal: McGill University Press.

Kassam, Tazim R. 2001. "Teaching Religion and Music: Those Who Sing Pray Twice." *Spotlight on Teaching* 16, no. 2: 1-12.

Mazzocchi, Fulvio. 2018. "Knowledge Organization System (KOS): An Introductory Critical Account." *Knowledge*

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Knowl. Org. 47(2020)No.3
K. Tharani. Just KOS!

Organization 45: 54-78. doi:10.5771/0943-7444-2018-1-54

Moulaison Sandy, H. and Bossaller, J. 2017. "Providing Cognitively Just Subject Access to Indigenous Knowledge through Knowledge Organization Systems." *Cataloging & Classification Quarterly* 55, no. 3: 129-52. doi:10.1080/01639374.2017.1281858

Nakata Martin, Alex Byrne, Vicky Nakata V. and Gabrielle Gardiner. 2005. "Indigenous Knowledge, the Library and Information Service Sector, and Protocols." *Australian Academic & Research Libraries* 36, no. 2: 7-21.

Nanji, Azim. 1978. *The Nizārī Ismāʿīlī Tradition in the Indo-Pakistan Subcontinent*. Delmar, NY: Caravan Books.

Olson, H. A. 1998. Mapping Beyond Dewey's Boundaries: Constructing Classificatory Space for Marginalized Knowledge Domains. *Library Trends* 42, no. 2: 233-54.

Ridi, Riccardo. 2018. "Hypertext." *Knowledge Organization* 45: 393-424.

Shackle, Christopher and Zawahir Moir. 1992. *Ismaili Hymns from South Asia: An Introduction to the Ginans*. London: SOAS.

Shiri, Ali. 2006. "Knowledge Organization Systems in Canadian Digital Library Collections." *Proceedings of the Annual Conference of CAIS/Actes du congrès annuel de l'ACSI*. doi:10.29173/cais189

Srinivasan, Ramesh, Robin Boast, Jonathan Furner and Katherine M. Becvar. 2009. "Digital Museums and Diverse Cultural Knowledges: Moving Past the Traditional Catalog." *The Information Society* 25: 265-78.

Tharani, Karim. 2019. "Shifting Established Mindsets and Praxis in Libraries: Five Insights for Making Non-Western Knowledge Digitally Accessible Through Community Engagement." *Canadian Journal of Academic Libraries* 4: 1-13. doi:10.33137/cjal-rcbu.v4.30018

White, Hollie. 2018. "Decolonizing the Way Libraries Organize." Paper presented at the IFLA WLIC 2018. http://library.ifla.org/2221/1/207-white-en.pdf

Zeng, Marcia Lei. 2008. "Knowledge Organization Systems (KOS)." *Knowledge Organization* 35: 160-82.