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## A Study on the Development of the Korean Subject Heading

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### ■ 국 문 초 록 ■

한글 주제명표목의 구조를 확립하는데 필요한 기본원칙을 제시하였다. 불연산기호를 사용하게 되면 주표목과 세목간을 구분할 필요가 없어진다.

일부 표목에서는 지명이 세목으로 사용되고 또 다른 표목에서는 지명이 주표목으로 사용되는 등 혼란이 있었다. 자동화 시대에, 어떤 용어가 탐색어의 첫번째 위치에 오는가 하는 것은 중요한 문제가 아니다. 시대구분을 제외하고는 모든 세목을 독립된 표목으로 사용해야 할 것이다.

접속사 '와(과)' 또는 복관점(·)으로 결합된 표목과 도치표목의 형식은 주제명표목에서 사용되지 않는다. 표목과 관련된 용어간을 연결하는 수단으로 색인시스템에서 사용해 온 기호를 도입하였다.

We had two subject catalogs, one in the Roman alphabet and the other in Korean. The best way for subject access we can have is the filing of subject headings in Korean for all of the books in a collection in one alphabetic subject catalog. Thus it has been a

long desire of the librarians in Korea to adopt Korean alphabetical order.

The first List of Korean Subject Headings influenced by the structure of the LC Subject Headings and Sears List of Subject Headings was introduced by Jai Chul Lee in 1961. But

the LCSH has long been criticized for its weakness as a subject access system, because this system was basically developed in an environment of card catalogs. In the 1980s, as the system was moving into an online age as a tool for subject retrieval, subject headings in the card catalogs must be viewed from a different point in an online retrieval system.

Subject headings are verbal representations of the contents of library materials. It is clear that the content of the materials on a complex subject cannot always be represented by single terms. In a system based on a precoordination system, compound subjects are made by means of phrase headings which take several forms for expressing aspects of a subject and a relationships between two or more subjects. The forms of subject headings are divided into seven forms(single nouns, adjectival phrases, prepositional phrases, heading with qualifiers, heading with subdivisions and inverted headings) in LCSH. Because of the principle of uniform heading, however, only one term in a compound or complex heading is used as the entry element. An important problem in forming precoordinated headings is that there is no way to set up an absolute rule to ensure consistency in the choice among the different types of phrases.

And the structure and the representation

of the concepts of the system do not accord with the linguistic structure and the thinking pattern of users in Korea. If you analyze the subject headings, you may find that many headings are somewhat broader than the scope of the subject in the item cataloged, and they are out of date and unusual. Ideally, the headings should be coextensive with the subject content of the item. But the subject headings are assigned to a work to reflect the topic of the work as a whole which cannot provide in-depth analysis. This means that many works detailing many different topics will be assigned general subject headings. Multitopic works should be fully expressed by the representation of all of their elements. This cannot be expected in the present subject headings system. The effectiveness of a subject headings system depends on the choice of terms used in forming the headings.

Also there are complaints about the application of the subject headings. It has generally been known that the number of subject headings assigned for each title was well below two. Headings are typically assigned to the work as a whole, using only one term per topic. The subject access in online catalogs by way of subject headings system was insufficient to satisfy the needs of catalog users. Thus a number of users were seen to abandon searches in the subject catalog because of

the lack of specificity in the subject headings, the unnatural order of inverted headings, and terminology out of touch with their needs and thoughts. Catalogers in online environment are able to assign more headings which significantly increase the number of access points to be used as search terms for each title.

Although principles of the traditional subject headings system which uses essentially a single-entry are firmly established, they do not perform adequately their role in order to access a subject. In an automated system, the problem of entry elements, which is of extreme importance in a single-entry system, does not exist. Each item can be retrieved through multiple access points.

Because subject catalog is to reflect changes in the state of knowledge and in the user's approach to it, subject headings cannot remain static. So in the stage of planning a new subject headings system a fundamental change was considered in the approach to subject access. It was also recommended that linguistic structure of thesaurus be introduced to bring in-depth analysis to the subject cataloging process.

This paper is designed to give basic principles in establishing the structure of Korean Subject headings system suggested in recent years.

1. The library community in Korea realized that new structural concepts for the subject headings system should be explored. The Korean subject headings recently proposed an idea using Boolean operators among subjects which have a relationship to each other in the item being cataloged. Each concept representing the topic of a document is entered independently as a heading in the stage of input, and the combination of subjects is allowed at the searching stages. If this type of structure is permitted, an enormous amount of useful headings will be potentially available. Not only would there be the capability to link any separate headings, but certain types of existing headings which clumsily combine two concepts could be eliminated.

The main reason for maintaining uniform subject headings in the traditional system is to bring all materials on a same subject together under one heading via an alphabetical arrangement. But the computer technology is able to gather related materials on the screen of the terminal without collocation through alphabetical placement. The gain achieved in this way would be an elimination of the problem of the choice of entry element in subject headings in the catalog.

In a thesaurus constructed for post-coordination, all things, parts, processes, attributes, and operations will form each separate

heading. The advantage of this idea is that it allows for succinct presentation of all subject concepts involved, and enables computer flexibility. And at the same time many unreasonable linked concepts would be removed from the subject heading system. Therefore there is no need to consider which term comes first in the position of the headings, and it is not necessary to distinguish between main headings and subdivisions. Postcoordinate system allows to combine terms to form more complex subjects. In the future's online system, it is expected that subject headings gather all works on the same subject together without requiring the cataloger's effort to determine the standardized form of the subject headings.

2. Geographical concepts are handled as a heading in the new Korean subject headings. Some headings are in the form of topics subdivided by place, while others have place names subdivided by topics. These headings in traditional subject heading system have been among the leading causes of a confusion to the users. There are no clear-cut criteria for determination, when two components of a headings are equally significant and the logical choice of entry elements between the two (i. e., one for topics and the other for geographical names) cannot be made. It is diffi-

cult for the user to choose which component is used in entry position.

In general, topics have taken precedence over places as main heading except for historical, economic, and cultural concepts in the system. The most historical, economic and cultural concepts associated with geographical areas have been subordinate to the geographical areas. In addition the institutions such as theaters, libraries, hospitals are represented under the name of a city, not under the name of country.

The principal aim of the users using subject headings is to seek information they want. They may approach by topical headings. Those who are interested in the area studies may naturally approach by the name of a place. The name of a places is used as a separate heading in the new Korean subject headings, there is no conflict in precedence. In automated system, it is not important which term comes first in the position of search terms. The choice of the order of elements in a subdivided heading is not as important in most online systems as in card catalogs or printed indexes. In online systems where main headings and subdivisions are equally accessible, one may assign headings of either from, topic-place or place-topic, as long as the citation order does not affect the meaning of the heading.

former : Agriculture--China

U. S.--Economic policy

new : Agriculture, China

(Each term above is used as a separate heading)

Economic policy, United States

(Each concept above is used as a separate heading)

In case that a subject heading is closely connected with two countries, the name of them is used as a heading respectively.

former : China--Foreign relations--Korea

Japan--Foreign trade--Korea

Korea--Treaties--Vietnam

new : Foreign relations, China, Korea

Foreign trade, Japan, Korea

Treaties, Korea, Vietnam

3. Synthetic device used to express compound or complex subjects by combining terms in a heading takes several forms in the subject heading system. As more subdivisions are introduced and various kinds of subdivisions including free-floating subdivisions are allowed to be combined and applied to the same heading, you can often find patterns that are inconsistent and incompatible with other patterns under the same heading. And there are also no fixed rules concerning

which form to choose in order to express a specific relationship, and no citation order, in which terms are combined in compound or complex heading, for the entry elements.

Recently, headings in the phrase form have been converted to the subdivided form. But subdivisions are one of the most burden aspect of the subject headings system. The majority of the headings contain subdivisions, and the number of subdivisions varies widely with the type of subject headings.

The diversity in forms creates a number of problems in filing the catalog cards bearing such headings, and in using them. Because of the increasing use of subdivisions in subject headings, false coordination may occur to a certain degree when searching is based on the Boolean operators on the terms that are segments of subdivided headings. It can be also expected that users have difficulties in understanding the meaning and the usage of headings with subdivision, thus they do not approach to the subject system by the form of the subdivision assigned. Traditional topical, language, and form subdivisions to limit the concept expressed by the heading are used as a separated heading in the new Korean subject headings.

4. It is not possible to apply a uniform division of periods to all countries or to all sub-

jects. So all of the period subdivisions in the traditional subject headings will be used as a qualifier in the new system.

- former : Minerals--Illustration
  - Biology--Illustration
- new : Illustration
  - NT Mineral illustration
    - Biological illustration
  - Biological illustration
    - BT Illustration
    - NT Zoological illustration
      - Botanical illustration
- former : Korea--History--Chosun
  - Korea--Modern history
    - Orient--Modern history
- new : Korean History[Chosun]
  - Korean History[Modern]
  - Oriental History[Modern]

5. There has been a group of headings with the pattern [topic 'and' topic], [topic · topic] in the existing Korean subject headings. In some cases two concepts combined with a conjunction 'and' and '·', or with preposition 'in', 'of', have formed a subject heading. These patterns are not used in the new Korean subject headings. Subject headings representing two or more concepts were broken into separate headings to reflect each concept. It is expected that it increases the proba-

bility a searcher's term will match index term.

- former : Religion and state
  - Socialism and religion
  - Solar eclipses · Lunar Eclipses
  - (These headings are split into two headings as below).
- new : Religion, State
  - Socialism, Religion
  - Solar eclipses
  - Lunar eclipses
  - (Each concept above is used as a separate heading.)

6. Inverted forms of subject headings are not used in the new Korean subject headings. You can see that a heading in the form of a phrase may be entered either in its natural word order or in the inverted form in the list of subject headings. In case that the heading contains more than one word, a decision must be made about which of the terms should be the entry word. Because the subject headings system was originally designed for the card catalog, in which each record is filed in one place in the catalog, the choice of the word to be used as the entry element in a phrase headings was important.

The fundamental reason why traditional subject headings introduced inverted forms

was to promote collocation. Inverted terms would help bring related terms together in the catalog by putting the noun first, followed by the adjective or other words. In many cases, however, the guideline in subject heading system allows a great deal of subjective judgement of the part of catalogers in determining the entry word, which have resulted in many inconsistencies in the forms. No objective criteria for determining entry elements have yet been developed.

There are three problems with this mode of structure. First, it could be debated which term should be the collocation point. Second, the inverted forms are structurally unsound. Third, the inverted forms are linguistically unnatural.

In general, users do not talk or write using the inverted forms. There appears to be no valid reason to sustain order of terms in the age of automation. With the advent of the online catalog, the question of the direct versus the inverted headings may become less significant. While a manual catalog provides a linear access to a phrase, it may be accessed through any of the component words or any combination of these words in any word order in an online system. There is no need to file subject headings in a single sequence in these system. So it is suggested that the indirect order of headings will not be used in the

new Korean subject headings system. Compound terms should be entered in the new subject headings in natural language order.

former : Library / University

Psychology / comparative

new : University library

Comparative psychology

7. In the alphabetical subject catalog, its alphabetical order has been the most widely criticized in the light of the effect of scattering headings for related subjects. The alphabetical catalog can make up for this lack in part by cross-reference which bind related headings together. The new Korean subject headings system has adopted the symbols (BT, NT, and RT) used in most indexing systems to indicate the relationships among terms associated with a heading. This format will be useful in helping the cataloger distinguish relationships among headings and establish appropriate references in the catalog.

1) equivalence relationship : The code 'USE' is made from an unauthorized term to an authorized heading, and the code 'UF' precedes the unused headings.

2) hierarchical relationship : Subject headings are linked to other subject headings through Broader terms(BT) and Narrower

Terms(NT).

3) associative relationship : The associative relationship, expressed by RT, links two headings that are associated in some manner other than by hierarchy.

8. In order to express clearly the meaning of headings in a homonym or in different areas of subject, the subject area is used as a qualifier in the parenthesis reflecting a general cataloging practice in Korea.

Value(economics)

Value(philosophy)

Birds(zoology)

Tide(oceanography)

Seaweeds(botany)

(These headings are homonym in Korean)

The reasons why libraries have maintained the traditional subject heading systems even in the age of online environment were due to time and money required in substituting another indexing system for the current systems. Such a change will cause a great deal of expenses and time in converting the large quantity of existing subject headings into a new system.

This study suggests that it will be desirable in an automation environment to change the structure of subject headings system to that of thesaurus. By using the thesaurus for subject access, the cataloger is able to provide greater in-depth subject analysis of items added to the collection, and users are able to find relevant materials by the use of free combination of search terms.

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