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# Conflicts of Semantic Warrants in Cataloging Practices

## Abstract

This study presents preliminary themes surfaced from an ongoing ethnographic study. The research question is: how and where do cultures influence the cataloging practices of using U.S. standards to catalog Chinese materials? The author applies warrant as a lens for evaluating knowledge representation systems, and extends the application from examining classificatory decisions to cataloging decisions. Semantic warrant as a conceptual tool allows us to recognize and name the various rationales behind cataloging decisions, grants us explanatory power, and the language to "visualize" and reflect on the conflicting priorities in cataloging practices. Through participatory observation, the author recorded the cataloging practices of two Chinese catalogers working on the same cataloging project. One of the catalogers is U.S. trained, and another cataloger is a professor of Library and Information Science from China, who is also a subject expert and a cataloger of Chinese special collections. The study shows how the catalogers describe Chinese special collections using many U.S. cataloging and classification standards but from different approaches. The author presents particular cases derived from the fieldwork, with an emphasis on the many layers presented by cultures, principles, standards, and practices of different scope, each of which may represent conflicting warrants. From this, it is made clear that the conflicts of warrants influence cataloging practice. We may view the conflicting warrants as an interpretation of the tension between different semantic warrants and the globalization and localization of cataloging standards.

## 1. Introduction

In the context of knowledge organization, semantic warrant refers to the authoritative rationale that justifies classificatory decisions (Beghtol 1986). Several semantic warrants have been identified in the literature, including literary warrant, scientific/philosophical warrant, educational warrant, cultural warrant, ethical warrant, and market warrant (Beghtol 1986; Beghtol 2002; Hulme 1911; Martínez-Ávila and Kipp 2014). Kwasnik (2010) proposes applying warrant as a conceptual framework for assessing knowledge representation systems. The concept of warrant offers us a tool to pinpoint the justification for decisions, and enables comparison between systems. Recognizing that a system, such as a classification scheme, and its warrant may change, tracing warrants may explain scheme changes over time. In addition, with warrants identified, we can debate and reflect on the choices, applications, and prioritization of warrants. As Kwasnik (2010) noted, when evaluating classifications using warrant, cases of mixed warrant, misunderstood warrant, misapplied warrant, and changing warrant were found. The cases would be the foundation for further examinations to improve the system evaluated. The concept of warrant also provides an interpretation of the tension between standardization and localization of knowledge organization systems. Kwasnik identifies this as the tension between enduring warrants (e.g., scientific warrant and literary warrant) and changing warrants (e.g., cultural warrant). Along this line of thought, Bullard (2016) examines the relations between different warrants in classification design. Warrant is applied as a conceptual tool for recognizing and analyzing conflicts in a classification system.

In this paper, I adopt the approach of using warrant as a lens for evaluating knowledge representation systems, extending the scope from examining classification decisions to

also include cataloging decisions. The focus shifts from classification schemes to visualizing the rationales underlying cataloging records, as well as the interpretation and application of cataloging rules. To explore the research question: how and where do cultures influence the cataloging practices of using U.S. standards to catalog Chinese materials?, I examine cultural influences in cataloging practices in a Research I University Library. In an ongoing ethnographic study, I record cases using the U.S. standards to catalog Chinese special collections through participatory observations. I present three cases for discussion in the paper, with an emphasis on the relations between languages and cultures of the materials cataloged, and the cultures, principles, and practices of the institution. These cases affirm arguments in previous research. For instance, the complication and ambiguity of mapping English and Chinese role designators (e.g., author, compiler) confirm the contextual nature of concepts and semantic relations (e.g., Hjørland 2007).

## 2. Method

The cases in this paper are selected from the participatory observations of an ongoing ethnographic study started from September 2015. I have shadowed a U.S. trained Chinese cataloger Q (pseudonym) at a Research I University Library: Y (pseudonym). Q is familiar with the U.S. cataloging and classification standards. She is experienced in cataloging materials in English and some European languages. As a native Chinese speaker, she catalogs Chinese materials, and collaborates with other catalogers to describe Japanese and Korean materials. When the study started, Q was working on an international project to catalog Chinese special collections and rare materials. Z (pseudonym), a professor and a cataloger specializes in Chinese rare books and special collections, traveled from China to participate in the project. The general workflow starts from student workers, who look up the materials in WorldCat and sort materials into categories of the next step: copy cataloging, copy cataloging with enhancement, and original cataloging. Z catalogs the materials requiring enhancement or original cataloging. His expertise is particularly valuable in estimating the creation or publication date of the material, and describing the edition and binding. Z creates records in both CALIS (China Academic Library & Information System)[1] and OCLC Connexion. Since Z is less familiar with the U.S. standards, Q examines and revises the records to make sure they comply with the U.S. standards and practices before sharing with other libraries via WorldCat. Most of the observation sessions are with Q. I document questions and the changes Q makes, and discuss the rationales behind those decisions with Q. After accumulating some documentation, I had one observation session with Z, in which Z justifies his cataloging decisions and answers some of the questions that emerged from the record reviewing process.

The languages, cultures, and formats of the materials surface both the common and the different cataloging practices, perspectives, and warrants of Q and Z. In the fieldwork, I identify a variety of standards in the cataloging process. There are U.S. cataloging rules like the CGCRB (the Cataloging Guidelines for Creating Chinese Rare Book Records in

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[1] CALIS http://rbsc.calis.edu.cn:8086/aopac/jsp/indexXyjg.jsp is a database covers Chinese rare books and maps collections across 28 higher education institutions in China and North America. Catalogers create records following the metadata standard of this consortium.

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Machine-Readable Form)[2] and RDA (Resources Description and Access). There are cataloging practices of the Y library, and the practices of the CALIS consortium, with which Z complies. The subject heading standards used are the LCSH, the *Chinese thesaurus* (*Han yu zhu ti ci biao*), and the Chinese *Si ku quan shu* categories. Other standards and guidelines include the LC-PCC PSs (Library of Congress-Program for Cooperative Cataloging Policy Statements), LCDGT (Library of Congress Demographic Group Terms), LCGFT (Library of Congress Genre Form Terms), and ALA-LC Romanization Table. The layered and intertwined standards of different scopes emphasize different warrants. In the following section, I will introduce cases highlighting the conflict of warrants observed.

## 3. Cases

This section presents three cataloging cases. The first case is about the choice of language for a devised title for materials without title information. The second case presents the complexity of mapping Chinese role designators onto English role designators (e.g., editor, compiler). The third case depicts the particular challenges of describing rubbings in a Chinese special collections context.

### 3.1. Assigning devised title

In one case of cataloging a Chinese painting, there was no title information on the piece for transcription. It is not unusual to encounter paintings without titles. Z devised a Chinese title to the painting, and recorded the Pinyin Romanization of the title. Q reviewed the record and agreed with Z's approach. However, the record was challenged by a cataloger from another institution. The argument is that the devised title should be in English because the preferred language in library Y is English. In an observation session, Q looked up rules to justify her approach. According to the RDA rule 2.3.2.11 Recording Devised Titles, when there is no title on the manifestation and other sources,[3] such as accompanying material and container, we are instructed to devise a title using the language and script that is appropriate to the content of the material. If the appropriate language and script are not obvious or applicable, a cataloger can assign a devised title in the language preferred by the cataloger's institution. In addition, if the material form normally has title information (e.g., monograph), catalogers should make a note specifying that the title was devised. Under the general guideline, an alternative rule sanctioned by the LC-PCC PSs suggests, "devise a title in a language and script preferred by the agency preparing the description." In short, in the case of a Chinese painting with no title information, the cataloger should devise a Chinese title, because it is the language appropriate to the content. If the cataloger does not have the language expertise to devise

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[2] CRCRB http://www.eastasianlib.org/ctp/webinars/ChineseRareBook/CRBP_guidelines.pdf is a U.S. cataloging rule developed from the Research Libraries Group Chinese Rare Books Project. Scholars within and outside of the U.S. contributed to its development. The rules apply to Chinese books and manuscripts produced in China before 1796 through the Qianlong reign.

[3] RDA rules 2.2.4. Other Sources of Information. "If information required to identify the manifestation does not appear on a source forming part of the manifestation itself (see 2.2.2.1), take it from one of the following sources (in order of preference): a) accompanying material (e.g., a leaflet, an "about" file) that is not treated as part of the manifestation itself as described in 2.2.2.1 b) other published descriptions of the manifestation c) a container that is not issued with the manifestation itself (e.g., a box or case made by the owner) d) any other available source (e.g., a reference source)."

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a Chinese title, an English devised title is also acceptable. We can see the general rules and the LC-PCC PSs alternative emphasize different warrants. The former prioritizes cultural warrant, which reflects the content and language of the material described. The latter prefers user warrant, since the preferred language of an institution reflects the language used by most users. From Q's perspective, as indicated in the indentation of the rules, catalogers should follow the general rules, and only apply the alternative when the general rules are not applicable. The counter argument prioritizes the LC-PCC PSs over general rules. The argument arose from different interpretations of the application of rules.

### 3.2. Mapping role designators

The RDA rules enumerate English role designators, such as *author* and *illustrator*, with definitions. While some terms may find good mappings in Chinese, many issues arise from assigning role designators to Chinese materials. Q and I identified six types of issues from the cases accumulated in the fieldwork.

### 3.2.1. Mixed roles (one-to-many mapping)

Chinese role designators may have one-to-many mappings with English terms. Take a Chinese role designator 編著 (bian zhu) for example, 編 (bian) means edit or compile, 著 (zhu) means write. Bian zhu is a very common role designator in Chinese materials. Should catalogers assign *editor*, *compiler*, *author*, or all of them? Another example is 編述 (bian shu). 述 (shu) means to narrate or to describe. Q looked up *narrator* in RDA 7.23.[4] *Narrator* refers to a person who narrate for recordings. In RDA I.3.1 Relationship Designators for Contributor, narrator is "a performer contributing to an expression of a work by reading aloud or giving an account of an act, occurrence, course of events, etc." However, in the case Q had at hand, the narrator is the person who tells the story (e.g., oral history), as an interviewee. The definition of *interviewee* is "a person, family, or corporate body responsible for creating a work by responding to an interviewer, usually a reporter, pollster, or some other information gathering agent," (RDA rule I.2.1). When catalogers see bian shu, should they assign *editor*, *compiler*, *interviewee*, or some or all of them? To choose the best English mapping of a Chinese role designator, catalogers depend on the content and format of the item at hand. For instance, if the item is a dictionary or encyclopedia, the designator bian zhu should be mapped with *compiler*. However, if the format and content indicate otherwise, catalogers have to assign different terms accordingly.

### 3.2.2. Old or ambiguous terms

Some Chinese role designators in older materials are not very comprehensible. Catalogers may have to consult reference materials and dictionaries to understand what the designators mean. Take 纂修(zuan xiu) for example. 纂 (zuan) means edit or compile. Zuan often goes with 編 (bian) and form a phrase 編纂 (bian zuan), which means to edit or compile. Bian zuan is a combination of two synonyms. What about 修 (xiu)? If we follow the same vein, we might assume that xiu means correct or emend, because 修正

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[4] The RDA is undergoing changes. The rule 7.23 Performer, narrator, and/or Presenter is available under the Instruction Archive of the 2015 April Update. In rule 7.23.1.1, "a performer, narrator, and/or presenter is a person, family, or corporate body responsible for performing, narrating, and/or presenting a work."

(xiu zheng) is a common phrase meaning correct or emend. However, Q looked up the term in a reference resource and clarified that the xiu means *sponsor*. Zuan xiu is a combination of edit/compile and sponsor. Another example is a comparison of 點校 (dian jiao), 點 (dian), and 校點 (jiao dian). Both dian jiao and dian mean *emend with punctuation*. Dian means punctuate, and jiao means emend. Nevertheless, jiao dian means *criticism with punctuation*. The shift of character sequence of a phrase could change the meaning.

### 3.2.3. Synonyms (many-to-one mapping)

There are synonyms in Chinese role designators. For example, 著 (zhu), 作 (zuo), 撰 (zhuan), 文(wen) all mean *write*, and map to the English designator *author*. There is no authority control of Chinese role designators.

### 3.2.4. Homographs (one-to-many mapping)

Catalogers rely on context to discern the meaning of homographs used. For instance, 譯 (yi) means translate. When it is combined with other words, the meaning may change accordingly. 翻譯 (fan yi) means inter-lingual translation; 編譯 (bian yi) means intra-lingual translation which translate classic Chinese to modern Chinese. Bian also indicates edit and compile.

### 3.2.5. Homographs across languages

One example of a homograph is the Chinese role designator 藏版 (cang ban) and Japanese designator 藏版 (zou ban). 藏 (cang) means collect or own (or hide, which is not applicable in this case). 版 (ban) refers to the printing 'board.' In the cataloging practice of Japanese materials, there is consensus that 藏版 (zou ban) means *publisher*. In the cataloging practice of Chinese materials, 藏版 (cang ban) can refer to *publisher*, *keeper of the printing board/printing block*, or *printer*. Catalogers make contextual judgements. If cang ban means *publisher*, then there is a mapping to the English term in RDA. However, if it turns out to be the other meanings, then there is no mapping in RDA.

### 3.2.6. No match in English (one-to-zero mapping)

Some Chinese role designators do not have an appropriate match in the enumerative list in RDA. For instance, Q tried to find a descriptor that maps with 抄工 (chao gong), which refers to people who manually copy the text of a work. They are manual copiers before the printing press. Q thought of the term *transcriber*, and looked up the definition in the RDA (rule I.3.1). It was defined as "a person, family, or corporate body contributing to an expression of a work by writing down or notating unwritten or unnotated content, or by changing it from one system of notation to another. For a musical work transcribed for a different instrument or performing group, see arranger of music at I.3.1."[5] After reading the definition, Q realized that this is not a good match. Chao gong appears to be the similar to the Western tradition of monastic copying of religious texts. I suggested the term manuscript copier to Q. She added the term to a spreadsheet she compiled for mapping Chinese and English role designators.

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[5] The RDA is undergoing changes. The quoted rule is available under the Instruction Archive of the 2015 April Update.

### 3.2.7. Summary of Mapping Issues

The issue of mapping Chinese and English role designators is more than a translation issue. We can see how different cultural regions represent creators and contributors differently. For instance, if a Chinese term can be interpreted as both editor and compiler, why is it so? Does that mean people do not distinguish the two roles, so the language allows and represents the ambiguity? On the contrary, if a Chinese term is very specific about a role that is difficult to find an English counterpart, does that mean the role is important enough to have a specific term created? The mapping issue surfaces a conflict between standard warrant and content and cultural warrant. Catalogers describing Chinese materials in the U.S. context may struggle between conforming with U.S. cataloging practices and standards, which risk losing meanings; and faithful descriptions, which require extra research and proposing new terms.

### 3.3. Rubbings

Rubbings are a special material form that challenge the FRBR WEMI model. Rubbings are a form created based on an original artwork, which could be a portrait or calligraphy created by an artist or a calligrapher. For long term preservation, the owner of the artwork hired an engraver to carve a representation of it on a stele, hoping the transformation of medium would extend the longevity of the artwork. However, steles were often placed outdoors and they decayed over time. To further preserve the artwork, people may ask a technician to create rubbings from a stele – by attaching a paper to the stele and padding inks to the paper, the content of the stele could be transferred and preserved through the rubbing. People could create multiple rubbings from the same stele at different times. There is no guarantee that the conditions of the stele remained identical when the rubbings were created.

In an observation session, Q showed me her explanation and application of the FRBR WEMI model. The original artwork (2D), the stele (3D), and the rubbing (2D) are treated as three related *Works*. The creators (artist/calligrapher, engraver, technician) and creation dates of the *Works* are different. Therefore, when cataloging a rubbing, Q would record the creation date of the rubbing and the name of the technician, if applicable, as the creator. However, Z does not agree with this approach. In an observation session with Z, he elaborated on his rationale of cataloging rubbings as one work, and provided some cultural context. From Z's perspective, users only access the rubbing because they cannot access the original artwork or the stele. The original work may no longer exist, and the stele may be preserved at a museum. The rubbing is a reproduction of the original artwork. When cataloging rubbings, Z would record the artist/calligrapher and creation date of the original artwork, because that is what users care about. Z told me that in pre-modern China, engravers and technicians are mechanics. They were not considered creators of artworks. Hence, most of their names were not documented. Z commented:

"How could it be helpful to users if we use RDA to catalog, and they see all these information [pointing at the author and publication information (creation date) fields] as "unknown?" This way of cataloging [RDA] cannot distinguish [rubbings]… "the original object is the critical element for identifying rubbings."

To explain the WEMI model, Q used an example of herself taking a picture of the Mona Lisa painting at the Louvre. Da Vinci is the creator of the Mona Lisa painting, and Q is the creator of the photo. Z argues that Da Vinci should be the creator of both

the painting and the photo. After several attempts of communication and explanation, Q could not persuade Z to apply the FRBR model and RDA rules. Both Q and Z felt the frustration of bridging different cataloging practices. Q said she is trying to "take the Chinese rules and package them into the U.S. format", but "there is a big gap, as great as the Grand Canyon, between the West and China." Z told me "the RDA-way of cataloging is flipping my records upside down."

We can view the struggle and frustration as an expression of a conflict between user warrant, of which Z champions; and the trinity of content warrant, the transcription principle, and the WEMI model of which Q supports. Q and Z seem to have different assumptions about the users. Q assumes that users search rubbings based on the information available on the piece, which explains the emphasis of transcription and content warrant. Z assumes that users access rubbings based on the knowledge of the original artwork.

**Conclusion**

In the first case, we see conflict between cultural warrant and user warrant. The former includes the content and language of the material described, and the latter represents the preferred language of the institution. The second case shows conflict between standard warrant and cultural warrant, which also emphasizes the content and language of the material. In the third case, user warrant conflicts with content warrant and standard warrant. The lens of semantic warrants does more than identifying the factors that influence cataloging and classification decisions. It places the different types of factors at the same level for examination and discussion. For instance, there are contextual factors like conventions and standards. There are human-related factors like catalogers' experience and user' needs. Object-related factors like technological limitations and the content, language, and form of the material described are also influential. Through the lens of semantic warrants, we are able to identify the more visible factors as well as the less visible ones. The focus is not limited to specific types of factors. Semantic warrant as a lens presents a picture depicting the obvious and the embedded justifications for cataloging and classification decisions. It is a useful conceptual tool for examining the cataloging process and assessing knowledge representation systems.

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