PURPOSES AND BIBLIOGRAPHIC OBJECTIVES OF A PIONEER LIBRARY CATALOG IN CHINA[1]

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This research aims to ascertain the conceptual basics underlying the design of the *Seven Epitomes,* the first library catalog to establish the bibliographic model in imperial China. The analytical framework for the study consists of a reconstructed version of the catalog and its historical contexts. In analyzing the surviving text of the catalog, the study identifies its bibliographic objectives as the identification, choice, finding, and collocating objectives. Further deduced from these objectives, the study reasons out four general purposes that might be intended by the catalog's compiler Liu Xin: the catalog was to be a guide to literature, a plan for knowledge organization, a retrieval tool, and a library inventory. *Ru* classicism (or Confucianism) was the catalog's guiding philosophy. In classicism-dominated imperial China, generations of bibliographers followed this model and focused their attention primarily on making bibliography both a classicist guide to literature and a plan for organizing knowledge.

Introduction

This study concerns a different bibliographic tradition. In particular, it attempts to understand how an early library catalog, the *Seven Epitomes* (*Qi lue*), was conceptualized more than two thousand years ago in China under certain personal, institutional, and social circumstances of the time.[3] Chi-

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3. Throughout this article, the Chinese pinyin system is used for romanizing Chinese names and titles. All Chinese personal names appear in the Chinese custom, meaning the family name first. For the reader's convenience, all ancient Chinese titles in pinyin, along with their English translations, are given in the appendix (table A1). Both appendix table A1

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nese bibliographers believe that the *Seven Epitomes* established the model for bibliography of all sorts in Chinese history.[4] An in-depth analysis of this catalog will no doubt shed significant light on the tradition of Chinese bibliography.

To date, traditional Chinese bibliography remains an isolated field of study that has only on a few occasions crossed paths with other bibliographic traditions and developments. English writings on bibliographic control or cataloging have rarely referenced Chinese bibliography regarding its theory and practices. As the international community joined forces to develop bibliographic standards in the past half century, the principles considered came mostly from thinkers such as Anthony Pannizzi, Charles Ammi Cutter, and Seymour Lubetzky. It seems that Chinese bibliography, with a two-thousand-year history, is of no consequence.

The field of Chinese bibliography has also yet to reach out and expand. In imperial China, a familiarity with major bibliographies was commonly considered a prerequisite to learning and scholarship, but comparatively few people had taken a serious interest in advancing bibliography. Those who did mostly devoted their attention to two aspects of bibliography, one centering on analysis of individual works (their texts and their meanings) and the other on the alignment of individual works into lines of intellectual inheritance. In other words, this field of study was and still is predominantly interested in interpreting the contents of the information universe as known in imperial China instead of developing and improving the theory and technology of bibliography. Modern scientific methods originating from the West have affected the study of bibliography in China since the 1930s. For the most part, the Western methods have influenced contemporary information retrieval systems built on advanced technology, but the Chinese bibliographic tradition has remained unaffected.

The bibliographic model established by the *Seven Epitomes* appears to have become history that is of no relevance in today's information environment either in China or elsewhere. But drawing such a conclusion to dismiss this tradition is premature. A bibliographic model that lasted for two thousand years must have met critical needs during that time. So what were its valuable features, and why were they valuable? Are all or some of these features applicable in future bibliographic system design, even across cultures? Without a systematic examination of the fundamental design principles underlying Chinese bibliography, these important questions will linger.

Focusing on the theoretical foundation of the *Seven Epitomes*, this study

and table 1 are also available on the Internet (http://www.uwm.edu/~hurli/Chinese.htm) with the addition of Chinese texts.

4. The *Seven Epitomes* and its predecessor, the *Separate Résumés*, are commonly considered a continuing effort because they were both the end products of the same collation project. In this article, the former is named to represent this joint effort in some places.

analyzes the purposes and bibliographic objectives of this groundbreaking library catalog. An essential presumption of the study is that a library catalog as a tool has not only practical functions but also cultural significance for an institution and its members. Thus, the approach taken in the study is intended to arrive at a more holistic picture, rather than the one that is partial to technical issues. To achieve such a goal, the analysis will begin with the catalog itself while situating the catalog in the personal, institutional, and social context of the time.

Background of the *Seven Epitomes*

The *Seven Epitomes* was compiled by a distinguished scholar and a royal family member, Liu Xin (53 BCE–23 CE), in the Former Han dynasty (206 BCE–25 CE). In 26 BCE, Emperor Cheng (r. 32–7 BCE) ordered Liu Xiang (79–8 BCE), Liu Xin's father, to lead a team of scholars and specialists to collate all texts stored in the imperial depositories of the inner court.[5] The elder Liu composed a résumé for the finalized version of each book as a report to the emperor. Liu Xin joined the collation team as a young scholar and then took over the lead after his father's death. According to several accounts, all the résumés (most of which were written by the father and a small number by the son) were gathered into a collection titled the *Separate Résumés* (*Bie lu*).[6] As the collation project drew to a conclusion, Liu Xin created a catalog titled the *Seven Epitomes* that was said to contain abbreviated texts from the *Separate Résumés* and, in addition, a classification scheme for organizing the entries in the catalog and the collated books

5. According to records, the collections of the imperial depositories consisted of texts written mostly on slats made of bamboo or wood with a few on silk rolls. Before Emperor Cheng started the collation project, the conditions of the slats and the strings holding the slats together were said to have deteriorated so badly that the slats often fell out of order and some of the writings became illegible. The collation team compared various versions of some texts, deciphered fading or unreadable characters, sorted slats into logical order, and removed redundancies in an effort to return texts to their original forms. Obviously the collators also took some liberty in their work that resulted in some new collections of writings, thus new "books." For an excellent discussion of early Chinese texts, see Edward L. Shaughnessy, *Rewriting Early Chinese Texts* [1].
6. Emperor Cheng's order did not include the compilation of a catalog. According to the introduction in the "Bibliographic Treatise" of the *History of the Former Han Dynasty*, when the collation of a book was complete, its résumé was written and submitted to the emperor as a progress report. A sixth-century text by Ruan Xiaoxu (*Qi lu*) stated that Liu Xiang submitted the finalized version of each book with its résumé included. Both texts are unclear about whether Liu Xiang intended to create a catalog, leading many scholars to speculate that gathering résumés into a collection was done by his son Xin who also used the collection as the basis for the *Seven Epitomes*. Today, eight of the résumés are still extant.

in the library stacks. The first full-scale library catalog and the first documented general bibliographic classification scheme in China were thus born. The catalog's completion is believed to have been during the reign of Emperor Ai (6–1 BCE), two centuries after Callimachus's *Pinakes ton en pase paideia dialampsanton kai hon synegrapsan*, the first documented library catalog in the West. Since then, all Chinese bibliographies through the end of the nineteenth century, including government and private library catalogs, were modeled after the format of the *Seven Epitomes* with some modifications.[7]

The complete text of the *Seven Epitomes* is long lost. Based on the fact that the *Seven Epitomes* was not listed in any extant bibliographies compiled in the Northern Song dynasty (960–1126) and after, some scholars date the disappearance of this catalog to a period between the late ninth century and the first half of the tenth century [2, 3]. Since the catalog disappeared, it did not attract much attention until the Qing dynasty (1644–1912), when so-called *ji yi* (i.e., collecting the surviving fragments of the original text of a lost work and then reconstructing a portion of that work) became a fashion and some scholars made the *Seven Epitomes* an object of *ji yi*. All of these reassembled versions were based on the *Han shu* "*yi wen zhi*," or "Bibliographic Treatise" (originally the thirtieth chapter of the *Han shu*, or the *History of the Former Han Dynasty*, composed about a hundred years after the *Seven Epitomes* and referred to as the "Treatise" hereafter) compiled by Ban Gu (32–92). Most, if not all, scholars believe that the "Treatise" is an abridged edition of the *Seven Epitomes* with the addition, relocation, and removal of a few entries. In other words, the majority entries as well as the classification applied in the *Seven Epitomes* were kept in the "Treatise." Each version of *ji yi* supplemented the "Treatise" with fragmented texts from various ancient writings that quoted original annotations in the *Seven Epitomes*.

Although the reassembled versions were incomplete, they serve as a valuable basis for studying the *Seven Epitomes*. Among them, Yao Zhenzong's version has been generally regarded as the best and most comprehensive and is used in the current study [4].

Related Literature

Theorizing Bibliographic Objectives

Elaine Svenonius asserts that the design of a good bibliographic system

7. Library catalogs were often circulated outside the libraries because access to any library was limited. As a result, general bibliographies and library catalogs had almost exactly the same design with only minor differences. Before Western influence came into China, scholars seemed to have made no real distinction between the two.

begins with clearly defined objectives [5]; however, early catalogers almost never articulated their objectives. In the West, the first person to provide such articulated bibliographic objectives was Charles Ammi Cutter in the late nineteenth century [6]. His frequently cited "objects" of the library catalog are

1. To enable a person to find a book of which either
   A) the author,
   B) the title, or
   C) the subject is known.
2. To show what the library has
   D) by a given author
   E) on a given subject
   F) in a given kind of literature.
3. To assist in the choice of a book
   G) as to its edition (bibliographically)
   H) as to its character (literary or topical).

These are often referred to as the finding (1), collocating (2), and choice (3) objectives. Following Cutter, these objectives have been revised a few times—for example, by Seymour Lubetzky in 1960 [7]. Lubetzky's objectives were formally adopted, with slight modification, at the International Conference on Cataloguing Principles in Paris in 1961 and became known as the Paris Principles [8], which have influenced the development of most cataloging codes worldwide since then. Intended to reflect a global perspective and technological changes, a study group under the aegis of the International Federation of Library Associations and Institutions (IFLA) proposed a revised statement of bibliographic objectives in a report titled *Functional Requirements for Bibliographic Records*, in 1998 [9]. This latest development is ongoing, and international cataloging experts have been preparing a formal "Statement of International Cataloguing Principles" (SICP) through a series of IFLA Meetings of Experts on an International Cataloguing Code since 2003 [10]. No doubt, the SICP will profoundly influence the next generation of cataloging codes.

The latest draft of the SICP uses the term "functions" to replace "objectives" and pronounces the following (emphasis in original, numbering modified) [10].

The functions of the catalog are to enable a user

1. To *find* bibliographic resources in a collection as the result of a search using attributes or relationships of the resources
   a. to *locate* a single resource,
   b. to *locate* sets of resources representing all resources belonging to the same work; all resources belonging to the same expression; all resources belonging to the same manifestation; all works and expressions of a given person, family, or corporate body; all resources

on a given subject; and all resources defined by other criteria (such as language, country of publication, publication date, physical format, etc.) usually as a secondary limiting of a search result;

2. to *identify* a bibliographic resource or agent (that is, to confirm that the entity described in a record corresponds to the entity sought or to distinguish between two or more entities with similar characteristics);
3. to *select* a bibliographic resource that is appropriate to the user's needs (that is, to choose a resource that meets the user's requirements with respect to content, physical format, etc., or to reject a resource as being inappropriate to the user's needs);
4. to *acquire* or *obtain* access to an item described (that is, to provide information that will enable the user to acquire an item through purchase, loan, etc., or to access an item electronically through an online connection to a remote source) or to acquire or obtain an authority record or bibliographic record; and
5. to *navigate* within a catalogue (that is, through the logical arrangement of bibliographic information and presentation of clear ways to move about, including presentation of relationships among works, expressions, manifestations, and items).

These are, respectively, (1*a*) the finding, (1*b*) collocating, (2) identification, (3) choice, (4) acquisition, and (5) navigation objectives. To date, this statement is the most comprehensive.

Not many writers in imperial China theorized the making of bibliography. One of the most respected bibliographers in the twentieth century, Yu Jiaxi, declares that there were bibliographies but no systematic study of bibliography in imperial China [11]; therefore, it is necessary to infer from various writings some design principles that are implicit. In a broad statement, the *Sui shu* "*jing ji zhi*" (the bibliographic chapter of the *History of the Sui Dynasty*, a seventh-century document) insisted that the general purpose of bibliography was to promote and teach the ultimate truth (i.e., the Dao or the Way). It clearly suggested that bibliography was to be a tool for shaping minds. Without a doubt, this was the lead principle underlying all traditional bibliographies.

Wu Jiong (668?–744) wrote in the preface to his bibliography, the *Gu jin shu lu*, that without bibliographies it would be difficult for any person to learn because books were too numerous and their meanings and intellectual lineages not easy to decipher. In other words, he seemed to think that bibliographies served two functions: (1) assisting with finding a book and (2) assisting with deciphering a book's content and intellectual lineage. The first function implies the finding objective. The second function, however, does not appear to relate directly to any of the objectives in SICP. As a matter of fact, it was a long-held belief in Chinese bibliography that

the best bibliography should provide summary and evaluative information. Summary information varied significantly. Evaluative information included the critique of individual works and the explanation of intellectual traditions and lineages, and Wu Jiong hinted at both. A thousand years later, a renowned scholar, Zhang Xuecheng (1738–1801), stated, "bian zhang xue shu, kao jing yuan liu" as the central functions of bibliography, which roughly meant "to analyze texts and articulate their meanings and to examine and reflect the origins and developments of branches of learning" [12]. Zhang's statement has become an essential citation in every recent textbook on Chinese bibliography.

In addition to the above more commonly recognized objectives, an eighth-century bibliography of Buddhist texts, *Kaiyuan shi jiao lu*, compiled by a monk, Zhisheng, suggested two other objectives. One of those was to note the physical volume of a work, corresponding partially to the SICP's identification objective. The other was to document all texts—an objective for a universal bibliography, thus not a concern in the current study of a library catalog.

Scholarship on the "Seven Epitomes"

Literature about the *Seven Epitomes* written in Chinese is of three types: text reconstruction and interpretation, general introduction, and analysis centering on one theme or issue. Each type contains a large body of writings, given the significance of the *Seven Epitomes* in Chinese bibliography.

As mentioned earlier, the *Seven Epitomes* is currently not extant and can only be seen in various reassembled versions of *ji yi*. Despite the emergence of its reassembled versions, most scholars of bibliography in the Qing continued to overlook the *Seven Epitomes* in favor of its abridged substitute: the "Treatise." As a result, it is inevitable today that anyone who wants to study the *Seven Epitomes* roots his/her study on the basis of the "Treatise." Past studies of the "Treatise," especially those done in the early twentieth century and before, mainly interpreted, explained, or annotated the contents of the "Treatise" as well as reviewing and synthesizing the opinions and findings of previous writings about the "Treatise." In turn, they also enhanced the knowledge about the *Seven Epitomes* [13].

Since the 1930s, numerous introductory texts to traditional Chinese bibliography have emerged, demarcating a clear departure from previous endeavors that focused on *ji yi* and the interpretation of texts. Authors of introductory works direct their attention to the historical development of bibliography. Many of the works, for example, provide a brief history of the *Separate Résumés*, the *Seven Epitomes*, and the "Treatise," and explain the relationships among them. The bibliographic elements, filing rules, and classification schemes employed in the three bibliographies are summa-

rized and sometimes briefly compared. Among these introductory works, two early ones by Yao Mingda (originally published in 1934) and Yu Jiaxi (originally published in 1963) are the most influential [14, 11].

In the last twenty-five years, research on the *Seven Epitomes* has become more focused. While a few authors still wrote introductions to or overviews of the *Seven Epitomes*, more journal articles single out a particular issue in an attempt to provide a more insightful discussion or in-depth description. Two issues highlighted below are of particular interest because they touch on what Liu Xin intended to achieve in the catalog.

The first issue concerns the contributions made by the Lius to bibliography and the study of classical documentation. A consensus among bibliographers is that the Lius were the founders of Chinese bibliography as we know it today [15]. While an overwhelming majority have a favorable view toward the Lius because of the format and conventions in bibliography as well as the procedure and methods of text collation the father-son team established, criticisms of them surface occasionally. Wang Guoqiang, for example, forcefully argues that the purpose of a catalog is for organizing and retrieving materials in a library collection rather than compiling an intellectual history [16]. In his view, it is a disservice of Liu Xiang and Xin to regard the latter as the primary goal in their bibliographic work and to have since led bibliography down a wrong path for two thousand years. This opinion is debatable for three reasons. First, Wang's argument is not based on a systematic examination of the *Separate Résumés* and the *Seven Epitomes* but results from an assumption that is made by generations of bibliographers who themselves vigorously reinforced the belief in bibliography's role in intellectual history. Second, any discussion of a historical document must keep in mind the original context in which the document was produced. It is problematic to impose a modern-day concept of the library catalog on a catalog compiled to serve a very different audience in a very different time. Third, seeing the library catalog, or any other bibliography, as only an objective tool of information retrieval is a theoretical standpoint that has been called into question.

The other relevant issue has to do with the controversy of the *Seven Epitomes* being a promoter of the archaic script classics. In the closing years of the Former Han, there was an increasing competition between the modern script classics (texts transcribed in Han-time script), and the archaic script classics (texts originally transcribed in pre-Han script). While the latter were transcribed into Han-time script after collation, they had some significant differences from the modern script version in terms of the contents. This controversy was not only an intellectual dispute but also a political altercation. At the time, scholar-politicians whose careers were at stake debated about which version and which interpretation was more

authoritative and thus deserved the status of the state-sanctioned canon. Some authors maintain that Liu Xin was a proponent of the archaic script classics, a minority and controversial position at the time, and chose the archaic script version to be the standard [17].[8] By presenting the archaic script version of a classic before its modern script counterpart in the Epitome of the Six Arts, the *Seven Epitomes* became an instrument of promoting the former and, argued by some, helped make the former the favored version in the Later Han (25–220).

In library and information science (LIS), English writings on the subject of the *Seven Epitomes*, library cataloging, or bibliography in imperial China are few. Two journal articles, by Tsuen-Shuin Tsien and Shuyong Jiang, respectively, about the history of Chinese bibliographic classifications published more than a half century apart and a recent dissertation, by Cheryl Boettcher Tarsala, on the *Si ku quan shu*, the last massive imperial project on bibliographic work (1771–95), are the most informative; the latter provides a solid reading of the history of Chinese bibliographic and intellectual tradition [18, 19, 20]. While the two articles share a scope limited to classification, the dissertation is a study of authorship as a cultural construct in the bibliographic summaries (*ti yao*) of the *Si ku quan shu*. In another journal article providing a brief history of cataloging practices in China, Suqing Liu and Shenghua Shen place the emphasis on the development since 1949 and mention the long cataloging tradition before 1949 only in passing [21]. It is unsettling that no researchers have attempted to examine or analyze bibliographic principles. As a result of this void in the LIS literature, the theory, and even practices, of Chinese traditional cataloging remain virtually unknown in the English-speaking world.

The importance of the *Seven Epitomes*, along with its predecessor, the *Separate Résumés*, and its successor, the "Treatise," in studying early Chinese history, especially the intellectual history, has long been recognized in Chinese studies. Mark Edward Lewis, for example, presents a thoughtful discussion of the philosophical foundation of the classification in these three bibliographic tools [22]. Although they are not about bibliography, this kind of writings provides useful information about the facts concerning and the philosophy underlying the *Seven Epitomes*, the *Separate Résumés*, and the "Treatise" to English-speakers who do not read Chinese.

8. There has been a long-lasting debate about the controversy of modern-script vs. archaic script classics in the Han period. According to recent research, this controversy was not only a scholarly debate but also a political struggle for power. Liu Xin is said to be a key figure in promoting archaic script texts during a time when the establishment favored modern script texts. This position he held and his criticism of the mainstream scholarship alienated him from both the academic and political establishments.

Methodology

It is natural to begin a study of a library catalog with an analysis of the catalog itself. Like other documents used in social research, the library catalog studied here, the *Seven Epitomes*, presents a host of challenges that range from questions about its authenticity and integrity to concerns about its interpretations.

The fact that this catalog was produced more than two thousand years ago adds much complexity to the project. First of all, it is no longer extant in its original form. The best that can be used as the object for analysis in this study is an approximation of the *Seven Epitomes* reconstructed from the "Treatise" and other surviving fragments. Even if it were extant and intact today, this catalog would still pose a major difficulty when used as a single source of data because, like other traditional Chinese bibliographies, it lacked documentation explaining its underlying design. Unlike Anthony Panizzi, who elaborated his ideas for the British Library catalog in his much cited cataloging code known as the "91 Rules" in 1841 [23], the compiler of the *Seven Epitomes*, Liu Xin, and his father, Liu Xiang, the author of the *Separate Résumés*, left no writings to illuminate their intentions in conceptualizing these two bibliographic tools. There seemed to be no debates about the two by the Liu's contemporaries, either. Lacking any documented discussions of the catalog's bibliographic details and principles from that time complicates the analysis.

In document research, interpretations are another leading concern. Lindsay Prior points out two sources of outside influence in interpreting documents: the original context of a document's production and use and the researcher who makes the interpretation [24]. To deal with the former, the current study applies a multidimensional framework for analysis—a framework that takes into consideration certain personal, institutional, and social circumstances surrounding the creation of the catalog. Besides the catalog itself, the other four categories of data in the framework are (1) the biographical information about the Lius; (2) the history of the Former Han government, especially the makeup of its bureaucracy and ideology; and (3) the intellectual history and (4) technological conditions of the time. The history of the Former Han's bureaucracy is relevant because the *Seven Epitomes* was a catalog of the imperial libraries, and the Lius acted in an official capacity when they worked on the project. The inclusion of the first, third, and fourth categories is self-explanatory.

One advantage of historical texts as data is their nonreactivity [25]. That is, they do not react to the study and change their contents or wording as a result of such a reaction. On the other hand, historical documents invite interpretations from various points of view that are difficult to confirm or repudiate because of the inaccessibility of the original authors. Several

approaches are applied in this study as a safeguard against unwarranted interpretations of texts and as a strategy to elicit possibilities deeply embedded in the texts. The first approach is to give precedence to the primary data source, the *Seven Epitomes* (more accurately speaking, the reconstructed one), with a belief that its creation was the result of a conscious and deliberate endeavor, rather than simply a random or thoughtless act. In the next section, components of the catalog are enumerated that serve as the starting point for the analysis. The catalog also acts as a filter to block out suppositions directly contradictory to the surviving texts of the catalog. Another approach taken is contextualization. Only statements corroborated by contextual information will be presented, especially when evidence from the catalog is less than absolute. The third approach, a research technique generally known as the triangulation of sources is used to identify more than one account or explanation of the same event in multiple and ideally independent sources when dealing with contextual information [26].

In a few instances, the surviving texts of résumés written by Liu Xiang are consulted to give supplemental information. The assumption is that Liu Xiang's résumés were the basis of the *Seven Epitomes*. But it is always clearly noted where such consultation is made.

Although this study does not intend to directly compare Chinese bibliography to its Western counterpart, the terminology commonly known in the latter, especially that found in the *Functional Requirements for Bibliographic Records* (FRBR) and SICP, is used in the following analysis and discussion. This familiar terminology will facilitate the understanding of the issues at hand.

The Composition of the *Seven Epitomes*

This section presents a description of the composition of the *Seven Epitomes*. As mentioned earlier, the *Seven Epitomes* is not extant today. In order to know the composition of the *Seven Epitomes*, it is necessary to use the *ji yi* by Yao Zhenzhong as a substitute. It should be noted, however, that the *ji yi* is not completely identical to the original catalog. Therefore, it is unavoidable that we have to make our own inference or interpretation when evidence is insufficient to provide the needed information.

The Classification Scheme

The *Seven Epitomes* was the first documented classified library catalog in China. Although Liu Xin's catalog included seven epitomes suggesting a sevenfold classification system, the actual classification is said to have had six classes (i.e., epitomes) and thirty-eight divisions:

- *Liu yi lue* (Epitome of the Six Arts) consisted of nine divisions, including one for each of the Six Classics (*Changes*, *Documents*, *Odes*, *Rites*, *Music*, and *Spring and Autumn Annals*), *Analects* of Confucius, *Book of Filial Piety*, and philology;[9]
- *Zhu zi lue* (Epitome of the Masters) consisted of ten divisions, including nine major affiliations of thought commonly known during the Warring States and an added affiliation of Novelists;
- *Shi fu lue* (Epitome of Lyrics and Rhapsodies) consisted of five divisions, including three styles of poetry and two other genres;
- *Bing shu lue* (Epitome of Military Texts) consisted of four divisions (tactics, terrain, yin/yang, and military skills);
- *Shu shu lue* (Epitome of Numbers and Divination) consisted of six divisions, including astronomy, chronology, five phases correlative elements, divination, miscellaneous fortune-telling, and geomancy); and,
- *Fang ji lue* (Epitome of Formulae and Techniques) consisted of four divisions, including medical classics, pharmacology, sexology, and longevity.

The sixfold classification and the key features of the catalog were adopted by Ban Gu and thus kept in his "Treatise." Unfortunately, the "Treatise" offers no further detail of the first epitome, *ji lue*. After the *Seven Epitomes* was lost, scholars have not been able to reach a consensus on the nature and content of *ji lue* due to a lack of indisputable evidence [27]. There is nevertheless a common belief that *ji lue* was not a class. One widely accepted speculation is that *ji lue* was a collection of brief statements meant as introductory summaries (*xiao xu*) for individual classes and divisions, thus the name *ji lue* (literally, the collective epitome); Ban Gu divided up the introductory summaries, abbreviated them, and put them at the end of related classes and divisions, respectively. In other words, it is theorized by some that the Collective Epitome has not been lost and appears now as individual introductory summaries found throughout the "Treatise" [11]. Each summary briefly describes and evaluates the writings in a class or division as a group. This has been a basic practice in Chinese bibliography.

Filing Arrangement

The entries in the same division are basically arranged from general to specific and from theoretical to applied. A chronological order according to the time of the author or when the book was discovered or known is another principle employed. Also taken into consideration is the type or nature of a work, meaning that the original text is listed first, followed by various types of its interpretation [28].

9. The Six Classics, sometimes referred to as the Six Arts, are later known as the Five Classics, for the *Music* was lost a long time ago.

TABLE 1
SAMPLE ENTRIES IN THE *Seven Epitomes*

Epitome	Division	Title	Unit	Type of Annotation
Six Arts	Changes	*Yi zhuan* by Zhou	2 *pian*	Author's courtesy name
Six Arts	Changes	*Huainan dao xun*	2 *pian*	Origin of the work
Six Arts	Documents	*Shangshu guwen jing**	46 *juan*	No annotation
Six Arts	Philology	*Cangjie*	1 *pian*	Distinguishing authors of individual parts; origin of the collection
Masters	*Ru* classicists	*Yanzi*	8 *pian*	Brief description of author and referencing the biographical chapter on author†
Masters	*Ru* classicists	*Wangsunzi*	1 *pian*	Variant title
Masters	Novelists	*Yiyin shuo*	27 *pian*	Brief evaluation of the work; questioning authorship
Military Texts	Tactics	*Wusunzi bingfa*	82 *pian*	Mentioning illustrations

* *Guwen jing* is the identification of the archaic script version.

† This is an example of abbreviated annotation. The full biographical account of this author might have been given in the *Seven Epitomes*. However, Ban Gu only provided an abbreviated annotation in the "Treatise" and referred the reader to the full biography in a separate chapter of the *History of the Former Han Dynasty*.

Elements of an Entry

The bibliographic elements in each entry included title, author, count of chapters or physical rolls, and annotation (see table 1 for sample entries). Title and count were the only two elements consistently applied to all entries. If a person was known to have authored a work, his name (often only the surname) was recorded as the title, in the title, or after the title.[10] It might be an indication that the concepts of "author" and "title" were not well defined at the time. *Pian* and *juan* were the two counting units used. *Pian* was a literary unit like a chapter that was often circulated as a physical unit in ancient times; *juan* was used to refer to a physical roll that might include several chapters [29].[11]

The annotations were derived and abbreviated from the résumés that Liu Xiang (and Liu Xin) had written. Unfortunately it is impossible to know for sure today how much information Liu Xin gave in those annotations because Ban Gu did not retain most of them in the "Treatise." Considering that the "Treatise" was a chapter of a larger work, the *History of the Former Han Dynasty*, Ban Gu removed some segments from the an-

10. Examples include (1) a personal name as a title, *Zhuang zi* (Zhuang is the author's surname, and *zi* means master); (2) a personal name in a title, *Kong zi jia yu* (Kong zi is Confucius, who is the attributed author of this work); and (3) a personal name after a title, *Qu tai Hou Cang* (Hou Cang is the author's name).
11. See below for further explanation.

notations and incorporated them into other chapters. Extensive biographical information of an author, for example, was better suited to a biographical chapter on that person. Nevertheless, the surviving bits and pieces of the *Seven Epitomes* include the following types of annotation: a brief introduction to an author, a brief description of the theme and the history of a work, and some evaluation of a work.

Bibliographic Objectives of the Catalog

Upon examining the components of the *Seven Epitomes*, several bibliographic objectives of the catalog emerge. It appeared that Liu Xin formulated this library catalog to help the user identify, select, and find a book or books.

To Identify an Individual Book (i.e., the Identification Objective)
The catalog focused on identifying a book's intellectual contents and its creator, rather than its physical characteristics. For the convenience of discussion, a currently accepted international framework for bibliographic data is applied here. This framework is a four-entity model (i.e., work, expression, manifestation, and item) for describing products of intellectual or artistic endeavor defined in IFLA's *Functional Requirements for Bibliographic Records* [9].

In the *Seven Epitomes*, the identification issue centered on work and expression. Most works in the catalog had only one entry. That means that a collator finalized one authorized text for a particular work for which a single copy was produced in standard Han-time script and stored in the imperial library. In FRBR's language, each of those works had only one authorized expression that could be seen in only one manifestation, and this manifestation was represented in the imperial library by only one item without duplicates. In such cases, the catalog simply included bibliographic data mostly for describing a work. The title sometimes was the only element about a work under that entry (e.g., *Zhu shen ge shi* [Poetry of Gods]). Often, the author's name was in place of a title, part of a title, or in addition to a title to assist with the identification of a work. And, if needed, some information about him (e.g., where he was from), the history of the work (e.g., when the work was created), and a few words about the contents were included. A small number of works in the catalog had more than one expression, thus multiple manifestations and multiple items. For example, in the Epitome of the Six Arts, several classics had an archaic script text and a modern script text, and the catalog marked such difference

only in the title of the version that was originally in archaic script.[12] As for a book's physical description (at FRBR's manifestation and item levels), a single element of counting (*pian* or *juan*) was the only one given.

Identifying individual works was by no means straightforward at the time. Many works had no known titles or authors. Sometimes, a work had been known by variant titles. Liu Xiang and the collation team made significant effort both in selecting a formal title for a work if there was none, or more than one, and in attributing authorship.[13] It was their belief that an author's background was critical for understanding his writings, so including some brief biographical information of the author was also deemed helpful. See table 1 for some examples.

Another matter complicating the identification task was associated with an early practice in intellectual discourse. Many texts that the collation team dealt with were individual short compositions. Each of them was a recording of an event, a conversation, or a reflection and could be, and often was, seen as an independent work. In a time when heavy wood and bamboo were used for bearing texts, a physical unit that had just a few slats bound together was certainly easier to use. It was Liu Xiang and his team who combined short compositions into lengthier books according to authorship or subject matter.[14] Naturally, many people in that time were familiar with only the original short pieces that became chapters in the versions finalized by the collation team. Taking this issue into consideration, Liu Xiang and Xin enumerated chapter titles, in addition to the title of a book (more precisely, a collection of short pieces), for identifying works at a more detailed level in the résumés [30]. This practice, similar to that of providing a table of contents in a bibliographic record of today's online catalog, was critical in enhancing the retrieval function of a bibliographic tool. Unfortunately, because the "Treatise" excludes the chapter titles, one cannot be certain if the *Seven Epitomes* had these chapter titles. Chinese bibliographers hold different views with regard to this issue. Yu is a representative of those who believe that Liu Xin retained the chapter titles in the catalog [11, p. 25].

To Select a Book (i.e., the Choice Objective)

The *Seven Epitomes* included elements intended to help the user in their selection of a book or books, thus signifying its choice objective. One of

12. One example is *Shang shu*, which had two versions, *Shang shu gu wen jing* and *Shang shu jing*; *gu wen*, in the first entry, referred to archaic script.
13. The résumé of *Zhan guo ce* is still extant, and its text mentions several of its variant titles known in Han.
14. The surviving résumés record the collation team's work in this regard.

those elements was the expression statement (i.e., the indication of the archaic script version). However in other respects, the choice objective of the *Seven Epitomes* differs considerably from that of the SICP. The *Seven Epitomes* contained not only some factual, objective bibliographic data called for by the SICP's choice objective to assist users in determining whether a particular document meets their needs, but it also provided critical information concerning (1) the value of a work and (2) how this work related to other works. On the one hand, Liu Xin wrote critical commentaries, generally based on the texts in the *Separate Résumés*, evaluating some of the books individually (e.g., "the work is superficial"). On the other hand, he created a classification scheme as a framework for understanding literature in the imperial collections as interconnected in a systematic way, rather than as individual works independent of one another. This knowledge framework consisted of two dimensions: various branches of learning and their evolution. Furthermore, a chronological order was used to present works in the same category so that an evolutionary time line of each paradigmatic affiliation, each genre, and each subject matter would be clear to the user of the catalog. The *Seven Epitomes* clearly spoke as an authoritative voice advising the user in his selection.

To Find a Book (i.e., the Finding Objective) or Books (i.e., the Collocating Objective)

In a traditional brick-and-mortar library, document retrieval entails both intellectual and physical retrieval. The former is about retrieving a work (i.e., the intellectual content of a document) or works that satisfy a search criterion, and the latter is about retrieving the physical document(s) embodying the work(s). The finding and collocating objectives aim at intellectual retrieval.

Indexing methods had yet to be developed in the Han dynasty. Among all components of the *Seven Epitomes*, the classification scheme seemed to be the only way through which one could find a book or books in the catalog. In other words, no one was able to find books in this catalog by using an author's name, a title, or a subject term as a search key. One major advantage of applying a classification to organizing catalog entries is its collocating power that groups together works on like subjects. It means that a search in the *Seven Epitomes* often resulted in finding multiple works, all on the same subject. Chinese scholars favored this arrangement because it assisted them in their in-depth study of a given subject.

Purposes of the Catalog

Bibliographic objectives establish an operational framework for a library catalog. But prior to enumerating the objectives, the catalog designer must first answer a fundamental question: What is the catalog for, or, why is this catalog needed? It means that bibliographic objectives are dependent on the catalog's purpose or purposes. Lacking any articulation of design, the purposes of the *Seven Epitomes* can only be deducted from the concrete bibliographic objectives reflected in it. A close examination of the above bibliographic objectives suggests that Liu Xin intended to create a library catalog that would function as (1) a guide to literature, (2) a plan for knowledge organization, and (3) a retrieval tool. In traditional bibliography, the first two purposes have claimed all the spotlight, and the third received considerably less attention. All three of these purposes were relevant to use. At the end of this section, another possible purpose, essentially a managerial function, is discussed.

The Library Catalog Was to Be a Guide to Literature

Among this catalog's four objectives, discussed in the last section, the identification and choice objectives together point to an important purpose of the catalog: to serve as a guide to literature in the imperial library collection. To fulfill this purpose, Liu Xin included several components, some from the format of the résumé created by his father Liu Xiang and an additional component that was a classification scheme. These components centered on uniquely identifying each work (or expression, in a few instances), conveying the main idea of a work, assessing the value of a work, tracing the origin and development of a work, and relating a work to other works in terms of their paradigmatic affiliation, subject matter, or genre. More specifically, the catalog provided guidance by offering authoritative opinions through interpretive commentaries (e.g., "the work is superficial and seemed to have been written by someone who lived much later than the named author") and by distinguishing intellectual lineages and deviations through a number of categories and a classificatory structure.

The Library Catalog Was to Be a Plan for Knowledge Organization

Another purpose served by the catalog was to organize the knowledge contents of the imperial library collections. An organized collection unquestionably provided a crucial condition for realizing the first purpose of being a guide to literature. On the other hand, the intention to provide guidance through the catalog also to a large extent impacted Liu Xin's approach to knowledge organization.

The classification in the *Seven Epitomes* was not a complete invention by Liu Xin nor by his father. Rather, it was built on ideas and conceptions of

others in the previous centuries. Those preexisting categorizing efforts were of a small scope or narrow application. Along with the process of collation, Liu Xin, and possibly his father as well, began to recognize the need for organizing all collated books into a comprehensive scheme [2]. A number of factors, such as topic and genre, were considerations in establishing categories. It is important to note that this scheme was comprehensive only in dealing with the books collated by the team led by the Lius. As some scholars have pointed out, books on laws and mathematical texts used in elementary education, just to name two examples, were the responsibilities of other government agencies in Han times and were unaffected by the collation project [31, 32]. This indicates that literary warrant was a principle applied in Liu Xin's classification, and his intention was not to construct a universal scheme to organize all recorded knowledge at the time.

The Library Catalog Was to Be a Tool for Locating Books

When talking about a catalog's retrieval function, it is better to distinguish between intellectual retrieval and physical retrieval—the "finding" (also implying collocating) and "acquisitions" objectives, according to the SICP [10]. Intellectual retrieval has occupied much of the attention in information retrieval and will be considered first.

Dagobert Soergel's seminal thesis on the organization of information in an information retrieval (IR) system highlights four different methods of increasing IR efficiency [33], two of them already being applied by Liu Xin in the *Seven Epitomes*. The first method is cutting the examination time by providing a surrogate record (i.e., a much-condensed description) of a document. In other words, users save time in searching when they are able to skip unsuitable items based on a quick examination of brief descriptions of the items, rather than the original lengthy texts. The *Seven Epitomes* included in each entry, not consistently, the title of a book, the author's name, a quantification of the book, a summary of the content, and critical commentaries, all of which would assist a person in identifying the quality or appropriateness of a work in the initial searching stage without the need to read through the entire work, thus making searching more efficient.

Another of Soergel's methods of increasing IR efficiency is to create a mechanism to facilitate searching, listing an index and a classification scheme as two of the examples. According to one estimate, the *Seven Epitomes* contained more than 600 entries. No one would be able to use such a catalog effectively if entries were in no particular order. At the time of the catalog's compilation, indexing techniques had yet to be invented in China. A main reason was that Chinese was not an alphabetic language, and alphabetization, which is almost second nature to literate English

speakers, was inapplicable in Chinese. Alternatively, a classified approach that arranged entries by subject content with specifications of hierarchical relationships among the subjects provided a meaningful, albeit subjective, structure in the catalog. Such a structure would facilitate searching if the information seeker was familiar with the structure. No wonder this type of structure, somewhat modified but never drastically, continued to dominate in bibliography through the end of imperial China. Even today most bibliographies of rare books still employ the classified approach to arranging entries. Generation after generation, respected scholars advised others that a familiarity with bibliographic classification would be the sensible first step to take in their study.

The bibliographic classification in the catalog might have also been employed as a basis for shelf arrangement to assist in the physical retrieval of books in Han imperial libraries. No historical texts provide direct evidence for a classified shelf arrangement in Han libraries. Nevertheless, there are accounts in early writings that indirectly support this scenario. For example, a pre-Han text, *Zuo zhuan*, tells a story about a palace fire a few centuries before the Lius and how people were directed to get the books out—by subject. It could happen in such an emergency only if the stacks had already had a classified arrangement. Moreover, Yao Mingda speculates, based on a text written in the sixth century, that Liu Xin constructed the classification when the collation project came to an end and the books were moved from the room where collation took place to a library building [14]. Yao's reasoning is simply that library shelves must be organized so that books can be easily located and retrieved. So he further rationalizes that Liu Xin adopted the rough categorization already in place during collation and added divisions to fine-tune the scheme. This speculation may be difficult to validate; nevertheless, it gives us one more reason to believe that the catalog somehow also assisted with physical retrieval of books in the imperial libraries (i.e., the acquisitions objective in the SICP).

The Library Catalog Might Have Been an Inventory of Books in Imperial Libraries

According to Julia Pettee, the first library catalogs in Europe simply functioned as an inventory, and other functions of a catalog have gradually evolved [34]. Although no documents passed down from the Han and before mention any inventories of imperial books, it is reasonable to think that such records of books, no matter how simplistic, existed for the purpose of inventory [35]. One of the clues comes from the texts about inventories and registrars used for government property centuries before Han times. The second clue is that the same Chinese character *lu* used for a bibliography or library catalog was also used for an inventory of

government money and material assets in a pre-Han text, *Zhou li*. So the idea that the library catalog in China also functioned as an inventory is highly probable.

The need for an inventory of the imperial library holdings was evident at the time when Liu Xiang began his monumental work (26 BCE) even if such an inventory had never been taken before. At the beginning of the Han dynasty, royal book collections were not very extensive due to disastrous wars in previous years and book burning ordered by Qin Shihuangdi (First Emperor of the Qin; r. 221–210 BCE) just a few years before that. Emperor Wu of the Han (r. 141–87 BCE) instituted a new policy to encourage citizens to submit copies of the books in their private possession. Emperor Cheng sent a special messenger about the empire to unearth surviving texts for the imperial depositories. According to one account by Liu Xin, books in the imperial depositories were stacked up like hills during Emperor Cheng's time as a result of the collecting effort made since Emperor Wu's policy went into effect (a period of about a hundred years). These books, most on bulky bamboo or wooden slats, a few on silk rolls, were a valuable asset of the government and required at least a basic inventory for the official record.

There might be another list that served as an inventory of imperial library holdings then; however, the catalog compiled by Liu Xin after the completion of collation would be an ideal tool to assume such a managerial function, eliminating the need for a separate inventory. For example, the title and the physical count (i.e., *pian* or *juan*) of each book clearly fulfilled the inventory need. It is important to note that the catalog was at best a partial inventory only listing books in the collation project. There were other texts not affected by the collation project that were stored in government agencies not part of the inner court.

Contextualizing the Catalog

The catalog compiled two thousand years ago exhibited remarkable maturity in bibliographic work. The above analysis of the catalog's components suggests that Liu Xin conceived possibly four main purposes in his ingenious design of a library catalog: to guide people to the books in the imperial libraries, to organize the knowledge contents of the imperial library collection, to assist with retrieval of the books, and to keep an inventory of the books in imperial libraries. Arising from these purposes were the five bibliographic objectives (i.e., the identification, choice, finding, collocating, and possibly acquisitions objectives) that had necessitated the inclusion of the individual bibliographic components in the catalog.

As suggested by Prior, documents are socially situated products, and the

informed researcher must analyze documents in their contexts [24]. In this study, the *Seven Epitomes* becomes more than just a bibliographic tool when examined as a whole and placed within the personal, institutional, and social framework described in the "Methodology" section. The cataloger Liu Xin can also be understood as a scholar and politician whose role in this project went far beyond a simply technical one.

Establishing Classicist Authority

The creation of the *Seven Epitomes* was motivated by more than a practical need for putting imperial books in order. As described above, the catalog was a by-product of the collation project commissioned and supported by the throne. And the collation project itself was part of a grand strategy for empire building. Lewis writes about the desire to establish both political and intellectual authority through texts in the early Han when the empire was young [22]. Emperor Wu is commonly credited with having had the Five Classics (i.e., the Six Classics minus the *Music*) canonized by making them the focus in the curriculum of the Imperial Academy (*tai xue*) and on official examinations. Michael Nylan maintains that this policy's real impact was to have defined the kind of education (i.e., the one that centered on studying classical texts) that qualified a man to serve in government [36]. In this overall political context, the official task assigned to Liu Xiang and others was to collate books in order to establish authoritative texts, especially for the Five Classics, and that in turn would form an ideological basis for governing the relationship between individuals and the state. This was an act on the government's part to exert intellectual control. Being members of the ruling class, the Lius took the task a step further and created a catalog to express and promote such classicist authority.

Historically, emperors and officials in high positions often consulted documents in imperial libraries when they encountered questions about etiquette, activities, policy, diplomacy, and so forth. Liu Xiang's official position was the Counselor of the Palace at the time he received the command to collate books in the imperial libraries, while his son Liu Xin held two official titles when he took over after the elder Liu's death: one of those was the Palace Attendant.[15] Both the Counselor of the Palace and the Palace Attendant had responsibility for offering advice and guidance to the emperor. While it did not contain the recommendations to the emperor as elaborate as those uttered in the résumés written by Liu Xiang, the *Seven Epitomes* expounded in a more concise manner the moral value

15. The authors adopt the English translations of official titles in Michael Loewe, *A Biographical Dictionary of the Qin, Former Han and Xin Periods (221 BC–AD 24)* [37]. Palace Attendant was a supernumerary title held concurrently with regular titles (see Hans Bielenstein, *The Bureaucracy of Han Times* [38]).

and political instructiveness of some works, according to the classicist standpoint.

In addition, its classification scheme also presented a framework that privileged classicism. The first telltale sign of its partiality is the delegation of the foremost class in the scheme to the Six Classics (i.e., Epitome of the Six Arts). Also included in this class was the *Analects*, said to be a collection of notes on Confucius's conversations with his disciples. The next class (i.e., Epitome of the Masters) comprised writings by intellects that were further categorized into ten divisions representing ten different philosophical affiliations. The lead was the division of *Rujia*, the classicist affiliation—a group of thinkers who were followers of Confucius, the leading figure in classicism, and often labeled Confucian. Furthermore, Liu Xin wrote many introductory summaries for individual classes and divisions in his classification—all of which reflected a classicist view in distinguishing branches of learning and thus explaining the organization in the catalog.

While its political significance was unclear, the influence of the *Seven Epitomes* over learning during Han times and later was beyond measure. As a matter of fact, this point has been a major emphasis in Chinese bibliography. Two interrelated areas of learning are of particular interest: knowledge organization and pedagogy. When words were first invented, writing was exclusively reserved for a small group of people in the government. The weakening in government during the Warring States Era (403–221 BCE) resulted in written texts becoming more accessible to other groups in society and gave rise to diverse paradigms of thinking [39]. Consequently, written knowledge proliferated exponentially, and systematic organization of knowledge became necessary, especially after political unity emerged again in the Qin and the Han dynasties. Knowledge organization, as done in Liu Xin's catalog, unavoidably took on a political purpose under an authoritarian state and acquired the court-sanctioned ideology explicit in the catalog's commentaries and structure.

Not only did it organize the contents of the imperial libraries with a classicist approach, the catalog also incorporated a classicist pedagogy intended to guide students progressively. Several scholars in the past three centuries have argued that Liu Xin included Confucius's *Analects* (*Lun yu*), *The Book of Filial Piety* (*Xiao jing*), and the study of philology (*xiao xue*) as three additional divisions in Epitome of the Six Arts (thus, nine instead of six divisions), even though they were not the classics, for two reasons. Besides being another tactic to elevate Confucius above the other masters (thus, moving him out of the Epitome of the Masters), this attachment of the *Analects*, and so on, to the Six Arts is said to reflect a Han classicist view toward the model progression of learning because these three categories included textbooks used in elementary education at the time [11]. It means that every student had to have a familiarity with these texts before

he could pursue an advanced study of the classics. A second method for pedagogical purposes in the catalog was to arrange texts in the same category chronologically. For example, Daoist texts (i.e., the second division in Epitome of the Masters) were listed according to their attributed dates of creation, from the earliest to the latest, so that students could follow the evolutionary line of the Daoist affiliation. These pedagogical devices, plus the classicist way of organizing knowledge, seen together as the most effective in maintaining and perpetuating classicism, established the *Seven Epitomes* as the prototype in Chinese bibliography.

Considering User Convenience

In information system design in the West, the system-centered and user-centered approaches have been in debate since Cutter [6]. The Lius faced a very different situation two thousand years ago in China. Their direct clientele consisted of a single user—the emperor. Besides the emperor, only a few officials in high positions had access to the imperial libraries. It was always a great honor for a government official to be granted access to an imperial library by the emperor. According to historical records, some Han emperors had in a few instances given copies of all books in the imperial libraries as a gift or reward to some officials. Regardless, the imperial libraries were the emperor's property, and the library catalog was to serve the emperor alone. Liu Xin, under such circumstance and considering his advisory role, made the catalog primarily a channel to communicate his political thought to the emperor.

In spite of this, it would be inaccurate to suggest that Liu Xin ignored other potential uses of the *Seven Epitomes*. For one thing, he envisioned his catalog to be a guide for educational purposes as discussed previously. Other uses and users might have led to some consideration of user convenience. An example of such consideration was the listing of chapter titles that would be helpful for the user looking for individual chapters—a very common need at the time. Inferring from the fact that Liu Xiang and Liu Xin included chapter titles in the eight surviving résumés, one may reasonably surmise that Liu Xin indeed followed the format his father established and included chapter titles in the *Seven Epitomes*, which was believed to be the continuation of his father's work.[16]

16. There are some who maintain that the *Seven Epitomes* did not include chapter titles, based on the fact that the *Seven Epitomes* was significantly shorter than the *Separate Résumés* (7 rolls vs. 20). However, the *Seven Epitomes* was also significantly longer than the "Treatise" (7 rolls vs. 1), so it is difficult to be sure about what was removed from the *Seven Epitomes* based on the current condition of the "Treatise." It is the authors' view that the *Seven Epitomes* was more likely to include chapter titles, based on two reasons: (1) the *Separate Résumés* was the basis of the *Seven Epitomes*, and these two works were more similar in their intended functions, and (2) the "Treatise," being one chapter of the *History of Former*

User convenience, however, was not a priority concern in Liu Xin's design. In pushing forward an authoritative worldview, he implemented one single retrieval mechanism—a classification according to classicism. This approach imposed controlled access and compelled those who were to use the catalog to see the knowledge base, as well as the world around them, through the cataloger's point of view. As a matter of fact, classicist contemporaries of Liu Xin had a significant amount of disagreement among themselves, and the catalog represented a minority view [36]. Even the mainstream classicists at the time, many of whom were in high offices and/or served as academicians (*bo shi*) in the Imperial Academy, would find the catalog's classificatory structure somewhat awkward to use.

Conclusion

The Han was the first Chinese dynasty that was able to build and maintain a powerful and long-lasting central government. In empire building, Han rulers sought broad intellectual control in order to secure and prolong their rule. It was in such a condition that the *Seven Epitomes* was conceived to fulfill political needs. No doubt, the cataloger Liu Xin, a member of the Han royal house and a classicist scholar, intended to use the catalog to establish and promote classicism as imperial orthodoxy that would guide and shape people's ways of thinking.

As classicism dominated Chinese society and culture, the *Seven Epitomes* commenced a bibliographic tradition that had been treasured and followed with slight modifications by generations of bibliographers for about two thousand years. There was a deep-seated belief among bibliographers that traditional bibliographies at their best provide a detailed and in-depth account of Chinese intellectual history. This conception of bibliography as a record of intellectual progress had steered the field of bibliography, leading to an uneven focus on bibliography's purposes of guiding users to literature and organizing literature through the classicist view. In turn, those two dominant purposes dictated the devising of information retrieval in bibliography. The retrieval devices were part of a scheme to cultivate users' learning and thinking according to a particular ideology, not what would assist users in free exploration and knowledge creation, as in a retrieval system that the LIS profession today envisions for a modern democratic society.

Nevertheless, political and ideological motivations alone were not sufficient reasons for the invention of a library catalog. As revealed in the

Han Dynasty, was not intended to be used as a library catalog; instead, it was more a historical record of the bibliographic output of the time.

above analysis, Liu Xin indeed made the *Seven Epitomes* a tool to assist in information organization and retrieval and as an inventory of imperial library collections. These utilitarian functions, although central to Western cataloging, seem to have taken a second seat in later developments of Chinese cataloging. Consequently, succeeding catalogers made little attempt to improve the library catalog to enhance its retrieval function. This was clearly the result of the deliberate emphasis on intellectual history.

Appendix

TABLE A1
Titles of Ancient Texts in Pinyin and English

Author	Title in Pinyin	Title in English
	Liu yi (*Liu jing*)	Six Arts (Six Classics):
	Yi	*Changes*
	Shu	*Documents*
	Shi	*Odes*
	Li	*Rites*
	Yue	*Music*
	Chun qiu	*Spring and Autumn Annals*
	Zhou li	*Zhou Rites*
Confucius	*Lun yu*	*Analects*
Zuo Qiuming	*Zuo zhuan*	*Zuo Commentary* (to the *Spring and Autumn Annals*)
	Xiao jing	*Book of Filial Piety*
Liu Xiang	*Bie lu*	*Separate Résumés*
Liu Xin	*Qi lue*	*Seven Epitomes*
Ban Gu	*Han shu* "*yi wen zhi*"	*History of the Former Han Dynasty* (Bibliographic Treatise)
Ruan Xiaoxu	*Qi lu*	*Seven Registers*
Wei Zheng	*Sui shu* "*jing ji zhi*"	*History of the Sui Dynasty* (Bibliographic Treatise)
Wu Jiong	*Gu jin shu lu*	*Bibliography of Books from the Earliest to Modern Times*
Zhisheng	*Kaiyuan shi jiao lu*	*Kaiyuan Bibliography of Buddhist Texts*

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