

Classification for Chinese Libraries (CCL): Histories, Accomplishments, Problems and Its Comparisons

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Abstract

China has a long history in library classifications, although modern classifications did not emerge until one hundred years ago when the Western classifications were introduced into the country. The Classification for Chinese Libraries (CCL) was developed after years of collective work. The purposes of this article are to review the ancient history and modern efforts in developing Chinese library classifications, examine the organizations, accomplishments and problems of the CCL especially in the areas of philosophy and social sciences, and compare the CCL with the Library of Congress Classification (LCC) in terms of their structures.

Keywords : *Classification schemes; Classification & management; Technical services; Chinese information storage & retrieval; China; History*

Introduction

Classification, broadly defined, is the act of organizing the universe of knowledge into some systematic order. It had been considered the most fundamental activity of the human mind.¹ Classification begins with the universe of knowledge as a whole and divides it into successive stages of classes and subclasses, with a certain characteristic as the basis for each stage. The progress is from the general to the specific, forming a hierarchical structure.

The development of library classification was based on the logical and philosophical principles of classification. The act of library classification has been defined as “the systematic arrangement by subject of books and other material on shelves or of catalogue and index entries in the manner which is most useful to those who read or who seek a definite piece of information.”² As a shelving device and a tool of organizing bibliographic entries, a library classification schedule groups all works of the same kind together in a systematic manner, and helps users identify and locate the works through call numbers. A good, easy-to-use library classification has

long been regarded as a fundamental tool for effectively organizing and providing access to the cumulative knowledge of human beings.

As one of the long-lasting civilizations in the world, China has two thousand years of history in library classifications. However, modern classifications did not emerge in China until about a century ago when Western library classifications based on scientific taxonomies were introduced into the country. After years of attempts, the *Classification for Chinese Libraries (Zhong Guo Tu Shu Guan Fen Lei Fa)* was developed in 1975 through the collective work of thousands of Chinese library professionals.³ It was revised in 1980, 1989 and 1999, and subsequently developed into a series of classifications with its enlarged and abridged editions, subject thesaurus and indexes, schedules for periodicals, grade school and children's libraries, as well as special classifications for individual subjects such as education and agriculture.⁴ Today the *CCL* has become the quasi-national classification for the People's Republic of China.

The purposes of this article are to review the ancient history and modern efforts in developing Chinese library classifications, examine the organizations, accomplishments and problems of *CCL*, especially in the areas of philosophy and social sciences, and compare the *CCL* with the *Library of Congress Classification (LCC)* in terms of their structures.

Ancient Classification for Chinese Libraries

In 26 B.C., Liu Xiang and Liu Xin, a father-son team, compiled the first book classification in the Chinese history, *Qi Lüe*, or the *Seven Outlines*.⁵ This catalog was more than 1,500 years prior to Konard Gesner's *Bibliotheca Universals* in 1545. It was developed to organize the imperial library collections of the Western Han Dynasty (206 B.C.-24 A.D.). The schedule they designed consisted of six main classes and thirty-eight divisions, including: Liu Yi Lüe—the six ancient Chinese classics including works by Confucius; Zhu Zi Lüe—philosophical works other than the school of Confucius; Shi Fu Lüe—poems and other literary works; Bing Shu Lüe—works of military studies; Shu Shu Lüe—mathematics and astronomy; Fang Ji Lue—medicine, arts, etc.; and Ji Lüe—summaries of all works collected in the royal library.⁶ Confucianism as the dominant belief was already reflected in the classification structure. This arrangement further influenced the development of library classifications throughout the ancient Chinese history.

Paper was invented around 100 A.D., meantime Buddhism was introduced in China from India in the Eastern Han Dynasty (25-220 A.D.). Together they had produced a great momentum for the creation of a large amount of various books. During the Three Kingdom Period (220-265 A.D.)

Zheng Mo developed a new system of “four classes” with his *Bibliography of Classics*. In 270 A.D. Xun Xu of the Wei Dynasty created a four-category classification in his new book catalog, *Xin Bu*.⁷ Collected works were classified into Class I, Confucianism and philology; Class II, philosophy, military studies and mathematics; Class III, history; and Class IV, literary works. Although a few other classifications were developed in later years, such as Wang Jian’s (452-489 A.D.) seven-category classification *Qi Zhi*, Ren Fang’s (460-508 A.D.) five-category classification *Wu Bu Mu Lu* and Zheng Qiao’s (1104-1160 A.D.) twelve-category classification *Tong Zhi: Yi Wen Lüe*, their influences were generally limited.⁸ The four-category classification system was essentially adopted by both royal and private libraries since the Tang (618-907 A.D.) and Song Dynasties (960-1279 A.D.). The famous *Yong Le Da Dian* of the Ming Dynasty (1368-1644 A.D.) was also based on this system. The four-category classification reached its peak in the Qing Dynasty when *Si Ku Quan Shu* was edited in 1773. In this ambitious work compiled by Ji Xiaolan (1724-1805 A.D.), thousands of books were classified into four main categories, forty-four divisions and sixty-five subdivisions, including: Jing, Confucianism and philology; Shi, history, biography and some works of geography, politics, economy, etc.; Zi, philosophy and some works of sciences; and Ji, literature.⁹ Again, Confucianism as the governing principle of the Chinese feudal society was listed in a prominent place of Ji Xiaolan’s schedule.

The four-category classification based on the Confucian school of thought was suitable for ancient Chinese literatures, however it was at odds with many new publications that began to flourish in the late nineteenth century. Furthermore, all ancient Chinese classifications were bibliographical classifications in essence. They were basically designed for some special collections in ancient China, focusing on storage and limited use by officials and scholars. In fact, modern library classifications did not emerge until modern Chinese libraries began to thrive in the early twentieth century.

Modern Efforts

Although the use of classification structures as tools for organizing knowledge has been a practice for over two thousand years in China, Western influence was apparent in the modern development of Chinese library classifications, especially during the first part of the twentieth century. The *Dewey Decimal Classification (DDC)* was first introduced into China by Christian missionaries before 1900. It was soon adopted by some Chinese university libraries to classify their foreign collections. In 1909 Gu Shi made efforts to promote the scheme, and in 1917 Shen Zurong and Hu

Qingsheng compiled the first Chinese-modified decimal-classification system, *Fang Dewey Shi Jian Fen Lei Fa*.¹⁰ At least a dozen new classifications were published in the following years, including: Du Dingyou's *Universal Book Classification (Shi Jie Tu Shu Fen Lei Fa, 1922)*, Hong Youfeng's *Book Classification (Tu Shu Fen Lei Fa, 1926)*, Wang Yunwu's *Unified Classification for Chinese and Foreign Books (Zhong Wai Tu Shu Tong Yi Fen Lei Fa, 1928)*, Liu Guojun's *Chinese Book Classification (Zhong Guo Tu Shu Fen Lei Fa, 1929)*, Pi Gaopin's *Chinese Decimal Classification (Zhong Guo Shi Jin Fen Lei Fa, 1934)*, Gui Zhibai's *Complete Classification (Fen Lei Da Quan, 1935)*, etc.¹¹ All of them, with the exception of Liu's work, were based on Dewey's decimal classification system. Besides the DDC, C. A. Cutter's *Expansive Classification* and the *Library of Congress Classification* were also introduced into China during that timeframe. However, since both of them used English letters for their notations instead of pure Arabic numbers, and those western symbols were deemed too novel for ordinary Chinese, their influences on Chinese classifications were rather limited at that time.

The founding of the People's Republic in 1949 marked a new era for China and its people. Many new classification systems have been compiled since then and several of them are still in use today. In chronological order they include:

Library Classification of the People's University of China (Zhong Guo Ren Min Da Xue Tu Shu Guan Tu Shu Fen Lei Fa) in 1953;

Draft of Library Classification for Medium and Small Libraries (Zhong Xiao Xing Tu Shu Guan Tu Shu Fen Lei Fa Cao An) in 1957;

Library Classification of the Chinese Academy of Sciences (Zhong Guo Ke Xue Yuan Tu Shu Guan Tu Shu Fen Lei Fa) the first edition in 1958, and the 3rd edition in 1994;

Library Classification of Wuhan University (Wu Hem Da Xue Tu Shu Guan Tu Shu Fen Lei Fa) in 1959;

Classification for Chinese Libraries (Zhong Guo Tu Shu Guan Fen Lei Fa) the first edition in 1975, and the fourth edition in 1999.¹²

Chinese Archive Classification (Zhong Guo Dang An Fen Lei Fa) in 1987.¹³

Classification for Chinese Libraries is one of the most important and comprehensive library classification systems being used today. Its compilation began in the early 1960s. The full, trial edition was released in 1974, and the first official edition in 1975. It was subsequently revised in 1980, 1990 and 1999. With more than 30,000 classes in its basic edition, the CCL is divided into 5 major groups and 22 classes. In addition, there is an enlarged edition—*Chinese Classification for Monographs and Materials*

(*Zhong Guo Tu Shu Zi Liao Fen Lei Fa*) with 50,000 classes, an abridged edition of 4,000 classes (*Zhong Guo Tu Shu Fen Lei Fa Jian Ben*), *Chinese Classified Subject Thesaurus (Zhong Guo Fen Lei Zhu Ti Ci Biao)*, *CCL for Grade Schools and Children Libraries (Er Tong Tu Shu Guan Zhong Xiao Xue Tu Shu Guan Ban)*, *CCL for Periodicals (Qi Kan Fen Lei Biao)*, *CCL for Agriculture (Nong Ye Zhuan Ye Fen Lei Biao)*, and *CCL for Education (Jiao Yu Zhuan Ye Fen Lei Biao)*, etc.¹⁴

Accomplishments of the CCL

Since the founding of the People's Republic of China, the inevitable limits of the classifications that were developed by individuals or single institutions were realized by more and more people. After years of practices, there was a growing demand for a new, comprehensive classification system that would meet the needs of the majority of Chinese libraries. The success of *The Draft of Library Classification for Medium and Small Libraries* in 1957 provided a solid foundation for such a task. Shortly after its release, a group of Chinese classification professionals began to work under the leadership of the Administrative Bureau of Cultural Affairs and the National Library of China (Beijing Tu Shu Guan). In 1963 the second volume of the draft edition for natural sciences was released, and the full, trial edition followed in 1974 after some years of interruptions during the Cultural Revolution (1966-1976). Since its compilation began in 1960 until the official publication of the CCL in 1975, sixteen years elapsed and the Chinese people had already experienced three years of natural disasters, the Four Clean-ups Movement and the Great Cultural Revolution. After its publication in 1975, an abridged edition of 4,000 classes and an enlarged edition, *Chinese Classification for Monographs and Materials* with 50,000 classes were also released, thus making it a series of inclusive classifications for libraries of all kinds and sizes in China. The enlarged edition was soon adopted by libraries of Chinese information research institutions, while the public and academic libraries were busy embracing the new CCL. This process was accelerated with the release of "The Library Regulations for Chinese Provinces, Municipalities and Autonomous Regions" (Sheng Shi Zi Zhi Qu Tu Shu Guan Gong Zuo Tiao Li) by the Administrative Bureau of Cultural Affairs, which further recommended the implementation of the CCL.

Years in the making, the CCL was a result of coordinated efforts of Chinese professionals of library information science and specialists in various subjects. It incorporated many previous accomplishments of both Chinese and foreign classifications, reflecting the collective wisdom of participating librarians. With its 641 pages and more than 30,000 classes, CCL became one of the most comprehensive library classifications available in

the world. Its adoption of a mixed notation of Roman alphabets and Arabic numbers provided a logical framework for establishing a scientific outline of human knowledge. In the areas of natural sciences and technologies, the structure and organization of the first edition of the *CCL* essentially reflected the scientific achievement of the 1970s. For example, the subjects of environmental science, aviation and space aeronautics were listed as separated classes. In addition, the thirty-four auxiliary tables not only saved space in the schedule but also were practical to use. In a way, *CCL* was truly the first national library classification of the P. R. China. It is now estimated that it has been used in over 94% of various libraries and information service institutions in mainland China.¹⁵ Because of this higher rate of adoption, it contributed a great deal to the standardization of Chinese language in information research and retrieval, a necessary and important step entering the information age of computers and electronic networks. Therefore, it is fair to say that the publication of the *CCL* was a landmark achievement in the history of Chinese library and information sciences of the twentieth century.

Flaws existed in the *CCL* as with many other classifications. The major problems of the *CCL* were its deeply ideology-based approaches toward the subjects of philosophy and social sciences. Such a phenomenon was understandable considering it was developed during the height of the Chinese Cultural Revolution. The following sections will examine some of the issues in detail.

Organizational Structures of *CCL*

Library classification, as defined by the *CCL*, “is a systematic schedule compiled according to certain ideologies, based on scientific classification and with considerations to content and special characteristics of books and materials.¹⁶ Ideology and political contents were clearly emphasized here. The first principle for compiling the *CCL* was to:

Use the Marxism, Leninism and Mao Zedong’s Thoughts as its ideological guidance, use the dialectical materialism and historical materialism as its editing foundation. The structure of the schedule and arrangement of classes will be based on not only scientific concepts, but also their political contents.¹⁷

The distinctiveness of the *CCL* was its ideological, scientific and practical perspectives. Under the special circumstance of the Great Proletarian Cultural Revolution when politics was everything, the editors of the *CCL* made genuine attempts to develop for the nation’s libraries, an easy-to-use schedule that would uphold the integrity of scientific classification while

giving ample consideration to political ideologies. However, maintaining a perfect balance on three different fronts was a very difficult task if not a mission impossible. When compromises had to be made, usually they were at the price of scientific integrity. For example in the first edition of the *CCL*, the classes of the ancient Chinese history and philosophy included headings concerning so-called struggles between Confucianism and Legalism (Fa Jia), a school of thought during the Spring-Autumn and Warring States Periods from 770 to 221 B.C.¹⁸ Such listings were to reflect the historical nature of class struggles between materialism and idealism, proletarians and capitalists, Marxism and revisionism, socialism and capitalism. However, labeling all ancient Chinese philosophers as either the Confucians or Legalists was nothing less than a ridiculous distortion of historical reality. Fortunately this mistake was soon corrected in the second edition of the *CCL*.

The second guideline for compiling the *CCL* was to “follow the principles of scientific classification, and adopt a logical structure processing from the general to the specific.”¹⁹ After 1949, Mao Zedong’s theory of knowledge classifications had become the foundation of the library classifications developed in China. According to Mao: “What is knowledge? Ever since the beginning of human societies where different classes existed, there are only two kinds of knowledge. One is the knowledge of human’s struggles for production gains, the other is the knowledge of class struggles. Natural sciences, social sciences are the crystallization of these two kinds of knowledge, and philosophy is the generalization and summation of natural and social knowledge. Is there any other knowledge? The answer is no.”²⁰ Regardless how scientific Mao’s classification was, human knowledge was here summed into three basic categories of philosophy, social sciences and natural sciences.

Based on this theoretical framework, the *CCL* was organized into five major categories of 22 classes. They were:

Marxism, Leninism and Mao Zedong’s Thoughts (A)

Philosophy (B)

Social Sciences (C - K):

Social Sciences: General Works (C)

Politics, Law (D)

Military (E)

Economics (F)

Culture, Science, Education & Sports (G)

Languages (H)

Literature (I)

Arts(J)

History, Geography (K)



Natural Sciences (N - X):

Natural Sciences: General Works (N)

Mathematics, Physics and Chemistry (O)

Astronomy and Earth Sciences (P)

Biology (Q)

Health and Medicine (R)

Agricultural Science (S)

Industrial Technology (T)

Communications and Transportations (U)

Aviation and Space Aeronautics (V)

Environmental Sciences(X)

Comprehensive Works (Z).²¹

Serving as ideological guidance, Marxism, Leninism and Mao Zedong's Thoughts were listed at the beginning of the classification as a separate group. The subject of philosophy was the next major group, as it was the generalization and summation of social and natural sciences. It was followed by "social sciences" because of their close relationships with philosophy and Marx-Leninism. "Comprehensive Works" was listed as the last group of the classification after natural sciences. It was for books that were too general to fit into individual classes.

A problem of the *CCL* in terms of its structure, was to list the subject of law under the class of politics. This was probably due to the fact that during the Cultural Revolution, the country's basic legal system was tore down, or even destroyed under that special circumstance. Another controversy subject, religion, was also listed as a subdivision of philosophy in the first edition of the *CCL*. The name of the class was later changed to "Philosophy and Religion" in the 4th edition in 1999.

Notations of the *CCL*

Up until the 1950s, the library classifications in China were primarily based on Dewey's decimal system. Although easy to understand and use, its limitation in terms of basic structure was also very obvious. During the twentieth century when various subjects of sciences were rapidly developed, adopting a decimal-based system was criticized as "cutting one's feet to fit his shoes". In 1953, the People's University Library went beyond the basic ten-class structure by creating seventeen main categories in its classification, albeit it was still based on a pure notation of Arabic numbers. The new Chinese pronunciation (Han Yu Pin Yin) based on Roman alphabets was published before *The Draft of Library Classification for Medium and Small Libraries* was released in 1957. The new letter-based system was adopted wholeheartedly as it was not only easy to use, but also offered ample capaci-

ties for expansions. The *CCL* was also built on this mixed notation of Roman alphabets and Arabic numbers following enumerative hierarchical principles. Except for the subject of technology (T), which used two alphabets, all main classes were represented by a single Pinyin letter followed by cardinal numbers. In order for users to better identify and remember the call numbers, every three digits of a class number were grouped and a period was added between groups.

In general, the mixed notation of the *CCL* reflected the logical structure of the classification and the relationships among the subjects. For example, an entry on the Youth League of the Chinese Communists was listed as:

D Politics

0 Political Theory

1 International Communist Movements

2 Chinese Communist Party

29 Youth League of the Chinese Communists

Compared with a decimal-based system, this arrangement was easy for users of the classification schedule to recognize, write and remember because of its logical structure as well as its relatively short length of call numbers. In addition, auxiliary tables were widely used in the *CCL* for recurrent features such as geographical names, historical periods, nationalities, etc.

Class A: Marxism-Leninism and Mao Zedong's Thoughts as a Main Category

In 1949 when the Northeast Library (currently the Liaoning Provincial Library) compiled the *Book Classification (Tu Shu Fen Lei Fa)*, it listed for the first time Mao Zedong's works as a special collection group at the very beginning of the classification under "General Works".²² This arrangement had a major influence on the future structures of Chinese library classifications. Shortly after, the *Library Classification of People's University of China* was released. In order to reflect its guiding ideologies, it went a step further and listed the Marxism, Leninism and Mao Zedong's works as a main class parallel to philosophy, again at the beginning of the whole classification.²³ Meanwhile, the Shangdong Provincial Library published its *New Book Classification (Tu Shu Fen Lei Xin Fa)*, which began a tradition of classifying individual works according to their political viewpoints.²⁴ For example, under the class of education (300), there were sub-classes of the socialist (320) and the capitalist educations (330). Countries around the world were categorized into socialist and capitalist countries as well. Such treatments, highly questionable in practice, cast a long shadow on the future

development of Chinese library classifications.

In 1957, the *Draft of Library Classification for Medium and Small Libraries* was issued by the Administrative Bureau of Social-Cultural Affairs under the Chinese Ministry of Culture. This was the first coordinated, and collective effort in compiling a nationwide library classification system. Another breakthrough was the adoption of a mixed notation of Roman alphabets and Arabic numbers as mentioned earlier. However without exception, its structural design was again based on the Marx-Leninist's classifications of human knowledge.²⁵ Marxism, Leninism and Mao Zedong's Thoughts had been raised to a main-category level, serving as the guidance and foundation to all social and natural sciences. Such an arrangement was continued by the *CCL* from its first edition in 1975 until the 4th edition in 1999. Furthermore for this purpose, detailed cross-reference was also developed in the *CCL*. For example, Mao's theories and instructions on national economy were listed under A466, meantime there was a cross-reference under the class of economy, Fa. The lowercased letter "a" was utilized as an auxiliary symbol for recommended works by Mao and other communist leaders. Clearly the classification system was structured here as a tool for promoting the philosophy of the Marx-Leninism. It was used for not only organizing human knowledge, but also suggesting works of certain political viewpoints to its users.

An interesting comparison could be made as the Table 1 indicated. Evidently, the logical arrangement and class notations of the Chinese schedule were somewhat influenced by the new library classification edited by O. П. Тесаенко of the Soviet Union.²⁶ In this schedule released in 1955, the Marx-Leninism was the first main category, social sciences the second, bibliography and general works the last. This ideology-based approach was clearly reflected in the future compilation of the *CCL*.

Undoubtedly for the purpose of shelf-management, there are certain benefits of grouping all works of Marx, Lenin and Mao as special collections. However, creating a separate classification category and listing it as a group above all other subjects is obviously artificial. This arrangement is not based on scientific classifications but ideologies. The classification system was originally developed for the benefit of library management, instead it was used here as a tool for promoting communist beliefs. This viewpoint was clearly reflected in Li Lan's article titled "To better promote the Marx-Lenin's works through the use of library classification" in 1956.²⁷ The rationality of such notions could be traced back to the history of Chinese classifications. It was argued that during ancient China while a library classification was developed, every ruling class would always list first the classical works, i.e. Confucianism, as the theoretical foundation of the regime.

Therefore, only by listing the Marx-Leninism and Mao Zedong's Thoughts as the first major category, could a library classification system display its nature of proletarian dictatorship over social affairs. This value was shared

**Table 1 Outline Comparison of the Soviet
and Chinese Classifications**

Draft Classification of the Soviet Union (1955)		Draft Chinese Classification for Small and Medium Libraries (1957)	
A	Marx-Leninism	A	Marx-Leninism
B	Social Sciences	B	Philosophy
Г	History	C	Social Sciences
Д	Economy	D	History
E	Politics and Social Life	E	Economy
Ж	Nation and Law	F	Politics
И	Military	G	Law
Л	Culture, Science and Education	H	Culture and Education
M	Philosophy, Psychology	J	Language
H	Language and Literature	K	Literature
O	Arts	L	Arts
П	Religion, Atheism	M	Religion, Atheism
P	Natural Sciences	N	Natural Sciences
C	Mathematics, Physics, Chemistry	P	Mathematics, Physics, Chemistry
T	Geology and Geography	Q	Geology and Geography
У	Biology	R	Biology
Ф	Medicine	S	Medicine
X	Agriculture	T	Agriculture
И-Э	Technology	U-V	Technology
Я	Bibliography, General Works	Z	Comprehensive Works

by a majority of Chinese library professionals from the 1950s to 1970s, although different opinions were expressed. Pi Gaopin, a known library science scholar, had insisted on listing the Marx-Leninism as a subdivision under the class of philosophy. However, he was criticized for “playing down the significance of, and rejecting the leadership role of the Marx-Leninism.”²⁸ In a society where the Anti-Right Movement, the Great Leap-Forward and the Cultural Revolution rampaged one after another, it is not that difficult to understand how and why the library classification was developed the way it is today. Fortunately various opinions began to flourish during recent years after China entered the reform era. For example, in a 1993 article Zhang Defang and others reexamined and criticized the past approaches in developing Chinese library classifications during the last forty years.²⁹ They pointed out that the current organizational structure was based on the theories developed fifty years or even a century ago, and were already

out of touch with today's scientific realities. In 1995, Luo Minwen further recommended the elimination of the Class A.³⁰ Despite all positive developments, the real, fundamental changes may still take some years.

Political Inclinations of the *Classification for Chinese Libraries*

A strong political inclination is a common character among all Chinese classifications developed since the founding of the People's Republic of China. One of the applications, was to classify countries around the world according to their social and political systems. Modeled after the Soviet Union, such an approach began in the classification of Shangdong Provincial Library and was continued by the classifications of the People's University and Wuhan University.³¹ However in reality it created many problems for library professionals as a country's political system changed from time to time. A major achievement of the *CCL* was that it finally abandoned such artificial and awkward practices. Countries were no longer labeled under various subjects of social sciences.

The same cannot be said further down the classification schedule to the levels of individual works. For years in China, books were supposed to be classified according to the political perspectives of their authors. In the classification developed by the Shangdong Provincial Library, an auxiliary table was created for different social science subjects, which listed detailed political viewpoints such as socialism, new-democracy, capitalism, and feudalism.³² Several major classifications later followed this approach, including: *Library Classification of People's University of China*, *Draft of Library Classification for Medium and Small Libraries*, and *Library Classification of the Chinese Academy of Sciences*.³³ In 1975, the political terminology was summed into three categories in the first edition of the *CCL*. They were: theories of Marx-Leninism; criticism of capitalist and revisionist's theories; and theories of capitalism and revisionism.³⁴

In practice, this approach had created real difficulties among Chinese library professionals. Most of them had neither the subject knowledge nor time to make appropriate judgment of various publications as required by the classification. This was especially true as to cataloging foreign language books. For example, should the Alex Callinicos's book, *Is There a Future for Marxism*, be classified into the class of "Marxism Research", or the class of "Capitalist's Theory and Research"? To catalog another book, *Philosophical Problems of Space and Time* by Adolf Grunbaum, a technical service librarian would have to decide first, whether the author's perspective was based on dialectical materialism or capitalist idealism.³⁵ In the end, simple political labeling prevailed. Many books with viewpoints that were different from the Marxist's doctrines were labeled as theories of capitalism,

revisionism or idealism.

Few controversies existed as to the subjects of natural sciences. The accomplishment of the *CCL* was quite remarkable, albeit it was structured according to Friedrich Engel's theory on the forms of movement of matter.³⁶ For example, based on new scientific development, it created main classes of astronomy and environmental sciences, which were proven an appropriate and timely arrangement through applications in later years.

Revisions of the *CCL*

After the death of Mao and the fall of the “Gang of Four” in 1976, the Cultural Revolution was officially concluded. Under the leadership of Deng Xiaoping, China opened its door to the outside world and began to reform its economic and social system. Under this improved political environment, errors of the *CCL* in the areas of philosophy and social sciences were quickly realized by groups of Chinese library professionals, and revision work started in 1978.

The second edition of the *CCL* was published in 1980. The primary principle of this revision was to correct the political mistakes of the first edition, and eliminate “the pernicious influences of the Gang of Four.”³⁷ Although the work by Western standards was not complete in any way, it definitely was a well-received step in the right direction. The name of Class D was changed from “Politics” to “Politics and Law” to reflect the changing viewpoints of the Chinese society. Yet the most impressive achievement was that it no longer required individual works be classified according to their political viewpoints.³⁸ Under theoretic sections of various subjects, the entries of “Marxist Theories” and “Capitalist-Revisionist Theories” were removed. Sociology, for example, used to be a subdivision of C08—social science theories of Capitalists and Revisionists. Through amendment it became a separate division under C—Social Sciences, parallel to the subjects of statistics and management science. In addition, under the Chinese history and philosophy, the so-called class struggles between the Confucianism and the Legalism were also eliminated. Ancient Chinese philosophers were no longer labeled as either materialists or idealists. Instead they were listed strictly by their names, historical periods and schools of thought.³⁹ Other items of the Cultural Revolution that were purged included the entries such as the “Administration by Workers, Peasants and Soldiers” under educational systems, and “Revolutionary Models of Plays” under the class of literature, etc.

Since the *CCL* had already been implemented by a large number of libraries across China, the editorial committee adopted a prudent approach as to its basic structure. The main classes and notations remained the same.

However, a substantial number of entries were added to the new *CCL* to reflect the rapid development of various science subjects.⁴⁰ G303—future studies, N94—system study and system engineering, and Q78—genetic engineering were a few such examples.

The achievement of the *CCL* was recognized in 1985 when it won a first-class award for national scientific advancement.⁴¹ Meantime the new amendments had already begun. Fifty-five sub-committees of various subject areas were involved in the modification work, and the third edition was released in 1989 which incorporated a total of 8,118 alterations including additions, divisions, deletions, merges and name changes.⁴² The guideline for this revision was to strengthen and enhance the overall classification system while maintaining its organizational structures and notations.⁴³ Again, the subject of law was substantially modified to meet the growing demand for a legal-based social system.⁴⁴ Under B82—ethics, the entry of “Ethics of Feudalists, Capitalists and Revisionists” was deleted. The name of F325—“Economy of people’s Commune” was changed to “Organization and Management of Rural Economy”.⁴⁵ Furthermore, many newly developed subjects in China were also reflected in the *CCL* such as agricultural ecology, bioengineering, information communication, tourist and service economies, etc.⁴⁶ Finally, twenty-one new auxiliary tables were added, bringing the total to 59.

As with all other major classifications in the world, continuous revision of the *CCL* was deemed a natural and necessary process for ensuring its usefulness and success. Since 1990 the editorial committee began to issue regular briefs of modifications. The fourth and the most recent edition of the *CCL* was published ten years later in 1999, and the electronic version was released around the same time as well. By and large, the objectives of this revision were to enhance the quality of the *CCL* with focus on its scientific and practical perspectives, and improve its retrieval capabilities while giving ample considerations to shelf management and the stability and continuity of the schedule.⁴⁷ Standards of annotation were established, cross-references and auxiliary tables were widely adopted and improved, and detailed notations on revisions from the previous edition were also provided.

The emphasis of this revision was on three main areas: F—Economy, TN—Electronic Technologies, and TP—Automation and Computer Technologies.⁴⁸ All of them were substantially enriched, and various new concepts were added such as capital and private economy, real estate, insurance, network protocol, management and security, and so on. Other notable additions included finance and arbitration laws, cultural industries, art markets, religious arts, non-linear sciences, cell engineering, etc.

The gradual work of revising and eliminating entries with political inclina-

tions continued in the 4th edition. D011— “abolishing Class Exploitation”, for example, was deleted. The name for Class B—Philosophy was changed to “Philosophy and Religion”. However, under Class A, the entry of Deng Xiaoping’s Theories” was added right next to “Mao Zedong’s Thoughts” to reflect its ideological role for Chinese economic and social reform.⁴⁹

After two decades of continuous work, the four principles for revising the CCL were summed as:

- * To keep pace with the development of knowledge;
- * To maintain the same structure as previous editions;
- * To ensure that the designated classes will be occupied by documents;
- * To ensure convenience of use.⁵⁰

The revision work had brought the *CCL* in line with modern classification theories and practices, thus greatly revitalizing its role as the nation’s recommended standard for a library classification.⁵¹

Comparison of *CCL* and *The Library of Congress Classification*

This section will focus on the comparison of the *CCL* with the *Library of Congress Classification* through a brief, historical review. *LCC* was planned and developed in the late nineteenth century when the library professionals realized that the Jeffersonian classification system was inadequate for its mass collection of one and a half million volumes of books and other materials. After moving into its new building in 1897, different groups of specialists began to construct new classification schedules under the leadership of J.C.M Hanson and Charles Martel. Class Z (bibliography) was first adopted by the Library of Congress and formally published in 1902. An outline of the entire classification system was released around the same time, and by 1948 all schedules, with the exception of Class K (law), had been completed and published.⁵² Although designed mainly for the Library of Congress collection, with its basic orientation toward research and the economic advantage of its cataloging services, the *LCC* has become the system of choice for more and more libraries in the United States since the 1920s.

Like the *CCL*, the *LCC* enjoyed a dominating role among large, research-orientated libraries. It was considered as “a coordinated series of special classification.”⁵³ Comparable with the *CCL*, the *LCC* was also the outcome of group efforts, not the creation of one mastermind like the other classification systems in the late nineteenth century. In developing its original outline, Henson modeled it after the Charles Ammi Cutter’s Expansive Classification. Today the *LCC* contains twenty-one classes displayed in

over thirty separately published schedules. As a discipline-based classification system like the *CCL*, the *LCC* divided the entire field of knowledge into main classes corresponding to major academic disciplines. Because of its use of the English alphabets as notation for representing major disciplines, there were considerably more main classes in the *LCC* than in a decimal-based system. This provided the *LCC* a much broader base for necessary subject divisions. The main classes were divided into subclasses, which were further subdivided into form, place, time, and subject aspects, thus forming a hierarchical structure, progressing from the general to the specific. In sum, many of those useful methods and techniques of the *LCC* could be seen in the subsequent development of the *CCL*.

Table 2 offers a direct comparison of the *LCC* and the *CCL* in terms of their organizational structures. On a first glance, their outlines looked roughly similar. Some classes even had the same names and letter designations such as philosophy and religion (B), agriculture (S) and technology (T). Like the *CCL*, the organization of the *LCC* was also from social sciences to natural sciences. Charles Martel had explained the structural arrangement of the *LCC*.⁵⁴ The class of general works (A), consisting of books and materials not limited to any particular subject, led the classification schedule. It was followed by the class of philosophy and religion (B), which set forth the thoughts and theories of human beings concerning the universe. The following classes, history and geography (C-G), concerned such ideas as man's abode and source of his means of subsistence, man as affected by and affecting his physical milieu, and mind and soul of man in transition from primitive to advanced culture. Next group, Classes H-L, brought out the economic and social evolution of human beings. Classes M-P for music, fine arts, and language and literature concerned the esthetic and intellectual development and state of human beings. Classes B-P formed the group of the philosophical, historical and philological sciences. The second large group, classes Q-V, embraced the mathematical, physical, natural and applied sciences. The last class, bibliography, was kept together in the *LCC* and shared the same class (Z) with library science.⁵⁵ The letters I, O, W, X and Y have not been assigned to any subjects and are reserved for future expansion.

The political influence of the Soviet Union on the development of the *Classification for Chinese Libraries* was already discussed earlier. It is not clear whether the organizational structure of the *CCL* was also affected by the *LCC*. However, in their efforts of incorporating previous accomplishments of both Chinese and foreign classifications, it is logical to assume that Chinese professionals would give ample considerations to the *LCC* in terms of its outline. Nevertheless, a substantial difference existed between the *LCC*

and the *CCL*. Unlike the *CCL*, Marx-Leninism was listed only as a school of thought under philosophy in the *LCC*. There was no single special discipline serving as the ideological guidance of the American classification like the *CCL* and other Chinese classifications. Other minor structural differences of the *LCC* included: general works were listed at the beginning, instead of the end of the schedule as in the *CCL*; bibliography and library science as a separate class was at the bottom of the *LCC*, taking the place of general works in the *CCL*.

Table 2 Outline Comparison of *LCC* and *CCL*

<i>Library of Congress Classification</i>	<i>Classification for Chinese Libraries</i>
A General Works	A Marxism, Leninism, Mao Zedong's Thoughts, Deng Xiaoping's Theories
B Philosophy and Religion	B Philosophy and Religion
C History: Auxiliary Sciences	C Social Sciences: General Works
D History: General and Old World	D Politics and Law
E-F History: America	E Military Science
	F Economy
G Geography, Anthropology, Folklore	G Culture, Science, Education & Sports
H Social Sciences	H Language
	I Literature
J Political Sciences	J Arts
K Law	K History, Geography
L Education	
M Music	
N Fine Arts	N Natural Sciences: General Works
	O Mathematics, Physics & Chemistry
P Philology and Literature	P Astronomy and Earth Science
Q Science	Q Biology
R Medicine	R Health and Medicine
S Agriculture	S Agricultural Science
T Technology	T Industrial Technology
U Military Science	U Transportation
V Naval Science	V Aviation and Space Aeronautics
	X Environmental Science & Safety Care
Z Bibliography and Library Science	Z Comprehensive Works

The mixed-notation system in the *CCL* is very much like that in the *LCC*. When the *LCC* was developed, Henson decided to use one, or at most two, capital letters to indicate classes, Arabic numbers for subdivisions, and Cutter number for individual books.⁵⁶ This framework has remained in place today, even though as the new need arose in classifying the collections at the library of Congress, the *LCC* was continuously revised throughout the twentieth century. Many of the proven techniques of the *LCC* in developing

a successful classification were seen in the *CCL*, such as the use of auxiliary tables. In the *LCC*, relatively little notational synthesis was required in the schedules. Auxiliary tables were included chiefly as device for saving space in the schedules. They were mainly used for pinpointing specific numbers rather than for the purpose of providing additional notational segments. Another important characteristic of the *LCC* system was that it was not consistently hierarchical. This was not the case in the *CCL*, however. In the *LCC*, the notation did not necessarily reflect the hierarchical relationships among subjects. Even though it had been criticized for failing to express the logical structure of the system, this arrangement did keep the majority of class numbers relatively brief for the benefit of shelf management. Since the hierarchical structure and relationships could be ignored, it was much easier to accommodate new subject categories.

Although both classifications were the results of coordinated works, the organizational efforts in developing the *LCC* were much more loosely structured and spread out in time. While the *CCL* was coordinated under the leadership of a central government agency and the national library, and published in a relatively short time the *LCC* was essentially the sole effort of the Library of Congress. Another difference existed between the *LCC* and the *CCL* in terms of their sizes. In the *LCC*, compound subjects containing more than one concept were enumerated, and many common divisions were individually listed. Within each subject category, divisions were represented by Arabic numbers from 1 to 9999 with possible decimal extensions. As a result of this detailed enumeration, the *LCC* was much more voluminous than the *CCL* and other common library classification systems in the world.

In terms of their purposes, a significant difference also existed between the two. The *LCC* was not designed as a general, universal classification for all libraries like the *CCL*, but rather as a system specially tailored for the Library of Congress collection. In the *LCC* there was a predominance of notation distributions in social sciences particularly history, which spread to three main classes (D-F). All expansions and revisions of the *LCC* were to reflect the development of that particular collection. The chronicle of the *LCC*, which stretched over one hundred years, was much longer than the quarter century of development in the *CCL*. While the *CCL* seemed to have a much higher rate of adoption in China comparing with the *LCC* in the United States, the significance of the *LCC* should not be underestimated in the history of library classifications.

Albeit their differences and problems, it is clear that both the *CCL* and the *LCC* are complex, yet practical classifications used by vast numbers of libraries of all kinds and sizes. Their successes ensure their prominent places in the human development of classifications systems around the

world.

Conclusion

China has a long history in library classifications, although modern schedules did not emerge until one hundred years ago when the Western classifications were introduced into the country. During the twentieth century while more than 70 library classifications were created in China, the *CCL* finally emerged to become the library classification system of the nation. Unlike its predecessors that were compiled mainly through isolated efforts, the success of the *CCL* was due to the collective wisdom of thousands of library professionals participating in this endeavor. In the development of the *CCL*, they had incorporated many previous accomplishments of both Chinese and foreign classifications. Unlike Western classifications, the central government agencies and the National Library of China had played an active role in the compilation of the *CCL*.

With hundreds of pages, thousands of classes and various versions, the *CCL* is one of the most comprehensive library classifications available in the world. Its adoption of a mixed notation of Roman alphabets and Arabic numbers provided a logical framework for establishing a scientific outline of human knowledge. In the areas of natural sciences and technologies, the structure and organization of the *CCL* essentially reflected the scientific achievement of its time. The wide adoption of the *CCL* also played a part in the standardization of Chinese language in information research and retrieval, thus contributing to the process of computerization in China. Indisputably the *CCL* was a landmark achievement in the history of Chinese library and information sciences of the twentieth century.

The major problems of the *CCL* were its deeply ideology-based approaches toward the subjects of philosophy and social sciences. Parts of structural design looked artificial and awkward, and several politics-based methods in the *CCL* had created major difficulties for library professionals in practice. Such a phenomenon was understandable considering it was originally developed during the height of the Chinese Cultural Revolution. Not only was it influenced by classifications of the former Soviet Union, it continued a Chinese tradition in library classification begun two thousands years ago, which listed Confucianism as the dominant philosophy. Nonetheless, much improvement has taken place over years in terms of people's stance toward political issues. After the great social debate on the standards for universal truth in the late 1970s, the orthodox thinking was gradually abandoned under current social and economic reforms. Reflecting on the classification development, political influences were slowly but steadily neutralized; the science and usefulness of classification grew to be the main

focus of subsequent revisions.

To keep pace with a modern world and the rapid scientific advancement, collective and continuous efforts are required for any successful library classifications. Would there be a truly universal classification system for all someday? Librarians had pondered this question for some years. However because of different social systems, levels of economic development and cultural heritages around the world, such an order would be tall if not impossible. Although computer revolutions of the last three decades had greatly improved users' retrieval capabilities, a library classification is still regarded as a fundamental tool for effectively organizing and providing access to the cumulative knowledge of human beings. Both the *LCC* and the *CCL* are comprehensive yet practical systems of library classification today with wide influences. Like the *LCC*, the *CCL* also hold a prominent place in the history of library classifications. Despite its weaknesses, it offers a useful model for adoption as well as research in the human development of classifications systems.

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Notes

- 1 Lois Mai Chan, *Cataloging and Classification* (New York : McCraw-Hill Book Company, 1981), p. 209.
- 2 Arthur Maltby, *Sayers' Manual of Classification for Librarians*, 5th ed. (London : Andre Deutsch, 1975), p. 75.
- 3 Another English translation for the *Classification for Chinese Libraries (CCL)* is the *Chinese Library Classification (CLC)*. See Zhang Qiyu, Liu Xiaosheng and Wang Dongbo's article, "Contemporary Classification Systems and Thesauri in China." The author has adopted the term of *CCL* from a recent book by Gong Yitai & G. E. German, *Libraries and Information Services in China* (Lanham, Maryland: Scarecrow Press, 2000). For clarification purpose, the standard Chinese pronunciation, Hanyu Pinyin, is given here for special Chinese terms like *CCL* throughout the paper.
- 4 Ma Zhanghua & Hou Hanqing, *Introduction to Library Classification and Subject Headings* (Beijing : Publishing House of the National Library of China, 1999), p. 102.
- 5 Unlike English names, Chinese individuals were listed with last names first following Chinese customs.
- 6 Du Dingyou, "A brief history of library classifications," *Library Work*, 8-9 (1957). In Bai Guoying, ed., *Selective Essays on Library Classifications* (Beijing : The Bibliographical Literature Press, 1985), p. 235.
- 7 *Ibid.*
- 8 *Ibid.*, pp. 235-236.
- 9 *Ibid.*, pp. 236-237.
- 10 *Ibid.*, p. 239.
- 11 *Ibid.*, p. 240.
- 12 When the *Classification for Chinese Libraries* was first released, its Chinese name was *Zhong Guo Tu Shu Guan Tu Shu Fen Lei Fa (Book Classification for Chinese Libraries)*. In 1999 the name was shortened to *Zhong*

Guo Tu Shu Guan Fen Lei Fa to reflect its changing scope, which was no longer, limited to books.

- 13 Zhang Qiyu, et al., "Contemporary classification systems and thesauri in China," paper presented at the 62nd General Conference of the International Federation of Library Associations (IFLA) in Beijing, China. In *IFLA '96 Booklet 4* (049-CLASS-3-E, August 1996) : 31.
- 14 *Ibid.*, p.32.
- 15 Xie Yanling, "Overview of researches on the classification for Chinese libraries, 3rd ed," *University and College Library Services*, 4 (1997) : 24-28.
- 16 *Classification for Chinese Libraries* (Beijing : The Scientific and Technical Literature Press, 1975), p.1.
- 17 *Ibid.*.
- 18 Xu Mian, "Several observations on the *Classification for Chinese Libraries*," *Communications of the National Library of China*, 2 (1979). In Bai Guoying, ed, *Selective Essays on Library Classifications* (Beijing : The Bibliographical Literature Press, 1985), p. 388.
- 19 *Ibid.*, *Classification for Chinese Libraries* (1975), p.1.
- 20 Mao Zedong, "Rectifying the Party's Style of Work," In *Selective Works of Mao Zedong* (Beijing : People's Press, 1966), pp. 769-786.
- 21 *Classification for Chinese Libraries* (1975), p. 3.
- 22 Liu Guojun & Shi Yongyuan, "Current development of Library Classifications in China," *Communications in Library Science*, 12 (1959). In Bai Guoying, ed., *Selective Essays on Library Classifications* (Beijing : The Bibliographical Literature Press, 1985), p. 244.
- 23 *Ibid.*, p. 247.
- 24 *Ibid.*, pp. 245-246.
- 25 *Ibid.*, pp. 249-250.
- 26 Du Dingyou, "A brief history of library classifications," pp. 242-243.
- 27 Li Lan, "To better promote the Marx-Lenin's works through the use of library classification," *Library Work*, 4 (1956) : 21.
- 28 Junior Students from the Department of Library Science of Wuhan University, "Preliminary criticism of Pi Gaopin's Four-Category Classification," *Humanity Studies of Wuhan University*, 3 (1959) : 58.
- 29 Zhang Defang, et al., "On the organizational structures of library classifications," *Sichuan Journal of Library Science*, 3 (1993) : 26-36.
- 30 Luo Minwen, "On the authority and future outcome of the modern library classification," *Library Forum*, 3 (1995) : 49-50.
- 31 Shi Yongyuan, "Several issues on the research of library classifications in New China," *Zhejiang Journal of Library Services*, 2 (1979). In Bai Guoying, ed., *Selective Essays on Library Classifications* (Beijing : The Bibliographical Literature Press, 1985), p.266.
- 32 Liu Guojun & Shi Yongyuan, "Current development of library classifications in China," pp. 245-246.
- 33 Shi Yongyuan, "Several issues on the research of library classifications in New China," pp. 266-267.
- 34 Su Sheng, "The issues of organizational structure of the *Classification for Chinese Libraries*," *Communications of the National Library of China*, 1 (1977). In Bai Guoying, ed., *Selective Essays on Library Classifications* (Beijing : The Bibliographical Literature Press, 1985), pp. 347-348.
- 35 Zhang Liejun, "Various problems of the CCL in classifying foreign publications," *Journal of Library Science in China*, 3 (1997) : 88-89.
- 36 Shi Yongyuan, "Several issues on the research of library classifications in New China," p. 270.
- 37 *Classification for Chinese Libraries*, 2nd ed. (Beijing : The Bibliographical Literature Press, 1980), p.7.
- 38 *Ibid.*, p. 8.
- 39 *Ibid.*.
- 40 *Ibid.*, p. 9.
- 41 *Ibid.*, Zhang Qiyu, et al., "Contemporary classification systems and thesauri in China," p. 32.
- 42 *Ibid.*, Xie Yanling, "Overview of researches on the *Classification for Chinese Libraries*, 3rd ed," p.26.
- 43 *Classification for Chinese Libraries*, 3 ed. (Beijing : The Bibliographical Literature Press, 1990), p.8.
- 44 *Ibid.*, p. 9.
- 45 *Ibid.*, p. 11.
- 46 *Ibid.*, p.10.

- 47 *Classification for Chinese Libraries*, 4th ed. (Beijing : Publishing House of the National Library of China, 1999), p. 7.
- 48 *Ibid.*, pp. 9-10.
- 49 *Ibid.*, pp. 10-11.
- 50 Gong Yitai & G. E. Gorman, *Libraries and Information Services in China* (Lanham, Maryland : Scarecrow Press, 2000), p.116.
- 51 *Ibid.*
- 52 Lois Mai Chan, *Cataloging and Classification*, pp. 269-273.
- 53 Arthur Maltby, *Sayers' Manual of Classification for Librarians*, p. 175.
- 54 Leo E. LaMontagne, *American Library Classification with Special Reference to the Library of Congress* (Hamden, Conn.: The Shoe String Press, 1961), p. 254.
- 55 Lois Mai Chan, *Cataloging and Classification*, p. 277.
- 56 J.C.M. Hanson, "The Library of Congress and its new catalogue : Some unwritten history," In *Essays Offered to Herbert Putnam by His Colleagues and Friends on His Thirtieth Anniversary as Librarian of Congress : 5 April 1929* (New Haven, Yale University Press, 1929), pp. 186-187.