

TREATMENT OF PERSIAN MATERIALS IN THE  
NATIONAL UNION CATALOG

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## ABSTRACT

This study investigates the treatment of the Persian materials in the National Union Catalog (NUC). As there is no subject approach to NUC for the time being, and since Library of Congress determines American cataloging and classification procedure, the Library of Congress Catalog--Books:Subjects is selected as the basis of the study of NUC. It is assumed that NUC will reflect much the same characteristics. Persian materials are defined as those titles listed under the subject headings given in Appendix A of this report. This study compares a random sample of 5 per cent of the Persian materials with a sample of 2 per cent of the American materials (both samples are equal in number). American materials are defined as the titles listed under the subject headings similar to the subject headings selected in the process of random sampling of the Persian materials. The list of American subject headings is given in Appendix B of this report. The comparison of the two samples includes: the matching of depth of subject indexing, the average of added entries, the amount of bibliographical information, the language of these materials, and classification information. In addition to the comparison the locations of Persian materials are determined and the list of the locations is given in Appendix C. The classification number of those Persian materials titles which have both Library of Congress Classification and Dewey Decimal Classification are analyzed to show the difference of classifying Persian materials by either of these classifications.

The findings suggest more research on the classification of Persian materials. The result is that Persian and American materials are treated approximately equally, and any difference is due to the composition of the language of these materials which has affect on determining the classification number.

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## Chapter 1

### INTRODUCTION

Changes in the pattern of education, from altruistic methods of instruction to heuristic methods of instruction, have altered the pattern of library use. Students require more material and information for their assignments. Increased scientific research in past decades also requires additional use of library materials. "More scientific research has probably been done in the past twenty years than in the preceding two hundred years."<sup>1</sup> Researchers need information in a reasonable amount of time. The effective satisfaction of the information needs of the library users is the prime responsibility of the libraries and librarians. To provide a better service to the library patrons, research must be done on available reference tools on the part of their contribution on the satisfaction of the information needs.

Since World War II the amount of human knowledge has increased at a tremendous rate. The number of publications has increased each year. There are more than five million articles published in various journals each year. Materials themselves come out in a variety of forms. The so-called information explosion on the one hand and the increase in the demand for information on the other hand causes information retrieval to become more and more complex. Considering the variety of forms, subjects, and

languages, the problem of information retrieval will become much more complicated.

In order to alleviate any problem in this regard, there must be study of all aspects of information retrieval. Effectiveness of information sources depends upon the methods of indexing and the arrangement of information, and the amount of information that these sources provide in respect to their objectives. In a broader sense the study of the methods of information retrieval includes the study of the effectiveness of all information sources in different subjects and in all languages.

The reference value of any information source may be determined by the usefulness of that source in giving the kind of information that one seeks, the extent of accuracy, the number of approaches that are available to retrieve information, and finally the cost/benefit of that source. It is quite important to be sure that in a reasonable amount of time one can get the information which he is looking for.

Foskett points out the problem of increasing information and the need for having a system that gets one the exact information that he wants without delay in time and having false drops:

Nowadays, the quantity of new information being generated is such that no individual can hope to keep pace with even a small fraction of it, and the problem that we have to face is that of ensuring that individuals who need information can obtain it with the minimum of cost (both in time and in money), and without being overwhelmed by large amounts of irrelevant matter.<sup>2</sup>

There are many studies in the various aspects of information retrieval, but so far there are few studies on the evaluation of information sources dealing with particular subjects, particularly those sources which deal with a variety of languages. Needham, in



describing bibliographic organization, points out the importance of the language of documents. "Important documents are published in an increasing number of languages as developing countries produce more literature. . .".<sup>3</sup>

One of the most important sources of information is the National Union Catalog which gives the location of the holdings of the important research libraries of the United States and Canada. This invaluable information source is used by many researchers and scholars, librarians, and students both in the United States and other countries in the world. As it lists many sources of information in other languages, it is important to study the amount of information that it gives in respect to each individual language. Certainly, research on various aspects of this valuable source of information makes it even more useful.

#### PURPOSE OF THIS STUDY

Knowing that NUC is used by many librarians and researchers as a tool of reference source, the purpose of this study is to investigate the treatment of Persian materials in the National Union Catalog, by comparing the information given on the catalog cards for the Persian materials with those of the American materials.

The aim of this study is to find out if one can get the information about Persian materials through NUC as easily as when one is looking for similar information or for similar materials in the subjects related to America.

Iran, or ancient Persia, has a long history and, as one of the centers of civilization in the ancient world, is an interesting

subject for many scholars. It is now in the rapid process of economic development. It is one of the important producers of petroleum in the world. The growth in the national income in recent years is amazing. Therefore, the subject of Iran, both as one of the oldest centers of civilization and as one of the developing countries in Asia, is the subject of study of many scholars both in Iran and in other countries.

There are many publications about the history, literature, education, economics and politics of Iran. These publications are not only in the Persian language, but in many other foreign languages. In addition to Iranian libraries, there are many foreign libraries which have Persian Collections. For instance, according to the fourth edition of Subject Collection<sup>4</sup> there are at least fifteen libraries in the United States which keep Persian Collections. According to another source there were more than twenty-two libraries in the United States which have Persian Collections.<sup>5</sup> In addition to those libraries which have separate collections of Iranian manuscripts and printed books, there are many libraries that do not have a separate collection, but they do have books about Iran either in English or in other languages.

No doubt NUC is used to find out information about various subjects including subjects related to Iran. NUC is used to see what books are available, or to see where these materials are located. The question of this study is to see if one can get the needed information about Iran in a reasonable way through this source.

As there is not a subject approach to NUC for the time being, and since the Library of Congress determines and is the model for

American cataloging practice and the Library of Congress cards constitute the majority of titles listed in the NUC, this study uses the 1973 edition of the Library of Congress Catalog--Books: Subjects as the basis of the study of NUC. It is assumed that NUC will reflect much the same characteristics.

Study of the treatment of Persian materials in the NUC will provide a basis for understanding the value of this reference source for obtaining information about other sources of information on materials related to the Persian literature, Persian history and the culture of Iran.

#### BACKGROUND OF THE STUDY

Although the Persian language is famous as a language of literature, there have been quite a few scientific studies on the problems associated with this language in the process of cataloging and classification of materials written in this language or dealing with Iran. In 1958, Dr. Nasser Sharify studied the cataloging of Persian works in his doctoral dissertation of library science at Columbia University.<sup>7</sup> He formulated several rules for transliteration, entry, and description of Persian materials.

In 1970, in another doctoral dissertation at the University of Pittsburgh, Library School, Dr. Hooshang Ebrami studied catchword indexing, subject headings, and chain indexing. He also made a formulation of rules for subject analysis in Farsi (Persian).<sup>8</sup> There are several other unpublished master's theses from library schools in Iran about different subjects related to Iranian

librarianship. But so far, to my knowledge, no one has made a study of the treatment of Persian materials in the NUC.

Cataloging and classification are two processes necessary for organization of materials. Organization of materials, in turn, is necessary for information retrieval. Many libraries use NUC for these purposes. There are quite a large number of studies about classification, cataloging, and subject indexing in general. One of such relatively recent studies is by Highfill.<sup>9</sup> In this study on the relationship of indexing depth and subject catalog retrieval effectiveness, he proved that there is a positive relationship between the number of subject headings assigned to a work and the chance of being selected by catalog users during the subject search. Considering these points, the present study attempts to see if the catalog given for Persian materials in NUC have the same subject depth as those of American materials.

#### STATEMENT OF THE PROBLEM

This study compares two samples of Library of Congress Catalog--Books:Subjects materials: one for Persian materials, the other for American materials under the headings selected in the first sample. The comparison will be on the basis of the number of subject headings in two samples, numbers of added entries, notes, classification numbers and distribution by the language. This study attempts to find the answer to the following questions:

1. What is the dispersion of the Persian materials subjects throughout the Library of Congress Catalog--Books:Subjects? The purpose of this question is to see what subjects are most likely

to be found about Iran. Are these materials mostly about the history, economy, social science, literature, education of Iran or some other subjects?

2. What is the proportion of each language? The purpose of this question is to determine the language of the documents about Iranian subjects. Knowing the answer to this question, a researcher willing to find information about Iran through NUC will be able to predict in which languages he will probably find these materials, i. e., he will have an estimate whether these will be mostly English, Persian, or another language.

3. How many English works have both Dewey Decimal Classification and Library of Congress Classification? The purpose of this question is to understand how useful is this source in giving the information about classification. Although it is closely related to the percentage of English materials, it will be useful to know what are the chances of finding both DDC and LCC numbers for cards.

4. What similarities and differences exist between Dewey Decimal Classification number and the Library of Congress Classification number when both of them are assigned to a given subject? Do they provide the same concept? Does it make any difference in grouping similar materials?

5. What is the depth of subject indexing? Knowing that the more subject headings assigned to a work the greater the chance of being selected in the process of subject search, the purpose of this question is to understand the difference of subject depth index of Persian materials and American materials in similar subjects.

6. What bibliographical information is given in the cataloging of Persian materials? Are they treated equally with American materials? Sometimes a brief note in a catalog card of a book saves time for the user of the card catalog. For example, a note may indicate whether a book is translated from the original source or from a secondary source. This information will be very useful for a person interested in the translation of a particular edition. Therefore, the purpose of this question is to see what percentage of Persian materials have notes and compare them with similar information in the second sample.

7. Where is the location of Persian materials and what library has the largest collection about Iran? When a person is doing research about a certain aspect of Iran, it is important for him to know the nearest location of the books he needs. Therefore, the aim of this question is to determine the location of the materials in different libraries in the United States and Canada.

8. What other approaches are provided in these cards to retrieve information? Are the average number of added entries in the sample of Persian materials the same as those of American materials?

## Chapter 2

### REVIEW OF THE LITERATURE

Cataloging and classification are two processes of a broader subject known as the organization of knowledge.<sup>10</sup> Both of them are equally important for information retrieval. Distinction should be made between philosophical classification and the library classification. While philosophical classification arranges knowledge by itself by classifying thoughts and ideas, library classification arranges the recorded knowledge for specific purposes, as a subject approach to the available collection.

### HISTORY OF CLASSIFICATION

The idea of classification is as old as human civilization. Classification is a reflection of the development of concepts that primitive man developed from his environment. At the very beginning there were only a few concepts, but as primitive man found more concepts, he began to distinguish one set of actions or concepts from another, say day from night, fear from happiness, and so on. These developments resulted in classification theories suggested by philosophers. The earliest tendency to classify human knowledge was suggested by Aristotle, the Greek philosopher (384-322 B. C.) who divided "universal knowledge" in ten classes:<sup>11</sup>

Substance	Time
Quantity	Situation or position
Quality	Position or acquired character
Relation	Activity
Place	Passivity

He distinguished five relations: Genus, definition, property, difference and accident.

As far as the history of library classification is concerned it goes back to the classification of clay tablets in the ancient world. Sayers, in describing the history of classification, points out:

Our earliest traditions of libraries bear their account of classification. We are assured that the clay tablets in the Assyrian library of Assur--ban--i--pal were divided at least into two main classes--those dealing with the knowledge of the earth, and those dealing with the Heaven--and these subdivided.<sup>12</sup>

He mentions that Aristotle was the first one who made an arrangement of books, and that his system of classification was later adopted by Ptolemy. However, the earliest system was designed by Callimachus (260-240 B. C.), the librarian of the Library of Alexandria in Egypt. The catalog of Callimachus was called Pinakes. The main classes of his scheme were Poets, land makers, Philosophers, historians, rhetoricians and miscellaneous writers.<sup>13</sup> These classes were subdivided by chronological order, subject, and the name of the author.

After these early attempts for arrangement of library materials, there is a long interval which is characterized by nothing new happening in libraries. In medieval libraries books were



arranged by several general subjects and in each class they had fixed locations.

Francis Bacon (1561-1626), the English philosopher whose classification had a great effect in Dewey Decimal Classification, divided the whole human knowledge into three categories: history, which is the province of memory and includes natural history, civil history, literary and ecclesiastical; philosophy, which is the product of reason and includes theology, and, finally, poetry, which is the product of imagination.<sup>14</sup>

In 1643, Gabriel Naude divided his book into twelve main classes:<sup>15</sup>

Theology	Medicine	Bibliography
Chronology	Military	Jurisdiction
Council and Canon Law	Art	Geography
History	Philosophy	Literature
Politics		

Jacques Charles Burnet (1780-1867), French bookseller, divided his books into five main classes:<sup>16</sup>

Theology	Jurisdiction	History
Philosophy	Literature	

The full table of this classification is in eighteen octave pages.

Immanuel Kant (1724-1804), German philosopher, believed there are two factors in genuine knowledge:<sup>17</sup> (1) Raw materials which are senses of experiences, and (2) the synthetic organizing activities of mind. He distinguished four categories of knowledge:

1. Categories of quality which include unity, i.e., the mind unites various sensations into unity of an organ, plurality,

i.e., the mind identifies and synthesizes each one, and the totality.

2. Categories of quality which include reality, negation, and limitation.

3. Categories of relation which include inherence and subsistence or substance, causality and dependence and community.

4. Categories of modality which include possibility vs. impossibility, existence vs. nonexistence, necessity vs. contingency.

He said that things should be put together before they can be apart. And one cannot see things together unless they are put together.

### LIBRARY CLASSIFICATIONS

The objective of library classification is the economy and increase in the efficiency in the use of materials. Library classification brings things which are like and separates those which are unlike. Another purpose of library classification is to establish some sort of relation between subjects in literature so that this relation allows maximum helpfulness in locating information. Richardson distinguishes nine types of classification as follows:<sup>18</sup>

1. Logical classification or arrangement according to the degree of likeness.

2. Geometrical classification, or the arrangement according to the position in space.

3. Chronological classification, which arrangement is according to the position in time.

4. Genetic classification or arrangement according to the origin.

5. Historical classification, which is the chronological, geometrical and genetic classifications.

6. Evolutionary classification, which arrangement is according to the degree of complexity.

7. Dynamic classification or arrangement according to the order of power.

8. Alphabetical classification or arrangement according to the first letter of names.

9. Mathematical classification or arrangement according to the order of numerical symbols.

There are a number of factors that affect the selecting of type of arrangements. Mills mentions eight factors, as follows:<sup>19</sup>

1. Type of the users.
2. Frequency of the users.
3. Size of the collection.
4. Physical characteristics of materials for instance, micro form, printed materials, etc.
5. Language of the materials.
6. Value of the materials.
7. Date of printing, and
8. Temporary significance.

The first library classification in American libraries was developed by Thomas Jefferson, president of the United States, who modified the Baconian Classification. Later William Turrey Harris devised a classification system for a public school library in

St. Louis in 1870. He was a follower of Hegel and the main classes of his scheme were as follows:<sup>20</sup>

1. Science, which includes philosophy, religion, social, political, and natural science, and useful arts.
2. Arts, which includes fine arts, poetry, literary miscellany.
3. History, which includes geography, travel, civil history and bibliography.

Melvill Dewey (1851-1931), librarian of the Amherst College, brought the idea of decimal classification. The first edition of Dewey Decimal Classification was published in 1876.<sup>21</sup> He was influenced by Harris' classification. It has a relative index which gives the location with relation to subjects. One of the features of DDC is that it provides detail for those libraries which need such lengthy class numbers. It is one of the most widely accepted classification schemes that has been translated into many languages. There are ten main classes which reflect the area of specialization:

000	Generalia	500	Science
100	Philosophy	600	Technology
200	Religion	700	Art
300	Social Science	800	Literature
400	Language	900	History

Each main class is subdivided into ten subclasses, and each subclass into ten sub-subclasses and so on. It has practical usefulness, simplicity, and mnemonic features.

Charles Ammi Cutter (1837-1903), the librarian of Boston Atheneum, brought the idea of dictionary cataloging.<sup>22</sup> The Rules for Dictionary Catalogue was published in 1876. His classification is known as "expansive classification." He was influenced by Spencer and Comte. It is a practical arrangement and consists of seven schemes. The first one, which has eight main classes, is designed for libraries of one hundred volumes and the second one has fifteen main classes, which is for larger libraries, and the other schemes for larger libraries. Although the first edition of this classification was published in 1879, the creator of this classification died before he could finish up the last scheme.

In 1894, two Belgians, Paul Otlet and Henri Lafontain, developed the Dewey Decimal Classification to be used in special libraries all over the world.<sup>23</sup> This classification is known as the Universal Decimal Classification (UDC). It has a relative index and the main classes are modifications of Dewey Decimal Classification's main classes. The notation allows various combinations according to form, period and language.

The Library of Congress Classification was developed in the Library of Congress when this library moved into a new and larger quarters in 1897. It is the product of teamwork done under the directorship of Herbert Putnam, librarian of the Library of Congress. This classification appeared between 1899-1939.<sup>24</sup> Each class was published separately. It has twenty-six possible main classes, although not all of them are being used presently. The main classes of the Library of Congress Classification are as follows:

A	General	P	Language and Literature
B	Philosophy	Q	Science
C-F	History	R	Medicine
G	Geography	S	Agriculture
H	Social Sciences	T	Technology
M	Music	U-V	Military and Naval Science
N	Fine Arts	Z	Biography

James Duff Brown (1862-1914), British librarian, published his classification in 1894 as Quinn-Brown Scheme. Later, in 1897, the classification was published as the "Adjustable Classification." Finally, in 1906, it was published as the "Subject Classification." He believed that every form of knowledge can be traced to a principle from which it has developed. The sequence of main classes is based upon matter, life, and mind record.<sup>25</sup> Matter and force generated life and life in turn produced mind and finally record. He said that everything relating to a topic can be put in a constant place. The main classes in this scheme are as follows:

A	Generalia
B-C	Physical Science
E-F	Biological Science
G-H	Ethnology
I	Ecology
J-K	Philosophy
L	Social and Political Science
M	Language and Literature
N	Literary Forms

O-W History

X Biography

Shiali Ramamrita Ranganathan (1892-1972), from India, brought a new approach to classification. His classification is known as Colon Classification. Its first edition was published in 1933. His theories of facet analysis brought a revolution in classification theory and practice.<sup>26</sup> Ranganathan related all facets to "five fundamental concepts"--personality, matter, energy, space, and time--which generally is known as PMEST. The order is according to this decreasing principle, that is, personality is the most concrete and time is the most abstract.

The Bibliographic Classification was developed by Henry Evelyn Bliss (1870-1955). He was the librarian of the College of the City of New York and during about thirty years of working in this library he developed this classification. The first edition of Bibliographic Classification was published in 1935.<sup>27</sup> Bliss used twenty-six letters of the English alphabet for the main classes and arabic numerals for form division. The important aspect of his classification is the idea of basic and subordinate classes, and also the idea of "Consensus." All classes in this scheme are based upon four basic areas of knowledge:

- |            |               |
|------------|---------------|
| 1. Science | 3. Technology |
| 2. History | 4. Arts       |

This classification is very popular in providing different needs in different libraries. It is mnemonic, has a brief notation and is unique in having flexibility by providing alternative locations.

Among the above classifications which are described the Library of Congress Classification (LCC) and the Dewey Decimal Classification (DDC) which are used by many libraries and are given in the catalog cards of English materials in NUC will be compared here. These two classification systems have some similarities and differences as follows:<sup>28</sup>

a) Similarities

1. Both of them have practical usefulness by providing book shelving location.
2. Both of them provide relative locations.
3. The main classes of LCC and DDC reflect the area of specialization.
4. They have many problems in common.

b) Differences

1. DDC may be used for any size library while LCC was developed originally for libraries of several million books, although it can be used for any size library.
2. LCC has mixed notation, i.e., uses both alphabet and numbers, while DDC is pure notation, i.e., uses only arabic numbers (with few exceptions).
3. The length of base of LCC is longer than DDC, i.e., while in LCC there are twenty-six possible main classes, there are only ten main classes in DDC.
4. DDC originally was developed by one person, while LCC was developed by a group.
5. DDC is in a few volumes (three volumes for the 18th edition) while LCC is in several volumes.



6. DDC has many mnemonic features, while LCC has few mnemonic features.

7. As the number of subdivisions increases, DDC becomes too long so that in practice it is difficult to be used, while LCC does not have this problem.

8. DDC was based on the Harris Classification which in turn was based upon inverted Baconian Classification, while in preparing LCC all schemes were reviewed and it is influenced by all of the previous schemes.

All classification schemes may be grouped according to the purpose:<sup>29</sup>

1. Traditional, deductive, systematic classifications.  
LCC and DDC are among this group.

2. Non-traditional, inductive, syndetic classifications.  
UDC, Colon Classification, and various faceted classifications are among this group.

The aim of all these classifications, in spite of different criteria of grouping, is the same. All of them try to bring related materials together. But any classification system has its own limitations. The common limitation of all these classification schemes is that they are linear and unidimensional. They provide only one approach to information retrieval. Subject headings add another approach to retrieval of information.

## NATIONAL UNION CATALOG

Many bibliographical sources have been developed in the United States during the last hundred years that certainly influenced the development of librarianship to a great extent. Among these the National Union Catalog (NUC), as the central record of the holdings of the materials in the major research libraries in the United States and Canada, is an amazing endeavor of library cooperation. Cronin calls it "a key to all knowledge and information in book form in this century."<sup>30</sup>

The history of NUC goes back to many years ago. The first suggestion of centralized cataloging was by Charles Coffin Jewett, librarian of the Brown University and the Smithsonian Institute.<sup>31</sup> His idea was to prepare stereotype blocks for cataloging cards to be used later for printing and adopting cards.

Later on, Publishers Weekly began to publish title slips which were prepared by the librarians. But this plan ceased after one year at a loss. In 1876, Melvil Dewey, in a conference, proposed the preparation of printed titles to be used by libraries. In 1887, ALA publishing section began printing catalog cards for American Catalog but again this program was not continued because there were not sufficient subscriptions.

Corn mentions two factors which facilitate the interchange of catalog cards:<sup>32</sup>

1. Using the cataloging standards which followed the publishing of Cutter's Rules for Dictionary Catalogue.

2. Introduction of standard cards which began after the starting of the printing of cards by the Library of Congress.

The foundation of NUC was laid as soon as the Library of Congress started printing cards. In 1901, Herbert Putnam, the librarian of the Library of Congress, started the exchange of Library of Congress printed cards for cards printed by other libraries.<sup>33</sup> This was the first step towards preparation of a union catalog. Besides Library of Congress itself, there were four other libraries in this exchange program: New York Public Library, Boston Public Library, Harvard University Library, and Crerar Library in Chicago. In the first quarter of the twentieth century any attempt in this regard was located at the Library of Congress Card Division.

Although by 1926 this union catalog was increased to nearly two million, still it was inadequate for research needs. As a response to the American Library Association, John D. Rockefeller, Jr. gave a gift of five thousand dollars for five consecutive years to the Library of Congress. During 1927-1932, more than six million cards were added. In 1932, the Division of Union Catalog was established at the Library of Congress.

Using the printed cards by libraries brought the problem of shortage of space. As a result there was an increase in the demand for printed book catalog. On the other hand the need for research on the part of reference librarians and scholars demanded having a book catalog. Therefore the Library of Congress, as a response to these needs, began to publish the catalog of cards represented by this library as of July, 1942.<sup>34</sup> It is the

reproduction of a series of about two million cards. Many of the cards in this catalog have been prepared by libraries other than the Library of Congress. On the other hand, many books in the Library of Congress had no printed cards. Therefore this list was something more and something less than the holdings of the Library of Congress. This catalog was issued under the auspices of the Association of Research Libraries and came out in 167 volumes. It covers the period from 1898 to July 31, 1942. The abbreviations for the libraries which had sent the printed cards to the Library of Congress were given for the cards listed in this catalog.

Due to the increase in the amount of budget for the Union Catalog, the holdings of several other libraries were included in the Union Catalog. To solve the problem of continuation, it was suggested to have supplements every few years. In March, 1946, Halsey William Willson, in a pamphlet entitled A Proposed Plan for Printing Library of Congress Cards in Cumulative Book Form, suggested a weekly supplement that could be cumulated at the end of the second week, then monthly and annually similar to the Cumulative Book Index. The Library of Congress modified these recommendations and the final decision was publishing a monthly catalog with quarterly and annual cumulation. Therefore, in 1947, the Library of Congress began to publish the Cumulative Catalog of Library of Congress Printed Cards. This was in nine monthly issues, three quarterly cumulations, but no annual cumulation. In 1948, a supplementary catalog for cards issued August 1, 1942, to December 31, 1947, was published in forty-two volumes.<sup>35</sup> This catalog had 2,600

anonymous and pseudonymous entries to help in locating information in a better way.

In 1948, the Union Catalog was officially changed to the National Union Catalog. Between 1948 to 1950 the holdings of Yale University Library, North Carolina Catalog, and University of Carolina were either microfilmed or copied and included in the National Union Catalog.

The next cumulative list of the Library of Congress, printed cards for 1948-52, came out in 1953 in a twenty-four volume catalog under the title Library of Congress: Author Catalog.<sup>36</sup> For the 1949 annual cumulation the title was changed to Library of Congress Author. Then, in 1953, the name was made simply Library of Congress Catalog. The reason for the first change was the decision to publish a catalog arranged alphabetically by the subject. The title of this publication was Library of Congress Subject Catalog.<sup>37</sup> The reason for the second change was to issue the catalog according to types of materials. Therefore the Library of Congress Catalog divided into Books: Authors, Books: Subjects; Films, Maps and Atlases and Music and Phonorecords.

The Library of Congress Author Catalog is the first five-year cumulation supplement which includes works cataloged by the Library of Congress, as well as libraries contributing in a cooperative program during this period. The entries not only include books, but pamphlets, maps, music scores, serials, motion pictures and film strips. However, languages other than Roman, Cyrillic, Greek, and Hebrew alphabets were excluded.

Entries contain main and added entries with the necessary cross references. The main entry card is the complete reproduction of the cards which consists of the bibliographical description, tracing, LCC and DDC number and the Library of Congress card number. However, the subject headings and classification numbers are those assigned at the time of cataloging these titles; they do not reflect any later changes. Arrangement is alphabetical by the name of the authors. For the field of medicine and related subjects the Armed Forces Medical Library Catalog, later known as the National Library of Medicine Catalog, is regarded as the supplement. Any cards that do not have the classification number are either from a law library or they are prepared by other libraries who do not use one of these classification numbers. On the other hand DDC are assigned to publications of general interest.

In response to the recommendations of the ALA Board on American Library Resources and Association of Research Libraries on July 1, 1956, the Library of Congress Catalog--Books: Authors was expanded to include not only reports of printed cards prepared by the Library of Congress but other titles reported by other libraries of North America. The result was the National Union Catalog, 1953-57, published in twenty-eight volumes.<sup>38</sup> This is a list of the holdings of five hundred American libraries. Additional locations for titles are given to facilitate research. It contains entries for books, pamphlets, and maps in all languages, written in the Roman, Cyrillic, Greek, Gaelic, or Hebrew alphabet. It has main entries, essential added entries and cross references.

Volume 27 of this catalog contains music and phonorecord (titles) and the last volume is motion pictures and filmstrips.

In 1961 the National Union Catalog, 1952-55 was published under the auspices of the Committee on Resources of the American Libraries of the American Library Association. This is the list of all monographs published in 1956 and later as reported to the Union Catalog Division of the Library of Congress. It includes the holdings of six hundred libraries. It was estimated that up to 50 percent of the cataloging in libraries is related to the ten preceding years. So this catalog was published to help locating of the titles. It includes entries for books, pamphlets, maps, atlases and broadsides reports held by the Library of Congress and many other libraries. But it is limited to monographs. The serials publications, master's theses, page analytics, and also reprints in Arabic, Cyrillic, Hebraic, Chinese, Japanese, Korean, Malayan, or Indic alphabet were excluded. Also motion pictures, film strips, phonorecords, Braille books, and music scores are not included in this catalog. Each library is identified by a location symbol.

The twelve-year cumulation, with additional locations, of the NUC was published in 125 volumes in 1967. The 1968-72 cumulation was published in 1973 in 119 volumes, the NUC 1973 in 1974 in sixteen volumes, and finally, the NUC 1974 was published in 1975 in nineteen volumes.

To have the National Union Catalog of the pre-1956 years, the NUC Pre-1956 publication was started in 1967. It is estimated to be in 620 volumes and will include more than eleven million titles of more than seven hundred research libraries.

The Library of Congress Catalog--Books: Subjects, which was originally Library of Congress Catalog Subjects are published as follows:

1950-54	20 volumes	1955
1955-59	22 volumes	1960
1960-65	25 volumes	1965
1965-69	42 volumes	1970
1970	9 volumes	1971
1971	11 volumes	1972
1972	15 volumes	1973
1973	16 volumes	1974

#### FUNCTIONS OF THE NATIONAL UNION CATALOG

The National Union Catalog can be used in a variety of ways by the libraries and scholars. Functions may be summarized as follows:<sup>39</sup>

1. It helps the acquisitions librarian in verification, as a guideline in selection, and avoiding duplication.

2. The cataloging function of the NUC helps the cataloguer to find the cataloging information for the titles without having to go through the whole process of cataloging. Therefore, naturally there will be more uniformity and standardization in cataloging practice.

3. The references and research function of the NUC is to help the reference librarian to direct services, find and recognize other titles that are not available in his library. It also helps in locating materials for inter-library loan.



4. Finally, it relieves libraries from considerable costs of keeping a public catalog. It will also serve as depository catalog; hence, it will save a lot of space, and costs of filling and keeping the catalog up to date will be reduced.

To summarize, the development of cataloging and classification originates from the early attempts of philosophers to classify knowledge. Increases in recorded knowledge required library classification and the production of catalogs. LCC and DDC are examples of such endeavors to organize library materials. NUC as a reservoir of information is another attempt to facilitate retrieval of information in a variety of forms.

## Chapter 3

### RESEARCH DESIGN AND PROCEDURE

In this study the Persian works, or Persian materials, are defined as all the titles listed in the Library of Congress--Books:Subjects, under those subjects listed in Appendix A of this report. The headings in this list are derived from the Library of Congress Subject Headings, 8th edition,<sup>40</sup> as well as headings found in preliminary study of NUC subject headings assigned to works entered under "IRAN" in the author catalog. In addition to author catalog the earlier editions of the subject list were also consulted.

The 1973 edition of the Library of Congress--Books:Subjects was selected as the basis of the study because it includes the complete tracing. It is a subject approach, and permits access to materials via the subject.

The population of the study consists of (498 titles) Persian materials and (2756 titles) American materials listed under the subject headings given in Appendix B of this report. These titles are those which are listed under similar subjects selected in the first sample. By similar subjects is meant Education in Iran vs. Education in U.S., Persian Poetry vs. American Poetry, and so on.

A sample of 5 percent of the first population of Iranian materials, i.e., fifty titles, was selected randomly, by using the

random tables, and was compared with another fifty titles, approximately 2 percent of the population of American materials. To do the random sampling, each title in both populations was given a serial number and then, using the random tables, sample one and sample two were selected.

The following procedures were used in doing this research:

1. The subject headings were checked in the Library of Congress Catalog--Books:Subjects and the titles listed under these subject headings were counted and given a serial number. Any subject heading not listed in this catalog or listed but not having any title under it was recorded to see how many of the subjects are likely to be found.

2. After selecting the first sample, those subject headings selected in this sample were matched to find the similar subject headings in the American material. For example, "Persian Drama" was selected in the first sample, so "American Drama" was selected as one of the subject headings to be examined in the second sample. In this way the list for the second sample was prepared.

3. Again the titles listed under the subject heading lists of the second sample were counted and were given serial numbers. Then fifty titles (1.81%) were selected in the random selection. All the subject headings selected in both samples are marked by asterisks (\*) in Appendix A and Appendix B.

4. The titles selected in both samples were grouped according to language to find the answer to question 2.

5. All the titles were examined to see which of the titles have both LCC and DDC, which have only one, and which have none.

Those that had both LCC and DDC were compared with the table of language distribution to see if all of them were in English and also to see if it matched the percentage of English language. Then the findings were grouped in a table.

6. Those titles in the first sample which had both LCC and DDC were grouped by each classification scheme respectively to see if there was any difference when they were grouped by any one of these schemes. As there were several differences, the classification numbers assigned to these titles were re-examined to see if the difference was due to assigning different classification numbers for the same subject. Then they were checked against the Library of Congress Classification Schemes and Dewey Decimal Classification Schemes to determine the classes of titles in each classification. Any findings were tabled to show these differences.

7. The number of subject headings assigned to each title were counted for selected titles in both samples. The number of subject headings were grouped as 0, 1, 2, etc. and they were matched to see which one of the samples has more subject depth.

8. The number of notes in both samples was counted and grouped according to the number of notes per title, and the results were compared.

9. The selected titles in the first sample were checked against the NUC Additional Location 1973<sup>41</sup> to find out where these materials are mostly located. Then locations were grouped alphabetically and the list is given in Appendix C.

10. Finally, the number of added entries was counted and compared for both samples. In addition, the average of added entries for both samples was calculated.

#### ASSUMPTIONS OF THE STUDY

In this study there are several assumptions that should be considered in deriving any conclusion. These assumptions are as follows:

1. In cataloging and classification of Persian materials, it should be assumed that subject headings and classification numbers are carefully assigned to these materials, so that any difference that appears in grouping by each classification scheme is mainly due to the difference of the classification rather than assigning the number, or misinterpretation of the subject cataloguer.

2. It should be assumed that the U.S. Library of Congress Catalog--Books:Subjects reflects a high percentage of the NUC so it reflects any conclusion about the latter.

3. This study selects the 1973 edition of the above mentioned catalog, it is assumed that there is no difference between each year.

4. The final assumption is that, in spite of the difference in the percentage of the total population in both samples, as they are equal in number they reflect the characteristics of the total population.

## LIMITATIONS OF THIS STUDY

There are certain limitations in this study that should be considered in deriving any conclusion or generalization:

1. As there is no subject approach to NUC, this study uses Library of Congress Catalog--Book:Subject in lieu of the NUC. Although the percentage of materials in this catalog is almost equal to the NUC, the conclusions are limited to a certain extent.

2. As this study uses the subject catalog for the study of NUC, it should be noted that there are several subjects such as fiction that do not lend themselves to any subjects. Although this catalog lists even such titles it is possible the number of books listed in this catalog is less than the actual number in the Author Catalog.

3. This study does not do anything with the main entry, so there might be differences in the determining of the main entry that might make a difference in retrieval of information in either sample. These differences, if any, are disregarded.

4. The number of titles in the second population is too large in respect to the first population, therefore the number of samples does not make the same percentage of their population. To eliminate this problem the number of headings in the second sample was reduced to those which were comparable and where there was a similar subject heading to that selected in the first sample.

## JUSTIFICATION OF THE STUDY

1. The importance of this study will be for those libraries which use NUC for searching cataloging and classification information of the Persian materials, because they will know the probability of finding the LCC classification, the chances of finding a title, etc.

2. This study points out the depth of indexing, the average of added entries and many other comparisons. Any finding in this regard will be a guideline for improving the cataloging data, if there is any deficiency.

3. The analysis of the location will be a clue to know where would be the best place to find more information about Iranian materials. So a person interested in doing research may be willing to know where would be the nearest chance of finding such information.

4. The comparison of the LCC with DDC will reveal the differences of using either of these classification schemes. This will be very useful to understand which one would be better for Persian materials. If someone is going to expand and research the possibility of adopting these classification schemes to suit Iranian needs, he may gain an idea from the analysis of this study to know which scheme is better for concentrating research on areas of Iranian interest.

5. This study will examine one of the aspects of the National Union Catalog. This will be useful for knowing the efficiency of finding information through this source, so that if there is any deficiency, it would come to the attention of the authorities.

## Chapter 4

### ANALYSIS AND INTERPRETATION OF THE COLLECTED DATA

Following the research method described in the previous chapter, the following findings were reached for this study:

1. The first question of this study was to determine the distribution of Persian materials according to subject. Out of 125 subject headings of Persian materials which were checked against the Library of Congress Catalog--Books:Subjects 1973, 41 subject headings were not found. That is 32.8 percent of the total subjects tried. As this list was prepared by consulting both the Library of Congress List of Subject Headings and previous editions of the NUC, there are actually more subject headings than the holdings of one particular year. Another part of this problem is partly due to the fact that subject headings change through time as classification schemes do, but these changes are not reflected in the cataloging data of the NUC entries.

In spite of the fact that subject headings change through time, the fact that 32.8 percent of the subject headings were not found in the 1973 edition of the subject catalog indicates that there is a difference between subjects of books included in this catalog from one year to another. This is partly due to the fact that materials published in these areas in a given time may not necessarily be those published another time.



However, it should be mentioned that the number of titles listed under different subjects of the catalog was not uniform. Usually under subjects of literature and history there were more books than a subject such as "Horses--Iran." To show the distribution of the sample by subject the Library of Congress main classes were selected as a basis for judgement. According to this criteria the distribution is given in Table 1. The maximum percentage is 44 percent which belongs to language and literature. The next highest percentage belongs to class D (22 percent) and the rest of the subjects are in the minority.

Table 1  
Subject Distribution of the First Sample According  
to Library of Congress Main Classes

Subject	Number of Titles	Percent of the Total
Class A (General Works)	1	2
Class D (History)	11	22
Class H (Social Science)	3	6
Class L (Education)	1	2
Class N (Fine Arts)	2	4
Class P (Language and Literature)	22	44
Class S (Agriculture)	1	2
Class Z (Bibliography)	5	10
Law (no class number assigned)	<u>4</u>	<u>8</u>
Total	50	100

2. The second purpose of this study was to investigate the proportion of each language in the selected samples. Table 2 shows that 60 percent of the materials in the sample of Persian materials were in the Persian language and 28 percent in the English language. The other languages in the sample were French, Arabic, Russian and Turkish. There was one title, or 2 percent, of the material which was bilingual.

Table 2  
Proportion of the Language in the Sample  
of Persian Materials

Language	Number of Titles	Percentage
Persian	30	60
English	14	28
French	2	4
Arabic	1	2
Russian	1	2
Turkish	1	2
English-Persian	<u>1</u>	<u>2</u>
Totals	50	100

A comparison of the Table 2 with Table 3, the distribution of the language in the second sample, shows that there are higher percentages of materials in the English language. Eighty-six percent of the materials are in English while in the first sample 60 percent were in Persian and 28 percent in English. While the

first sample consisted of the Persian, English, Russian, French, Turkish and Arabic languages, the second sample consisted of English, Japanese, Russian, Belgian, French and German.

Table 3  
Proportion of the Language in the American Materials

Categories	Number of Titles	Percent of the Total
English	43	86
Japanese	2	4
Russian	2	4
Belgian	1	2
French	1	2
German	<u>1</u>	<u>2</u>
Totals	50	100

3. Another question in this study was to investigate what proportion of the selected titles have classification numbers. Knowing that the Library of Congress does not assign Dewey Decimal Classification numbers to foreign titles, the aim of this question was to see if the titles which do not have DDC numbers are equal to the number of titles in the languages other than English. The distribution of both samples according to the availability of classification numbers is shown in Table 4.

In the sample of Persian materials 30 percent of the titles had both LCC and DDC numbers which is equal to the number of English titles plus a bilingual (English-Persian) title in the table of

distribution of language. Eighty-six percent of the American materials had both LCC and DDC numbers which is exactly equal to the percentage of English language in Table 3.

Table 4  
Distribution of Both Samples According to the  
Availability of the Classification Number

Classification Schemes	Number of Titles in the First Sample	Percent	Number of Titles in the Second Sample	Percent
Titles having both LCC and DDC	15	30	43	86
Titles having only LCC	31	62	7	14
Titles having neither LCC nor DDC	<u>4</u>	<u>8</u>	<u>0</u>	<u>0</u>
Totals	50	100	50	100

The difference lies in the availability of the LCC number. While 100 percent of the materials in the American materials had LCC numbers, in the sample of Persian materials only 92 percent had LCC numbers. Further investigation shows that the 8 percent difference belongs to the titles which are about law subjects which the Library of Congress does not provide with classification numbers.

4. The fourth purpose of this study was to investigate similarities and differences between the Library of Congress Classification number and the Dewey Decimal Classification number when both of these classification schemes are applied for a given Persian title. As it was shown in Table 4, only 30 percent of the Persian materials in the sample had both LCC and DDC numbers. These titles

were separated and they were arranged according to the classification number. Table 5 shows the arrangement of the titles according to Dewey Decimal Classification's main classes. As it is shown in this table, when these materials are arranged by DDC main classes 40 percent of materials are in history, 20 percent in social science, 13.33 percent in language, and the rest of the materials are scattered in technology, generalities, arts, and literature, each having 6.66 percent of the total of the titles.

Table 5  
Arrangement of Selected Titles in Persian Materials  
Samples According to DDC Main Classes

Main Classes <sup>*</sup>	Number of Titles	Percent of the Total
000 (Generalities)	1	6.66
300 (Social Sciences)	3	20.00
400 (Languages)	2	13.33
600 (Technology)	1	6.66
700 (Arts)	1	6.66
800 (Literature)	1	6.66
900 (History & Geography)	<u>6</u>	<u>40.00</u>
Total	15	100.00

<sup>\*</sup>Those main classes of DDC that were not assigned to the titles in the sample (those titles having both LCC and DDC) are not mentioned here.

Arrangement of the same materials according to the Library of Congress classification's main classes reveals differences of

the grouping of the same material by another classification.

Table 6 represents the arrangement of the titles in Persian materials which had both DDC and LCC classification arranged by LCC main classes.

Table 6  
Arrangement of Selected Titles in Persian Materials  
Sample According to LCC Main Classes

Main Classes*	Number of Titles	Percent of the Total
D (History)	5	33.33
H (Social Sciences)	1	6.66
L (Education)	1	6.66
N (Fine Arts)	2	13.33
P (Literature & Language)	4	26.66
S (Agriculture)	1	6.66
Z (Bibliography)	<u>.1</u>	<u>6.66</u>
Total	15	100.00

\*Those main classes of LCC which were not included in the selected titles of Persian materials are not mentioned.

The comparison of Table 5 and Table 6 shows that:

(a) While according to DDC 40 percent of materials are classified as history, according to LCC only 33.33 percent of the materials are classified as history.

(b) While in DDC classification 20 percent of the materials are classified as social science, in LCC 6.66 percent are regarded to be social science and 6.66 percent as education.

(c) While according to DDC there are 13.33 percent of the materials in the language and 6.66 percent in literature, according to LCC 26.66 percent of the materials are classified as literature and language.

(d) While according to the DDC 6.66 percent of the materials are regarded as art subjects, according to LCC 13.33 percent of the materials are classified as art subjects.

(e) Although technology is not shown in Table 6 but as agriculture is a subdivision of technology in the Dewey Decimal Classification. There is no difference in this part. Similarly, there is no difference in the percentages of generalities (which includes bibliography) and bibliography in LCC.

There are two reasons for these differences:

1. Differences in the base or the number of main classes of these two classification schemes. In LCC education is regarded as a main class while in DDC it is a part of Social Science class. Similarly Geography and History in DDC are in one class, while in LCC they are separated as different main classes. Literature and language in LCC are regarded as one class while in DDC Language and Literature are two different classes.

2. Another reason for differences is classifying a certain title in two different subjects when using both LCC and DDC:

- A title which was given a political science number in DDC (327) was classified as history in LCC.

- A title which was classified as history in DDC was given a literature and language number in LCC.

-- Another title which was classified in DDC as history was classified as fine arts in LCC.

To show these differences the main classes of both classifications as shown in Table 5 and Table 6 are combined in one table. Table 7 represents the differences of using different classification schemes.

Table 7  
Distribution of Selected Titles in Persian  
Materials by Main Classes of LCC and DDC

LC	DC	00 Gener- alities	300 Social Science	400 Lan- guage	600 Tech- nology	700 Arts	800 Litera- ture	900 History Geography	Total
D (History)			1					4	5
H (Social Science)			1						1
L (Education)			1						1
N (Fine Arts)						1		1	2
P (Literature & Language)				2			1	1	4
S (Agriculture)					1				1
Z (Bibliography)		1							1
Total		1	3	2	1	1	1	6	15



Table 7 not only shows the difference that is caused due to the application of each classification but it shows differences that are caused by classifying certain titles in two different subjects. The number of selected titles in Persian materials, i.e., those titles which had both classification numbers, are too small to make any generalizations, but certainly these differences in classification show that further research on the classification schemes and comparison of the result of using them would be an interesting subject. Particularly, further study on the application of LCC and DDC on Persian materials may be useful to find out which one would be more suitable to be used for classifying Persian materials.

5. The fifth question of this study was to investigate the depth of subject indexing of Persian materials in comparison to similar materials related to American subjects. The number of subject headings in both samples was counted and they were grouped according to the number of subject headings assigned to each title. Table 8, on page 44, represents the distribution of both samples according to the number of subject headings.

The mean for both samples can be calculated as follows:

$$\bar{x}_1 = \frac{(1 \times 20) + (2 \times 9) + (3 \times 3) + (4 \times 3)}{50} = \frac{59}{50} = 1.18.$$

$$\bar{x}_2 = \frac{(1 \times 7) + (2 \times 9) + (3 \times 12) + (4 \times 2) + (6 \times 1)}{50} = \frac{75}{50} = 1.50.$$

Table 8  
Comparison of the Subject Indexing in Both Samples

Number of Subject Headings	Number of Titles in the First Sample	Percent	Number of Titles in the Second Sample	Percent
0	15	30	19	38
1	20	40	7	14
2	9	18	9	18
3	3	6	12	24
4	3	6	2	4
5	--	--	--	--
6	--	--	1	2
Total	50	100	50	100

The comparison of the means of the two samples indicates that, relatively, the American materials have a deeper subject treatment than Persian materials.

6. The sixth question of this study was to investigate the extent of bibliographical information other than description of the author, title, imprints and collation. This study was interested to know the amount of additional information that was provided in the notes. Therefore the number of notes in both samples were counted and they were grouped according to the number of notes per title. Table 9 shows the comparison of notes in two samples.

Table 9  
Comparison of Additional Information in Catalog Cards  
of Both Samples

Number of Notes Per Title	Number of Titles in the First Sample	Percent	Number of Titles in the Second Sample	Percent
0	9	18	12	24
1	24	48	29	58
2	12	24	8	16
3	5	10	1	2
Total	50	100	50	100

The average of notes in each sample is calculated as follows:

$$\bar{N}_1 = \frac{(1 \times 24) + (2 \times 12) + (3 \times 5)}{50} = \frac{63}{50} = 1.26$$

$$\bar{N}_2 = \frac{(1 \times 29) + (2 \times 8) + (3 \times 1)}{50} = \frac{48}{50} = 0.96$$

The comparison of the two means for additional information shows that Persian materials have relatively larger numbers of notes per title. Part of this difference may be due to the fact that in many Persian materials the content is given on the cover title is mentioned to show the difference of title page with cover title.

7. Another purpose of this study was to find out the location of the major libraries where one can obtain the materials about Iran. To fulfill this purpose, the main entries of selected

titles were checked in NUC 1973 but no further location was registered. Then titles were checked against the Register of Further Locations in NUC for 1973. Table 10 presents the location of Persian per title in the sample of Persian materials.

Table 10  
Per Title Locations of the Persian Materials Sample

Per Title Location	Number of Titles	Percent
1 location	38	76
2 locations	6	12
3 locations	1	2
5 locations	2	4
6 locations and more	3	6
Total	50	100

The alphabetical list of these libraries is given in Appendix C of this report.

8. Finally, the last question in this study was to investigate what other approaches other than subject approach are available in the catalog cards of Persian materials in comparison with American materials. To determine the answer to this question, the added entries in both samples were counted and were grouped according to the number of added entries per title. Table 11 compares the number of added entries in both samples.

Table 11  
Comparison of Added Entries of Both Samples

Number of Added Entries Per Title	Number of Titles in the First Sample	Percent	Number of Titles in the Second Sample	Percent
0	3	6	--	--
1	26	52	34	68
2	16	32	10	20
3	1	2	4	8
4	3	6	1	2
5	1	2	0	0
8	0	0	1	2
Total	50	100	50	100

The average of added entries for both samples is calculated as follows:

$$\overline{A}_1 = \frac{(1 \times 26) + (2 \times 16) + (3 \times 1) + (4 \times 3) + (5 \times 1)}{50} = \frac{78}{50} = 1.56$$

$$\overline{A}_2 = \frac{(1 \times 34) + (2 \times 10) + (3 \times 4) + (4 \times 1) + (8 \times 1)}{50} = \frac{78}{50} = 1.56$$

The comparison of average of both samples shows that the average of added entries for both samples are equal.

## SUMMARY AND CONCLUSION

The two samples of Persian and American materials were selected randomly and were compared as it was described in the preceding chapter. Regarding the assumptions and limitations of this study the following results were obtained.

1. The dispersion of subjects throughout the Library of Congress Catalog--Books:Subjects differs from one year to another because many subject headings were not found in the 1973 edition while these subjects were gathered by consulting different editions of this catalog. However, under some subjects more titles are listed and probably these subjects remain more or less constant in every edition. These subjects are mostly Persian literature and the history of Iran.

2. The composition of both languages differs. While 60 percent of the titles in the Persian materials sample were in Persian and 40 percent in other languages, in the sample of American materials 86 percent were in English and only 14 percent in other languages. While 28 percent of the Persian materials were in English, there were no Persian titles in the American material sample.

3. The higher percentage of English language materials in the second sample resulted in a higher percentage of categories of titles having both LCC and DDC, mainly because the Library of Congress assigns Dewey numbers to English titles. The analysis of the classification number of both samples showed that comparatively

larger numbers of titles in the American materials have classification numbers.

4. The analysis of titles in the Persian materials that had both DDC and LCC numbers showed that grouping of titles by either of these classifications makes a difference in position of a title as being in a certain main class. Part of these differences is due to differences of the main classes in each classification scheme and part of it is due to the fact that in the cards of the sample different class numbers (i.e., different concepts) were assigned to a given subject.

5. The subject depth of American materials with an average of 1.50 is greater than Persian materials which have the average of 1.18 subject headings per title.

6. On the other hand the average number of notes in Persian materials was higher than the average of notes of American materials, i.e., 1.26 per title notes for Persian materials vs. 0.96 for American materials.

7. The number of added entries in both samples was equal.

The above comparison shows that Persian and American materials are equally treated in the Library of Congress Catalog--Books:Subjects and, assuming that this catalog represents a higher percent of the titles in NUC, this study concludes that Persian and American materials are approximately equally treated in the NUC. Many differences in the analysis of the samples of the study are due to the differences in the composition of the language in each sample. Further investigation on the location of Persian materials showed that 24 percent of the materials have more than

one location and 12 percent have more than three locations. The list of these locations is given in Appendix C.

#### RECOMMENDATIONS FOR FURTHER RESEARCH

The investigation of Persian materials in this study showed that there are other problems to be studied in this regard. The following studies are recommended as future research topics:

1. Investigation on Persian materials in different editions of the Library of Congress Catalog--Books:Subjects and understanding the reasons for subject change from one year to another.

2. Comparison of a sample of Persian materials in this catalog with a sample of the titles in NUC that are about Iran to see if this catalog is representing the NUC.

3. Comparison of Persian materials classification numbers in a larger sample to see the differences of using either of these classifications.

4. Study on selection of main entries for Persian materials in different catalogs to see if there is uniformity in selecting Persian names as main entries.

5. Comparison of Persian materials with another language other than English to see what would be the difference.

6. Using the same study by direct approach to NUC through determining a series of main entries and selecting a sample from NUC.



## REFERENCES

<sup>1</sup>U. S. 6570 the Aerospace Medical Research Laboratories, Information Storage and Retrieval: A Survey (Washington, D. C.: U. S. Government Printing Office, 1963), p. 1.

<sup>2</sup>A. C. Foskett, The Subject Approach to Information (Hamden: Archon Books and Olive Bingley, 1969), p. 13.

<sup>3</sup>C. D. Needham, Organizing Knowledge in Libraries, an Introduction to Classification and Cataloging (London: Andre Deutsch, 1964), p. 9.

<sup>4</sup>Lee Ash, Subject Collection: A Guide to Special Book Collections and Subject Emphasis as Reported by University, College, Public and Special Libraries and Museums in the United States and Canada, (4th ed.) (New York: Bowker, 1974), p. 908.

<sup>5</sup>Nasser Sharify, Cataloging of Persian Works, Including Rules for Transliteration, Entry and Description (Chicago: American Library Association, 1959), p. 1.

<sup>6</sup>U. S. Library of Congress Catalog--Books:Subjects, A Cumulative List of Works Represented by Library of Congress Printed Cards 1973 (Washington, D. C.: The Library, 1974),

<sup>7</sup>Sharify, op. cit., Preface.

<sup>8</sup>Houshang Ebraimi, Catchword Indexing, Subject Headings, and Chain Indexing: Formulation of Rules for Subject Analysis In Farsi (Pittsburg: University of Pittsburg, 1970, Ph.D. Dissertation) 290 p.

<sup>9</sup>William Carl Highfill, The Relationship of Indexing Depth to Subject Catalog Retrieval Effectiveness (Unpublished Ph.D. Thesis, Urbana:University of Illinois, 1969), p. 233.

<sup>10</sup>Keith Davison, Theory of Classification: An Examination Guidebook (London: Bingley, 1966), p. 46.

<sup>11</sup>Bohden S. Wyner, Introduction to Cataloging and Classification, 4th ed. (Rochester, New York: Libraries Unlimited, 1971), pp. 192-93.

<sup>12</sup>W. C. Berwick Sayors, A Manual of Classification for Librarians, 4th ed. rev. (London: Andre Deutsch, 1967), p. 110.

- 13 *ibid.*, p. 111.
- 14 *ibid.*, p. 118.
- 15 *ibid.*, p. 112.
- 16 *ibid.*, p. 113.
- 17 Wynar, *op. cit.*, pp. 194-95.
- 18 Ernest Cushing Richardson, "Classification: Theoretical and Practical" (In Reader in Classification and Descriptive Cataloging, ed. by Ann F. Painter. Washington, D. C.: NCR/Micro Card Edition, 1972), pp. 35-43.
- 19 J. Hill, A Modern Outline of Library Classification, 6th ed. (London: Clopman & Hall, 1968), Chapter 1.
- 20 Sayers, *op. cit.*, pp. 124-25.
- 21 Needham, *op. cit.*, pp. 94-104.
- 22 Thelma Eaton, The Development of Classification in America (In The Role of Classification in the Modern American Library. Papers Presented at an Institute Conducted by the University of Illinois Graduate School of Library Science; November 1-4, 1959. Champaign, Ill: Illini Union Bookstore, 1959), pp. 8-3.
- 23 Foskett, *op. cit.*, pp. 170-84.
- 24 Wynar, *op. cit.*, pp. 242-62.
- 25 Encyclopedia of Libraries and Information Science, Vol. 3 (New York: M. Dekker, 1970), pp. 367-70.
- 26 Sayers, *op. cit.*, p. 34.
- 27 Needham, *op. cit.*, pp. 104-108.
- 28 Paul S. Dunkin, Cataloging U.S.A. (Chicago: American Library Association, 1969), pp. 102-03.
- 29 Ann F. Painter, Modern Classification Theory (In Reader in Classification and Descriptive Cataloging, *op. cit.*) pp. 100-06.
- 30 John W. Cronin, "The National Union and Library of Congress Catalogs: Problems and Prospects," Lib. A., 34:77-96, 1964.
- 31 John M. Dowson, "A History of Centralized Cataloging," Lib. Resources & Tech. Ser. 11:27-43, P. Winter, 1967.

<sup>32</sup>R. F. Stoussrt, Library Catalogs Changing Dimension  
(Chicago: University Press, 1964), p. 78.

<sup>33</sup>K. G. B. Backewell, A Manual of Cataloging Practice  
(Oxford: Pergemer Press, 1972), p. 21.

<sup>34</sup>U. S. Library of Congress, A Catalog of Books Represented  
by Library of Congress Printed Cards Issued to July 31, 1942 (Ann  
Arbor, Michigan: 1942-46), 167 vols.

<sup>35</sup>U. S. Library of Congress, A Catalog of Books Represented  
by Library of Congress Printed Cards Supplement, Cards Issued  
August 1, 1942 - December 31, 1947 (Ann Arbor, Michigan: J. W.  
Edwards, 1948).

<sup>36</sup>U. S. Library of Congress, Author Catalog: A Cumulative  
List of Works Represented by Library of Congress Printed Cards,  
1948-1952 (Ann Arbor, Michigan: J. W. Edwards, 1953), 24 v.

<sup>37</sup>U. S. Library of Congress Catalog Books: Subjects 1950-  
(Ann Arbor, Michigan: J. W. Edwards, 1955-), v. Introduction of  
1950-54 edition.

<sup>38</sup>National Union Catalog. A Cumulative Author List Repre-  
sented by Library of Congress Printed Cards and Titles Reported  
by Other American Libraries 1956- (Washington: The Library).

<sup>39</sup>Crollin, op. cit., p. 78.

<sup>40</sup>U. S. Library of Congress. Subject Cataloging Division.  
Library of Congress Subject Headings, 8th ed. (Washington, D. C.:  
The Library, 1976), 2 vols.

<sup>41</sup>National Union Catalog Register of Additional Locations  
1973 (Washington: Library of Congress, 1975), 2 vols.

## BIBLIOGRAPHY

## BIBLIOGRAPHY

- Christ, J. M. Concepts and Subject Headings: Their Relation in Information Retrieval and Library Science. Metuchen: Scarecrow Press, 1972. 174 p.
- Cronin, J. W. "The National Union and Library of Congress Catalogs: Problems and Prospects," Library Quarterly, v. 34, 1964, pp. 76-96.
- \_\_\_\_\_. Proposal for the National Union Catalog, Over 1956 Imprints. London: Monsell, 1967. 96 p.
- Desai, A. R. "Interrelated Theories and Organization of Knowledge," Herald of Library Science, 12:198-200, AP-JL, 73.
- Dunkin, Paul S. Cataloging U.S.A. Chicago: American Library Association, 1969. 159 p.
- Foskett, A. C. The Subject Approach to Information. Hamden: Arden Books, 1969. 310 p.
- Hickey, Dorolyn J. Problems in Organizing Library Collections. New York: Bowker, 1972. 206 p.
- Mills, J. A Modern Outline of Library Classification. 6th ed. London: Claphen and Hall, 1968.
- Murphy, A. M. "Use of Copy that Camera in Card Production University Library, Library Resources and Tech. Serv. 13:231-38, Summer 74.
- 1968-1972 Yuinguennloli edition of the National Union Catalog, Library of Congress Information Bulletin, 33:A 213-16 all 74.
- Painter, A. F., ed. Classification: Theory and Practice. Drexel Library Quarterly 074 issue.
- Painter, Ann F. Readers in Classification and Descriptive Cataloging Washington, U. C.: NCR/Micro 23rd Edition (372) 320 p.
- Ranz, Jim. The Printed Book Catalogue in American Libraries: 1723-1900, Chicago: ALA, 1964. 144 p.

- Richmond, Phyllis. Transformation and Organization of Information  
Contents: Aspects of Recent Research in the Art and Science of  
Classification. 107,000 presented at the FED Conference to  
Washington, D. C. 1965.
- Rowland, Arthur Ray. The Catalog and Cataloging. Hamden: Shoe  
String Press, 1969. 344 p.
- Sayers, W. C. B. A Manual of Classification for Librarians.  
477 ed. Completely Revised and Partly Rewritten by Arthur  
Maltby. London: Deutsch, 1969. 404 p.
- Shore, Louis. "The National Union Catalog of the United States,"  
Library Association Record, Vol. 55, 1953, pp. 178-82.
- Strout, R. F. Library Catalogs Changing Dimensions, the  
Twenty-eighth Annual Conference of Grodust Library School.  
Chicago: University of Chicago, 1964. 127 p.
- Symons, A. K. "Enlarging LC Copy: a New System," Library  
Resources & Tech Serv. 18:226-33. Summer 74.
- To Meet the Information Crises: New Methods of Indexing and Subject  
Analysis (In Doyle, L. B. Information Retrieval and Processing,  
Los Angeles: Melville Publishing Company, 1975, pp. 170-88.)
- U. S. Library of Congress - General Reference and Bibliography  
Division -- National Union Catalog Reference and Related Services.  
Comp. by John W. Kimball. The Library, 7333 p.
- U. S. Library of Congress Catalogs. National Union Catalog Register  
of Additional Locations. Washington, D. C.: The Library, 2 v.  
1975.
- Wynar, Bohdon S. Introduction to Cataloging and Classification.  
Rochester, New York: Libraries Unlimited, 1971. pp. 192-202.

## APPENDIXES

## APPENDIX A

### SELECTED LIST OF PERSIAN MATERIALS

The subject headings identified by a cross (X) were not found in the 1973 edition of the Library of Congress Catalog--Books: Subject. Those subject headings with an asterisk (\*) on the left side indicates that in the process of random sampling it was selected in the sample of Persian materials.

- Agriculture--Economic Aspects--Iran.
- X Agriculture--Iran.
- Anthropo-Geography--Iran.
- Architecture, Iranian.
- \* Architecture--Iran.
- \* Art, Iranian.
- Art--Iran.
- X Authors, Iranian.
- X Banks and banking--Iran.
- Birth control--Iran.
- \* Budget--Iran.
- X Cataloging of Persian Literature.
- Children's literature, Persian.
- Cities and towns--Iran.
- Cities and towns--planning--Iran.
- X Citizenship--Iran.



- \* Civil law--Iran.
- X Civil service--Iran.
- X Civilization, Iranian.
- \* Commercial law--Iran.
- Community development--Iran.
- Cooperation--Iran.
- Costs and standards of living--Iran.
- Criminal law--Iran.
- X Domestic relations--Iran.
- X Earthquakes--Iran.
- X Earthwork--Iran.
- \* Education--Iran.
- X Excavations (Archeology)--Iran.
- X Factories--Iran.
- Farm produce--Iran.
- Fertilizers and manures--Iran.
- X Flags--Iran.
- \* Food consumption--Iran.
- Food supply--Iran.
- Forest and forestry--Iran.
- Forest ecology--Iran.
- Geology--Iran.
- X Government ownership--Iran.
- Horses--Iran.
- Illiteracy--Iran.
- Illumination of books and manuscripts--Iran.
- Income tax--Iran.

- X Industrial law and legislation--Iran.
- X Industry--Iran.
- X Industry and state--Iran.
- X Inheritance and transfer tax--Iran.
- Insurance, Health--Iran.
- Insurance, Social--Iran.
- \* International Labor Organization--Iran
- Investments, Foreign--Iran.
- Investments, Foreign--Law and legislation--Iran.
- \* Iran.
- Iran in the Hadith.
- X Iranian languages
- Iranian literature.
- Iranian philology.
- X Iranian studies.
- X Iranians.
- Labor laws and legislation--Iran.
- Labor supply--Iran.
- Land tenure--Iran.
- Law--Iran.
- Libraries--Iran.
- Manpower--Iran.
- \* Manuscripts, Persian.
- X Maritime Law--Iran.
- Market survey--Iran.
- X Marketing--Iran.
- Marketing of livestock--Iran.

- X Military offenses--Iran.
- X Military service, Compulsory--Iran.
- X Mines and mining resources--Iran.
- X Mining law--Iran.
- Names--Iran.
- Names, Persian.
- Names, Personal--Iran.
- National income--Iran.
- X Old Persian inscriptions.
- Old Persian language.
- Optimum trade--Iran.
- Painting, Iranian.
- Peasantry--Iran.
- X Persian cat.
- \* Persian drama.
- \* Persian fiction.
- Persian Gulf Regions
- Persian Gulf States.
- \* Persian imprints.
- \* Persian language.
- \* Persian literature.
- \* Persian periodicals.
- Persian philology.
- \* Persian poetry.
- \* Persian prose literature.
- X Persian wit and humor.
- Petroleum industry and trade--Iran.

- Petroleum law and legislation.
- X Philosophy, Persian.
- X Physicians--Licensed--Iran.
- Poets, Persian.
- Political participation--Iran.
- X Postal service--Iran.
- Pottery--Iran.
- Pottery, Iranian.
- Press--Iran.
- Prices--Iran.
- X Property--Iran.
- X Public health--Iran.
- X Quatrains, Persian.
- Quotations, Persian.
- X Railroad law--Iran.
- X Rain and rainfall--Iran.
- X Recording and registration--Iran.
- X Religion--Iran.
- X Shipping--Iran.
- Social class--Iran.
- Soils--Iran.
- Tales, Persian.
- Tariff--Iran.
- \* Taxation--Iran.
- X Trade marks--Iran.
- Vocational education--Iran.
- Water, underground--Iran.

X Water supply--Iran.

Women in Iran.

Young volunteers in community development--Iran.

## APPENDIX B

### SELECTED LIST OF AMERICAN SUBJECT HEADINGS

The following list is the list of subject headings which were selected to be equal to those subject headings which were selected in the process of random sampling for the Sample of Persian materials. Those subjects which were not comparable were eliminated. The cross (X) on the left side means that the subject heading was not listed in the 1973 edition of the Library of Congress Catalog--Books:Subject. Those headings identified by an asterisk(\*) are those which are selected in the process of random sampling of the second sample.

- \* American drama.
- \* American literature
- American periodicals.
- \* American poetry.
- X American prose literature.
- X Architecture--U.S.
- \* Art, American.
- \* Budget--U.S.
- Civil law--U.S.
- \* Commercial law--U.S.
- \* Education--U.S.
- Food consumption--U.S.

International Labor Organization--U.S.

Manuscripts, American.

Taxation--U.S.

\* U.S.

--Description and travel.

--Foreign relations.

--History.

--Intellectual life.

--Politics and government.

## APPENDIX C

### LIST OF THE LOCATIONS OF THE PERSIAN MATERIALS OF THE SELECTED SAMPLE

The following list is the alphabetical list of the libraries which had the Persian materials as indicated by the sample. The abbreviation in parentheses are the location symbols used in NUC. The column 1 represents the number of titles in these libraries as indicated by the samples. Column 2 shows the percent of the total titles. It should be noted that as all titles in the sample had LC card numbers they are available in the Library of Congress. Therefore at least one location for each title is the Library of Congress.

<u>Name of the Library</u>	<u>Number<sup>(1)</sup></u>	<u>Percent<sup>(2)</sup></u>
Brooklyn Public Library (NB)	1	2
Center for Research Libraries --Illinois (ICRL)	1	2
Columbia University (NNC)	5	10
Harvard University - Cambridge (MH)	1	2
Louisiana State University, Baton Rouge (LU)	1	2
Michigan State University - East Lansing (MIEM)	1	2
North Carolina State University at Raleigh (NCRS)	1	2



<u>Name of the Library</u>	<u>Number<sup>(1)</sup></u>	<u>Percent<sup>(2)</sup></u>
Ohio State University, Columbus (OU)	1	2
Pennsylvania State University, University Park (Pst)	1	2
Princeton University (NjP)	1	2
St. Louis Public Library	2	4.7
State University of New York at Buffalo (NBuU)	1	2
U.S. Department of State Library	1	2
University of British Columbia, Vancouver-Canada (CaBVaU)	1	2
University of California, Santa Barbara (CUSB)	1	2
University of Cincinnati (OCU)	1	2
University of Illinois, Urbana (Iu)	1	2
University of Kentucky, Lexington (KyU)	2	4
University of Michigan (Miu)	1	2
University of Virginia, Charlottesville (VIU)	1	2
University of Washington, Seattle (Wau)	1	2
Virginia Polytechnic Institute, Blacksburg (VIBibv)	1	2
Washington University St. Louis (M-Sw)	1	2
Yale University, New Haven (CtY)	5	10
Yale University--Kline Science Library (CtY-KS)	2	2