# CHAIN INDEXING AND UDC

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*The indexing technique based on chain procedure presupposes the classificatory base for its efficiency. Being decimal notational system, Universal Decimal Classification (UDC) inherits some of the limitations of Dewey Decimal Classification (DDC) in both the idea and verbal planes. Due to these inherent problems of UDC, when chain procedure is tried with UDC numbers, certain inconsistencies are found. Notational homonym, telescoping, missing links and lack of precision in terminology are the important problems in UDC. Discusses these problems with reference to chain procedure and suggests solutions.*

## INTRODUCTION

Chain indexing (or chain procedure) means indexing by chain of headings or making use of a chain in deriving the subject headings. This indexing technique is based on Ranganathan's postulate of facet analysis and decreasing concreteness and gives a meaningful sequence of component terms of the composite subject [1]. Deriving subject headings from the successive subordination that leads from general to the specific level can be achieved by chain indexing [2].

As stated by Ranganathan, chain procedure can only be applied easily where the class numbers of the scheme used have an expressive structure, i.e., they reflect subordination. Chain procedure can be tried with Universal Decimal Classification (UDC) which is a system having a more or less hierarchical structure. UDC has been recognised as a hybrid variety of enumerative approach and analytico-synthetic elements for organization and control of information. UDC has a sound classificatory base and is aimed at organization and retrieval of information from microdocuments wherein analysis could be carried to an almost extreme fineness [3].

## CONCEPT OF UDC

UDC in actual practice is a system for indication of the subject content of the microdocuments in bibliographies rather than the physical arrangement of the collection. This is a synthetic scheme using punctuation marks and auxiliary schedules to link and add to the basic notation derived from Dewey Decimal Classification (DDC) [4]. This is a clasificatory language which gives due attention to the analysis of compound subjects and consistently represents structural pattern of subjects indicating hierarchy to a reasonable limit. Notational system of UDC is capable of giving coextensive class number to any microsubject. However, the DDC core which served as the basis for the development of UDC does not permit the clear demarcation of all facets of compound subjects. This creates certain problems in chain indexing of UDC numbers.

## CHAIN PROCEDURE AND UDC

The fundamental aim of chain indexing is to ensure that each concept is linked to its direct relations by utilizing an almost mechanical process of checking its position in the hierarchy of the subject and making certain that these links in the chain are indexed [5]. Since modulated sequence in the chain can be expressed more conveniently and effectively in a notational classification of subjects, chain procedure takes the class number of the

document as the basis for deriving subject headings. Consequently the inherent limitations or inconsistencies. if any in the classification system will hamper the efficiency of this subject indexing technique.

UDC is not a truly faceted system and due to the DDC core of notational system, it has inherited some of the limitations of DDC in both the verbal and the idea plane. UDC creates chaos and inconsistencies when tried for chain indexing. On applying chain procedure with UDC, the problems of algorithmic presentation and formalization of the classification process are extremely important since they assure the quality of indexing and make it possible to prevent the mistakes and subjectivity

on the part of the classifier [6]. Hence an intuitive judgment from the part of the indexer can solve the problems to a considerable degree of accuracy. Some of the problems encountered with UDC chain indexing and the solutions to the same are discussed in subsequent sections. UDC abridged English edition (1961) is used for this purpose.

**Notational Homonym And Multiple Concepts**

UDC class numbers often depict homonym and multiple concepts. Hence the chain has to be constructed judiciously keeping in view the microsubjects to be indexed. The cross references may be given from the homonym and multiple concepts to the standard terminology selected, keeping in view the specific subject in hand.

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*Example*

Information services of College Libraries
025.5 : 027.7

Chain

| 02 | = | Libraries, Librarianship | (Sought link) |
| 025 | = | Library administration methods and routines | (Sought link) |
| 025.5 | = | Reference work, Information service | (Sought link) |
| 025.5: | = | | (False link) |
| 025.5:027 | = | Information service in general libraries | (Sought link) |
| 025.5:027.7 | = | Information service in university, college Libraries | (Sought link) |

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The subject headings derived from this chain bearing in mind the specific subjet to be indexed are

| College libraries : Information service | ..... | 025.5:027.7 |
| General libraries : Information service | ...... | 025.5:027 |
| Information service | ...... | 025.5 |
| Library administration | ...... | 025 |
| Libraries | ...... | 02 |

In this example the class number 025.5 is a notational homonym representing two concepts, viz., reference work and information service. However, in the alphabetical chain index an entry under 'information service' is made and a see also reference may be given directing the user from the alternative concept to the indexed subject heading in view of the context.

Reference work
    **See also** Information service

The class number 027.7 represents both University and College libraries. Here the 'See also' reference may be given from the alternative concept to the subject heading indexed.

University libraries
    **See also** College libraries.

In the UDC schedule, abridged (3rd Ed, 1961), the class number 343.62 represents multiple concepts such as criminal abortion, infanticide, criminal neglect, ill treatment, abduction, illegal exploitation, and other offences against helpless persons, minors etc. In this case an index entry under the general term Offences: Persons is made and 'See' references are to be provided for these multiple concepts.

## Example

Abduction
    **See** Offences: Persons

Criminal abortion
    **See** Offences: Persons

## Synonyms

UDC like DDC, represents synonyms, and near synonym concepts by the same class number. In subject indexing by chain procedure, 'See' references from the synonymous, near synonymous or alternative concepts to the standard term (s) or concepts indexed tackle this problem.

*Example*

| 616.5 | Skin disease (Dermatology) |
| 541.7 | Allotropy (Physical isomerism) |
| 333 | Land and property (Real estate) |
| 331.6 | Unemployment (Shortage of labour) |
| 382 | Foreign trade (International trade) |

Dermatology
    **See** Skin disease

Foreign trade
    **See** International trade

Land and property
    **See** Real estate

## Telescoping

UDC often resorts to telescoping as a digit saving mechanism as in DDC. Telescoping refers to the situation where the class numbers appear to be coordinate to one another, but represent a class and its sub classes as viewed from the idea plane [7].

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*Example*

Hydrozoa 593.7

Chain

| 5 | = | Pure science | (Sought link) |
| 59 | = | Zoology | (Sought link) |
| 592 | = | Invertebrate (General) | (Unsought link) |
| Tel I (A4) into (A3) begins | | | |
| 593/595 | = | Invertebrate (Taxonomical groups) | (Sought link) |
| 593 | = | Protozoa, Porifera, Coelenterata | (Unsought link) |
| Tel 1 (A4) into (A3) ends | | | |
| 593.5/.8 | = | Coelenterata | (Sought link) |
| 593.7 | = | Hydrozoa | (Sought link) |

Chain Procedure requires that isolates at telescoping point be identified and necessary class index entries are prepared.

In the chain given above, the link 593/595 = Invertebrate (Taxonomical groups) represents an isolate at telescoping point. The following class index entries are derived from the above chain:

| | |
|---|---|
| Hydrozoa | 593.7 |
| Coelenterata | 593.5/.8 |
| Invertebrate (Taxonomical groups) | 593/595 |
| Zoology | 59 |
| Pure Science | 5 |

**Missing Link**

Missing link is a link in chain with gap corresponding to the missing isolate in the chain [8]. Chain procedure further requires that the missing links, if any, in the class number should be identified and indicated in the appropriate place while deriving the chain from the class number. This is required because additional class index entries are to be provided for the missing link.

The following example is a case which can be interpreted either as a telescoping point or as a missing link. However, it appears that it is more appropriate to be considered as a missing link. In fact it is a case of violation of hierarchy.

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*Example*

Chain

Cell morphology 576.31

| | | | |
|---|---|---|---|
| 5 | = | Natural sciences | (Sought link) |
| 57 | = | Anthropological andbiological sciences | (Unsought link) |
| 575/579 | = | Biology [Special topics] | (Sought link) |
| 576 | = | [Unassigned] | |
| 576.3 | = | Cytology | (Sought link) |
| 576.31 | = | Cell morphology | (Sought link) |

Class index entries :

| | |
|---|---|
| Cell morphology | 576.31 |
| Cytology | 576.3 |
| Biology [Special topics] | 575/579 |
| Natural sciences | 5 |

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**Lack of Precision in Terminology**

UDC terminology often consists of long phrases with prepositions so as to reveal compound concepts at the microdocument level. For assigning subject headings by chain procedure, the long phrases have to be replaced by precise terms, so as to eliminate any ambiguity in subject headings.

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*Example*

Psychotherapy for drug addiction in youth: 616-053.7:613.83:615.851

Chain:

| | | | |
|---|---|---|---|
| 6 | = | Applied Science, Technology | (Sought link) |
| 61 | = | Medical Science | (Sought link) |

| 616 | = | Disease. Pathology and Medicine | (Sought link) |
|---|---|---|---|
| 616- | = | | (False link) |
| 616-05 | = | Personal and environmental factors in disease | (Unsought link) |
| 616-053 | = | Age of patients as personal factor in disease | (Unsought link) |
| 616-053.7 | = | Disease of youth | (Sought link) |
| 616.053.7: | = | | (False link) |
| 616-053.7:613 | = | General and personal health and hygiene of youth | (Unsought link) |
| 616-053.7:613.83 | = | Narcotics and drug addiction in youth | (Sought link) |
| 616-053.7:613.83: | = | | (False link) |
| 616-053.7:613.83:615 | = | Pharmacology and Therapeutics of drug addiction in youth | (Sought link) |
| 616-053.7:613.83:615.8 | = | Physiotherapy and other treatments for drug addiction in youth | (Sought link) |
| 616-053.7:613.83:615.85 | = | Various treatments and cures for drug addiction in youth | (Unsought link) |
| 616-053.7:613.83:615.851 | = | Psychotherapy for drug addiction in youth | (Sought link) |

The verbal representation of the above chain indicates lack of precision in terminology as far as the specific subject to be indexed is concerned. Hence flair or intuitive judgment only on the part of the indexer can help in constructing subject headings with precise terminology. Many of the facet numbers in the above class number represent multiple concepts. Only those concepts relevant to the context are indicated in such cases. For example, 615.851 represent Psychotherapy, Psychoanalysis and Hypnosis, but only Psychotherapy has been taken in the present context. The subject headings derived accordingly are given below:

| | |
|---|---|
| Psychotherapy :Drug addiction:Youth | 616-053.7:613.83:615.851 |
| Therapeutics : Drug addiction: Youth | 616-053.7:613.83:615 |
| Drug addiction: Youth | 616-053.7:613.83 |
| Youth : Disease | 616-053.7 |
| Disease : Medical Science | 616 |
| Medical Science | 61 |
| Technology | 6 |

## CONCLUSION

Although UDC is an almost faceted classification scheme, lack of clear demarcation of different facets at some points poses certain problems in subject indexing by chain procedure. Lack of precision in terminology is inevitable in such a scheme which is more concerned about subject control of microdocuments without explicity stated principles. Hence subject indexing by chain procedure should take into account this fact. Besides, intuitive thinking and critical judgment by indexer, with reference to the specific subject in context will solve these problems to a great extent and lead to considerable degree of consistency and accuracy. In spite of various problems UDC still works well with chain procedure subject indexing as it has a sound classificatory base.

## REFERENCES

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