Knowledge development and its organization in Dewey Decimal Classification from 19th edition till 23rd edition

A Dissertation for course code and course title: LIS 651 & dissertation

Credits: 16

Submitted in partial fulfilment of masters / bachelor's degree in MLISc

By

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GOA UNIVERSITY

April 2024

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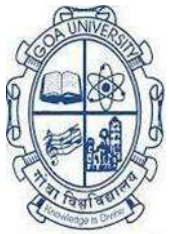

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EXAMINED BY SEAL OF THE SCHOOL

DECLARATION BY STUDENT

I hereby declare that the data presented in this Dissertation report entitled **"Knowledge development and its organization in Dewey Decimal Classification from 19th edition till 23rd edition"** is based on the results of investigations carried out by me in the **Library and Information Science** at the **D.D. Kosambi School of Social Sciences and Behavioural Studies, Goa University** under the Supervision of **Dr. Milind C. Mhamal** and the same has not been submitted elsewhere for the award of a degree or diploma by me. Further, I understand that **Goa University** or its authorities will not be responsible for the correctness of observations/experimental or other findings given in the dissertation.

I hereby authorize the University authorities to upload this dissertation on the dissertation repository or anywhere else as the UGC regulations demand and make it available to any one as needed.

Date: 19th April 2024 **Manish Pandurang Bagkar**

Place: Taleigao, Goa Seat Number: 22P0010003

COMPLETION CERTIFICATE

This is to certify that the dissertation report **"Knowledge Development and its organization in Dewey Decimal Classification from 19th edition till 23rd edition"** is a Bonafide work carried by **Mr. Manish Pandurang Bagkar** under my supervision in partial fulfilment of the requirements for the award of the degree of **MLISc.** in the Discipline **Library and Information Science** at the **D.D. Kosambi School of Social Sciences and Behavioural Studies, Goa University.**

Dr. Milind C. Mhamal

Date: 19th April 2024

Signature of Dean of the School/Programme Director School/Programme Stamp

Date: 19th April 2024

Place: Taleigao, Goa

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MANISH PANDURANG BAGKAR

Library and Information Science Programme

Goa University

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Abbreviations Used

Entity	Abbreviations
Dewey Decimal Classification	DDC
Colon Classification	CC
Library of Congress Classification	LCC
Universal Decimal Classification	UDC
Korean Decimal Classification	KDC
Nippon Decimal Classification	NDC
Online Computer Library Classification	OCLC
Machine Readable Catalogue	MARC
American Library Association	ALA
Editorial Policy Committee	EPC

CHAPTER 1

INTRODUCTION

1.0 Introduction

Classification provides a system for organizing knowledge. It is used to organize knowledge represented in any form, e.g., books, documents, electronic resources. The Dewey Decimal Classification—conceived by Melvil Dewey in 1873 and first published in 1876—is a general knowledge organisation tool continuously revised to keep pace with knowledge. (Dewey, 2011)

DDC scheme was first applied to the Amherst College and printed classification through the efforts of W.S. Biscoe, the faculty of Amherst. The second edition entitled Dewey Decimal Classification and Relative index appeared in 1885. (Sharma, 2006)

This study is about the developments in the DDC since 19th edition till 23rd edition and its organization.

1.1 Definition

Dewey Decimal Classification is defined as “a system of classifying books and other publications whereby main classes are designated by a 3-digit number and subdivisions are shown by numbers after a decimal point.” (Merriam-Webster.com Dictionary, 2024)

Expansion is “the development of a class in the schedules or tables to provide further subdivisions”. (Dewey, 2011)

Relocation is “the shifting of a topic from one number to another number that differs from the old number in respects other that length. Notes at both ends of the relocation identify the new and former numbers”. (Dewey, 2011)

Revision means “text that has been altered by the original author or by another writer, usually to correct, amend, update, or otherwise improve it.” (Reitz, 2014)

According to Online Dictionary for Library and Information Science (by Joan M. Reitz) Literary Warrant is “the quality of words that have been written on a specific subject or topic. In library cataloguing, the development of portions of a classification system in response to the content of the materials requiring classification. A body of literature must exist on a topic for a new class to be added. In indexing, the addition of a subject heading or content descriptor to an indexing language, based on the frequency of its occurrence in the title or text of the documents indexed. Compare with user warrant.” (Reitz, 2014)

1.2 Objectives of the study

The objective of a study refers to the specific goal or aim that the research is trying to achieve. It outlines what the researcher wants to learn or discover through their investigation. (Kothari, 2004)

The present study has the following objectives:

- To study the general framework of DDC.
- To know the revision procedure of DDC.
- To see the growth of knowledge in DDC till 23rd edition.
- To conduct a comparative study of class wise development in DDC.
- To find out the discontinued and relocated class numbers in DDC.

1.3 Scope and limitation of the study

- This study is limited knowledge developments as per DDC.
- The study considers data collected from 19th to 23rd editions.
- The study considers Knowledge development i.e. new classification numbers allowed in DDC from 19th to 23rd editions. It includes new and updated topics and subtopics mentioned in the main classes and tables.

1.4 Hypothesis

Research can benefit from hunches, but they aren't always necessary. These hunches, often called hypotheses, provide a specific prediction about how independent variable affects dependent variable. They can sharpen a research question and guide the investigation, but perfectly valid studies can be conducted without them. In essence, hypotheses are like educated guesses that scientific methods then put to the test. (Kumar, 2011)

Following are the hypotheses for the present study.

H_1: New class numbers are assigned based on literary warrant in DDC.

H_2: Dewey Decimal Classification system is frequently updated.

1.5 Research Methodology

Research methodology surpasses simply finding an answer. It's a structured framework, a roadmap, that guides researchers in systematically solving a research problem. One could even consider it a scientific discipline in itself, dedicated to exploring the best practices and approaches for conducting rigorous and reliable research. Research methodology goes beyond random exploration. It provides a structured approach to

ensure a logical and well-defined path towards the solution. It's not just about finding any answer, but about finding the most accurate and reliable answer through a systematic process. (Kothari, 2004)

Following methodology for research is being followed

- Extensive literature search on project topic from journal articles, blogs, conference proceedings, books and so on.
- Data was extracted, organised and examined from 19th edition to 23rd edition of DDC using MS Excel and interpreted in tabular form using charts.
- APA style, 6th edition, was used for references and bibliography.

1.6 Significance of the study

- This study would highlight the knowledge developments in various subjects which will help the researchers to find gaps in subjects.
- It will help the library professionals to understand how DDC works and help the to suggest new class numbers in DDC.

1.7 Chapterisation

This study is organized into six chapters which supplement tables, figures and appendices.

Chapter 1 - Introduction
Chapter 2 – Review of Literature
Chapter 3 - Overview Of Library Classification System And Dewey Decimal Classification
Chapter 4 - Data Analysis and Representation
Chapter 5 - Findings and Conclusion
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Chapter 2

Review of Literature

2.0 Introduction

Review of related literature is an indispensable and primary component for any investigation, as it provides a comprehensive overview of the existing body of knowledge on a specific topic. It is used to conduct an in-dept and critical evaluation of the previous researches, thus assisting in summarising and synthesising the research, allowing anyone reading to articulate the research problem and the scope for further study. Literature review creates a firm foundation for any research. Reviewing the literature can help one, learn about the important authors and their ideas and contributions in specific field of study, identify the gaps, trends as well as patterns. It allows the researcher to build upon the existing knowledge and contribute in addressing the unanswered questions or expanding upon the existing knowledge. (Pare & Kitsiou, 2017). By conducting thorough literature review, researchers can ensure that their study is grounded in current understanding of the topic and also avoid duplication of the work. Additionally, a literature review helps establish credibility and validity to the research by demonstrating that the study is built upon solid foundation of previous work. Therefore, conducting a literature review is crucial for researchers to provide a comprehensive and informed analysis of the topic, identify gaps in knowledge, and contribute to advancing the knowledge in their field. (Neuman, 2015)

2.1 Purpose of Literature Review

- To gain a comprehensive understanding of the research topic.
- To identify trends, gaps, and areas of interest in the field of research.
- To articulate the methodologies and design of the research utilised by different researchers.
- To validate the sources of data used by other researchers.
- To understand how others structured their research.

Here in this literature survey, various sources have been reviewed to form a base for my study and to identify the trends and gaps in the area of study. The literature search contains Journal articles (23), Conference Proceedings (3), Books (1) and Book Sections (2). The sources visited include Research Gate, Elsevier ScienceDirect, JSTOR, Taylor and Francis, Emerald and Springer. This literature review is arranged chronologically.

2.2 Review of Literature

(Satija & Kyrios, 2023) details the governance and revision processes of the Dewey Decimal Classification system. The chapter discusses the role of the Decimal Classification Editorial Policy Committee (DCEPC) and the Dewey Section of the Library of Congress in coordinating revisions. It outlines how new editions are prepared and implemented, including major revisions of parts of the schedules. The revision process involves user groups providing input and testing draft revisions. It also provides historical context about how the governance and editorial responsibilities for DDC have evolved over time. The key points taken are that the Dewey Decimal Classification (DDC) system is governed by the DDC Editorial Policy Committee (DCEPC), which

is a joint committee of organizations like the American Library Association (ALA), Library of Congress (LC), and Online Computer Library Centre (OCLC), and it oversees the revision and development of the DDC.

(Lund, Agbaji, T., & Omame, 2019) in their paper presented a comparative study of the use of and preferences for Dewey Decimal Classification and Library of Congress Classification systems in academic libraries in the United States and Nigeria. The study found that over 80% of academic libraries in the US use Library of Congress Classification, around 13% use DDC and remaining use other schemes, over 90% of academic libraries in Nigeria use LCC, only 2% use DDC and balance use other schemes. DDC is more commonly used by smaller academic institutions like 2-year colleges in both countries. LCC dominates in larger academic libraries. Surveys of academic library employees in both countries showed a strong preference for LCC, except for those working in libraries that currently use DDC who tended to prefer DDC. The comparison provides insights into the different histories and narratives around academic library classification in developed and developing countries.

(GP, 2016) through his article provides a good overview of the history and development of the DDC system over its many editions. This gives helpful context for understanding the significance and purpose of revisions. The author also details out the key structural changes introduced in DDC 23 across various disciplines, including new numbers, relocated/discontinued classes, and table updates. This is useful information for libraries implementing the new edition. The article also tried illuminating the development process for revisions and key organizations involved like OCLC and EDUG, which provides insight into how the system stays up to date. The only drawback is that this research does not critically analyse or evaluate the changes, rather, it just

lists them without discussing the rationale or impact. More analysis would strengthen the discussion.

In (Satija, 2013) study, he discusses the evolution of Dewey Decimal Classification. The DDC, despite being capable of classifying in complex situations, is noted for becoming more user-friendly. The facet structure is highlighted for its increased clarity, demonstrating the capability to incorporate multiple facets within a single class number. Significantly, ongoing research aims to identify broader applications of the DDC in various forms of information management. Three summaries of the DDC are already employed to organize information on the internet, exemplified by the development of a browser based on the DDC for Net First—an OCLC database providing access to internet sources. This showcases the novelty and adaptability of the DDC system to contemporary information organization.

(Chung, 2012) in her study analysed and compared the structures of place-related auxiliary tables in several decimal classification systems like UDC, KDC, DDC and NDC focusing specifically on how Korea is categorised in each system. It was found that DDC and NDC treated Korea very simplistically just by dividing into North and South Korea where as UDC and KDC provided more detailed categorisation. None of the systems fully reflects the administrative districts of Korea. The study also reveals that there are discrepancies across systems in how concepts like provinces, cities, islands are grouped and arranged hierarchically. The paper aims to improve global accessibility and use of the DDC system by enhancing its representation of an important region. More detailed and accurate classifications could help users from Korea and studying Korea. The methodology focuses heavily on comparing structured classification numbers and hierarchies, but does not consider unstructured aspects like

subject headings/keywords that are also important for information organization and discovery. In inference, the paper suggests the need for further research to improve regional categorization in decimal and other classification systems based on administrative and geographic standards.

In (Idrees, 2012), he highlights the global usage of major classification schemes such as DDC, UDC, LCC and CC, emphasizing their adequacy in various disciplines. However, he expresses his concern that these systems inadequately address the organization of Islamic knowledge, creating challenges for libraries with extensive Islamic Knowledge. Furthermore, the author believes that a new system should be developed for the libraries that have rich collection of Islam.

(Chung, 2011) proposes the modification and expansion to the Dewey Decimal Classification (DDC) system in the area of immigration policy. The study examined existing library classification systems like the Dewey Decimal Classification (DDC), Library of Congress Classification (LCC), Universal Decimal Classification (UDC), and Korean Decimal Classification (KDC) in order to propose modifications and expansions to the DDC for classifying information on immigration policy, which is an interdisciplinary subject that requires classification across disciplines like sociology, politics, economics, law, etc. The paper compares the classifications of immigration-related topics in the various systems. Based on this analysis, it proposed design principles, main tables, and supplementary tables for revising the DDC's coverage of immigration policy to make it more useful for organizations specializing in this field. The paper also argues that while no existing classification system fully covers immigration policy, revising the widely used DDC offers the most practical solution to addressing the needs of this interdisciplinary subject area.

(Majumder & Sarma, 2011) in their in their paper "journey of Dewey Decimal Classification in last four decades" discusses the history and evolution of DDC in last few years, specifically focusing on the last four decades and also provides insights on the revisions and changes made to DDC to keep it updated. It provides details about editions from 18th to 22nd, and also highlighting to role of Dewey for Windows and Web Dewey, which provides convenient access to classification system. The findings shows that the system has gone continuous revisions to adapt to the dynamic universe of knowledge. In conclusion, the article emphasizes the importance of regular revisions to meet the challenges of a changing knowledge landscape and acknowledges the role of electronic and web versions in facilitating efficient classification, especially in the context of digital and online collections.

(Chung & Choi, 2010) analysed the food culture classification system of 6 major classification standards – DDC, UDC, LCC, KDC, NDC, and China Library Classification. It was found that Korean food was not well reflected in these classifications and more headings need to beaded for Korean and Asian traditional foods and table services. Analysis of the food culture topics covered by the classifications, such as meal and table service, eating habits, food types, cooking techniques, nutrient and diet, beverage technology and food engineering revealed that UDC categorised some subjects more precisely than DDC. The paper proposed improvements to various sections of DDC like adding more sub-headings under eating habits, special meals, diet therapies; expanding food and beverage types; including Korean alcoholic drinks; and adding Korean and Asian representative dishes under cooking classifications. The study found areas where DDC could better reflect Korean cuisine and proposed adding classifications for Korean foods, season-specific dishes, regional cuisines, food preservation/processing etc., and suggested utilizing regional

classification tables to add country/region divisions for traditional foods and using food culture terminology standards to balance representation of Eastern and Western food cultures.

(Idrees & Mahmood, 2009) examines the issue of classifying Islamic literature in libraries. they discuss how existing classification systems like Dewey Decimal Classification (DDC) do not adequately accommodate the large amount of material being produced on various topics in Islamic studies. The study interviewed Library and Information Science (LIS) scholars and Islamic studies scholars in Pakistan to understand their views on developing a comprehensive classification scheme specifically for Islamic materials. To overcome the shortcomings of the existing standard classification system, they saw guidance from Islamic studies scholars as important for developing an optimal classification structure. Questions were also raised about individual vs committee-led efforts and implementing a new scheme in libraries and lack of proper space for Islam, lengthy notations, improper organization and enumeration of Islamic topics, bias against Islam, and failure to incorporate emerging Islamic topics.

(Wang, 2009)The article discusses automatic classification of bibliographic data using the Dewey Decimal Classification (DDC) system with machine learning techniques. It analyses a bibliographic dataset containing MARC records and finds issues like data sparsity, skewed category distributions, and a very deep classification hierarchy that pose challenges for supervised learning algorithms. It proposes restructuring the DDC by merging sparse categories and trimming dense branches to create a balanced virtual classification tree before applying hierarchical and interactive classification models.

In (Satija M. P., 2008), the research focuses on mapping of social sciences in the Colon Classification system developed by S.R. Ranganathan. The article defines knowledge and discusses its properties like being social, dynamic, fragmentary, etc., it further explains the different modes of growth of knowledge like specialization, interdisciplinary and multidisciplinary growth. The article introduces classifications as impermanent maps of knowledge that change over time and society. It discusses four principles for mapping knowledge domains: ideological, social purpose, taxonomic, and disciplinary. The scope and complexity of social sciences is expanding. It also describes the Colon Classification structure and placement of social sciences in main classes T to Z. It evaluates Ranganathan's rationale for the order of these classes based on increasing artificiality of social laws, finding issues with this conceptualization. It finds issues with this conceptualization, suggesting that the organization of social sciences in the Colon Classification is weak and inadequate. The logic of ordering the social sciences is deemed not strong. However, the Colon Classification is acknowledged to have a powerful armoury of adjunct basic subjects, devices for intercalation of new subjects, and phase relations to aid precise and in-depth information retrieval.

(Majumder & Sarma, 2007) in their study provides background on the development of DDC from its first edition in 1876 to 22nd edition. The article describes the key features of Web Dewey like its quarterly updates, enhanced search capabilities, and mappings to other classification systems. They discuss about the inclusion of all areas of knowledge, using a simple and expandable decimal notation system, and having a relative index to help locate subjects. The DDC now has 21 print editions after undergoing numerous adjustments throughout the years to reflect growing understanding. In 2003, Web Dewey was introduced as the initial online edition. Web

Dewey aims to keep pace with the expanding universe of knowledge by regularly incorporating new topics and revisions. The paper provides an overall overview of the development and key principles of the DDC system, describes the transition to the online Web Dewey version, and outlines some of its main features and subscription options. It also gives useful background information on one of the most widely used library classification schemes.

(Kim, 2003) aims to inform development of Christian classification schedules and provide a theoretical basis for a better Christian taxonomy. The paper to compare the classification of Christianity across three classification systems: the 4th edition of the Korea Decimal Classification (KDC), the 21st edition of the Dewey Decimal Classification (DDC), and the 3rd edition of the Library of Congress Classification (LCC). The paper examines the structure and development of classifications relating to Christianity, including topics like Christian theology, Jesus Christ, the Bible, devotional literature, evangelism, education, ecclesiology, worship, and denominations by providing tables for comparing how each system organizes these topics. The document also discusses the history and features of each classification system. The key findings of the study states that the KDC aims to reflect Korea-specific elements while the DDC and LCC show more Western influences. The LCC dedicates more categories/items to Christianity compared to other religions to fit its compilation context/objectives. Study concludes that all three systems generally conform to academic classifications but customize Christian classifications to some extent.

(Gangu & Rao, 2002) in their research highlights the challenges in classifying new topics that have emerged using the 18th edition of the Dewey Decimal Classification system. The study analyses problems faced by libraries still using the 18th edition as

new knowledge develops. In the study, the researchers provide major changes that have taken place in the 18th-21st editions of Dewey Decimal Classification (DDC) and specifies methods for classification of current titles. In conclusion, they said that it would be problematic to keep on changing the editions as and when new topics are brought into limelight and therefore, they suggest that the changes and updates can be provided using a ready reckoner. It also suggests adaptations can be made to the 18th edition to accommodate new topics by extending numbers, modifying language and literature schedules, revising areas tables, and compiling a reference guide of changes between editions.

(Comaromi & Satija, 1988) in this article discusses the process of revising the Dewey Decimal Classification system. They go over how revision is based on changes in knowledge fields over the past decade, carried out at the Library of Congress under guidance from several professional committees, including the Editorial Policy Committee and Forest Press Committee, and subject experts. Revision of the Dewey Decimal Classification (DDC) is an ongoing process aimed at keeping the classification up to date with changes and developments in knowledge. Major revisions come in the form of "phoenix schedules" which completely revise sections. The revision process aims to incorporate new topics, expand existing numbers, and improve introductory material between editions. Decimal Classification Additions, Notes, and Decisions shares revisions between editions. Implementing a new edition requires reclassifying existing collections and rectifying wrongly placed subjects and also discontinuing unused or less detailed numbers.

(Jamdade, Jamdade, Panage, & Mugade, 1983) discusses the historical development of library classification from ancient times to the present. The article begins by defining

classification and its importance in organizing knowledge and libraries. Several ancient Indian, Greek, medieval and modern classification schemes are described, including the Vedic text from ancient India, dividing knowledge into categories like Dharma, Artha, Kama and Moksha. Greek philosophers like Aristotle developed classification systems that divided knowledge into theoretical, practical and productive areas of study. - Medieval scholars used a system dividing knowledge into the trivium, quadrivium and other main groups. Important modern classification schemes profiled include Dewey Decimal, Universal Decimal, Library of Congress, Colon, and National Library of Medicine classifications. Overall, the article traces how knowledge classification evolved significantly over centuries, from early philosophical schemes to practical library classification systems. It highlights the important role classification plays in organizing the vast amounts of information generated over time to make knowledge more accessible. The historical overview provides useful context for understanding the development and principles behind modern schemes still used to navigate library collections worldwide.

(Sweeney, 1983) discusses the development of the Dewey Decimal Classification system over the past 30 years. The article focuses on three main conflicts that have influenced recent changes: the integrity of classification numbers versus keeping pace with knowledge, detailed bibliographic classification versus shelf location, and national bias versus internationalization. Regarding numbers, editions have increasingly allowed relocations to better reflect knowledge growth. "Phoenix schedules" completely reclassify areas as needed. The needs of classified catalogues requiring synthesis have also increasingly been met versus those just needing shelf location. Bias toward Western cultures is lessening. Future plans include longer periods between editions and publishing revisions separately in between.

(Sengupta, 1977) in this research study, tried to address some of the major changes in Dewey Decimal Classification System that DDC Editorial Policy Committee is proposing for 19th edition. The study listed out major changes like relocation of "British Isles", "United Wales", from -41 to -42, publishing of "Phoenix Schedule" for entire life science section, relocating all concepts from human anatomy (611) and physiology (612) to general animal anatomy and physiology (591). The author argues some of these proposed changes seem anomalous and could diminish the popularity of DCC if major changes are introduced frequently. Specifically, the changes to area notations for British places don't seem to make the classification more rational. The author also analysed and criticised the phoenix schedule and relocation of 611 and 612 concepts to 591. In conclusion, the author questions if the Committee will continue following the historical principles of continuity and integrity of numbers given these substantial proposed changes. Frequent major changes could reduce libraries' willingness to undertake reclassification work.

(Comaromi J. P., 1976) This document discusses the conception and development of the Dewey Decimal Classification system. It describes how Melvil Dewey developed the system in the 1870s to organize the Amherst College library more efficiently. Dewey likely drew inspiration from classifications developed by William Torrey Harris and Jacob Schwartz. The document outlines the key developments in the first two editions, including standard subdivisions, relative indexes, and simplified spelling. The initial DDC consisted of 42 pages and arranged Amherst College's collection. By the 13th edition in 1942 it had grown to nearly 2,000 pages. By the 1970s it was the dominant system used globally, adopted by over 85% of libraries in North America, Latin America, Africa and many parts of Asia and Europe. It was expanded in the second

edition published in 1885. It also discusses how the system was modernized in recent decades under publisher Forest Press and editor B.A. Custer to be used internationally.

(Comaromi, 1976) in his article discusses the history and development of the Dewey Decimal Classification (DDC) system from its creation in 1873 to 1976. The author explores Melvil Dewey's initial creation of the system at Amherst College and how he expanded on it in later editions. The article further examines the philosophical influences on the system's structure, particularly the ideas of Francis Bacon and G.W.F. Hegel. It outlines the growth of the DDC and how it was adopted by many libraries in both the US and Britain, covering the various organizations that guided development of the DDC over time, from the Decimal Classification Committee to Forest Press. The challenges faced with different editions are also reviewed.

(Guha, 1976) in the study, the researcher discusses two publications related to the Dewey Decimal Classification (DDC) system on its 100th anniversary. The first publication is a facsimile reprint of the first edition of the DDC from 1876. The second publication is a book by John Phillip Comaromi that provides a history of the development of the DDC through its eighteen editions. It describes how the DDC started very modestly with only 10 pages but grew into a massive classification over subsequent editions. The review discusses key events like the controversy over fixed vs relative location on shelves, expansion of the DDC's use in libraries, and controversies surrounding editions. It notes how the second edition in 1885 saw the most changes and established important concepts.

(Comaromi, 1975) discusses the historical development of the Dewey Decimal Classification system from its origins to the 1950s. The article describes how Melvil Dewey developed the initial system in the 1870s and notes some influences like William

Torrey Harris's library cataloguing system. It then discusses the involvement of key figures like May Seymour and Dorkas Fellows who greatly expanded the system over subsequent editions. Challenges like finding a new editor in the 1930s-40s and debates over modernization approaches are also covered. The system gains international adoption but drifts between the US and French editions.

(Batty, 1975) in his paper studied the history and developments of library classification systems over the past 100 years since Dewey. He outlined some of the major contributors and schemes, including Dewey's Decimal Classification, the Universal Decimal Classification, Ranganathan's Colon Classification, and the work of the British Classification Research Group. The study proposed a theoretical model of classification that incorporates facet analysis and recognizes multiple aspects or facets of subjects.

(Potter, 1946) in this article provides insights on the revision of the Decimal Classification system that was underway in 1946 for the 15th or "Standard Edition". According to the article this was considered to be a complete revision to address issues that arose from 13 previous revisions where some tables had never been expanded in areas of rapid scientific advances, while others like liberal arts had been over-expanded. The report further states that, to inform the revision, questionnaires were sent to cataloguers and classifiers asking for feedback on which subject areas were over-expanded or needed more expansion in the current edition. Suggestions indicated needs for expansion in science and changes to bring order and logic, but the essential meanings of numbers from past editions would not change to avoid reclassification costs for libraries. The revision aims to develop past editions in a balanced way, addressing needs of general libraries as its primary users. Correlation between related subjects and outdated terminology will also be improved. In conclusion, the Standard

Edition revision seeks to produce a classification system that better reflects current knowledge through a thorough review and update, while keeping the underlying structure consistent to avoid disruption for libraries already using the Dewey Decimal system. The article provides useful context on the revision process and considerations shaping the 15th edition.

In (Hess, 1910), he proposes an extension of the Dewey Decimal classification system to organize information about automobiles, aiming to create a standardised way to organise and catalogue automobile engineering information. He applies number classifications from an existing framework for engineering to topics related to automotive types, motive powers, principal parts, and design/construction, each category being further subdivided into more specific topics like frames, springs, engines parts, fuel systems, cooling systems etc. Hess also develops a hierarchical taxonomy covering many detailed automotive topics from general works down to components like engines, tires, and more allowing engineering information on automobiles to be systematically organized, indexed and cross-referenced using this classification system. The paper also states that the Dewey Decimal system is flexible and can be extended as needed to encompass new topics, without major effort, as the field evolves over time.

(Smith, 1908) presents an expansion of the Dewey Decimal Classification system for organizing books and materials related to the history of the Pacific Northwest region, aiming to provide more specific classification numbers for topics, localities, counties/regions within states like Oregon, Washington, Idaho, and Montana. It expands on existing Dewey numbers to add more specific subclassifications for topics, localities, states, and counties within the region. The introduction explains that this is

meant to supplement the existing Dewey system and allow for more granular classification of resources, especially for libraries in the Pacific Northwest area. Hundreds of new subclasses are outlined for different historical subjects and places. It provides a standardized way to further classify Northwest history materials within the established Dewey framework used in many libraries in the region.

2.3 Conclusion

The above literature discusses several research papers about DDC system including the history, overview and development of DDC in brief. Some papers focus on the governance and revision processes while others consider its evolution and increased user-friendliness. Few literatures provided insights on different shortcomings of DDC on Islamic topics and Korean food culture. Most of the researches tried to highlight the history of DDC and the evolution and touched upon the revisions and changes made to keep it updated. Some authors focused on the issues of classifying the newly developed literature like Islamic literature, place-related auxiliary tables, Korean literature, etc.

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Chapter 3

Overview of Library Classification system and Dewey Decimal Classification

3.0 Library classification system

Library classification is the process of arranging, grouping and organising the collection/resources of the library in a systematic manner for its easy access and retrieval. The library collection would not only include books but also other resources like serials, sound recordings, manuscripts, e-resources, etc. The resources are classified based on subject in a systematic and logical way through the assigning of call numbers which serves dual purpose: determining the location of the books on the shelf and collocating the books of similar topics or subject areas together next to each other.

Call number consists of three parts namely class number which provides the designation, book number displaying the author representation and collection number denoting the collection to which it belongs. Bibliographic scheme of classification is a system where knowledge is first bifurcated into broad areas, followed by further subdivision into subjects or main class. These main classes are then again divided into sub classes which are then again divided into divisions and so on, thus leading classification of subjects from general to more specific concepts. (Library Classification, 2023)

3.1 Classification schemes

3.1.1 Universal Decimal Classification

Paul Otlet and Henri la Fontaine developed the universal decimal classification system for libraries in the year 1985. It follows the Dewey decimal classification system, but incorporates additional auxiliary signs to represent unique aspects and connections between subjects. It includes a notable facet or analytico-synthetic component, and is particularly utilized in specialized libraries. UDC has evolved and expanded to handle the growing knowledge output in all fields, and is continually updated to incorporate new advancements. The UDC classifications are structured using Arabic numerals and the decimal system. The filing order is determined by treating each number as a decimal fraction, omitting the initial decimal point. Typically, a UDC identifier is punctuated every third digit for easier reading. One benefit of this system is its infinite extensibility, which allows for seamless introduction of new subdivisions. UDC contains over 56000 main numbers and over 13000 common auxiliaries. UDC treats the universe of information as a coherent system, unlike specialized classifications that treat related subjects as subsidiary. (Tiwari P. , 2012)

UDC begins with ten overarching categories, such as physics or philosophy, then continues to break them down into more focused subtopics. Certain symbols aid in the description of even the most intricate details of a subject. Early in the 20th century, the System started to become popular and widely accepted as libraries and information centres all around the world discovered how useful it might be. The system's versatility and ability to get past language barriers helped make it widely adopted. The future of the UDC System is closely linked to trends and developments in the informa'Ion management sector at large. Its ability to work with new technology, adapt to digital

environments, and remain relevant in the face of quickly developing information will be critical to its success and long-term usefulness. (Cope, 2024)

3.1.2 Dewey Decimal Classification

Melvil Dewey devised the Dewey Decimal Classification in 1873, while it was initially released in 1876. It is an expansive tool that is updated often to accommodate the latest developments, latest edition being the 23rd edition published in 2011 by Online Computer Library Centre, Inc., divided into four volumes. It makes an effort to classify all information into ten major categories. Subclasses within each of the ten primary classes are subsequently identified. There are ten divisions in the main class and ten sections in each division. Thus, this system can be summarized into ten primary classes, one hundred divisions, and one thousand sections. This system is entirely numerical and indefinitely hierarchical due to the fact it employs decimal for its category structure. Aspects of the faceted classification scheme are additionally utilized by DDC; instead of using a list with each class and its meaning, DDC builds a number that represents the subject and form of an item by combining subject elements from various structural parts and connecting geographical and temporal elements. The more intricate yet expressive Universal Decimal Classification, which combines the fundamental Dewey numbers with particular punctuation (comma, colon, parenthesis, etc.), was inspired by the DDC's numbers. (New World Encyclopedia, 2009)

3.1.3 Library of Congress Classification

The Library of Congress developed the Library of Congress Classification (LCC) system for categorizing books in libraries. Most research and academic libraries in the U.S. and several other countries utilize it. It's important to note that this is different from the Library of Congress Subject Heading and Library of Congress Control

Number. In 1897, Herbert Putnam created the Classification, just before taking on the role of librarian at Congress. The LCC was designed with the unique needs of the Library of Congress in mind, influenced by Cutter Expensive Classification and the DDC. Despite its broad subject categorization, it is essentially a form of enumeration. LCC is noted for its utilitarian categorization, which focuses primarily on organising the Library of Congress' collection. LCC divides knowledge on humans into 20 major categories. A major class indicated as A may have subclasses ranging from AA to AZ. Each letter represents a single main class, which can be further subdivided with a second letter. For the duration of the programme, LCC does not, however, offer a standard form or regional divisions for our application. (Tiwari p. , 2012)

3.1.4 Cutter's Expansive Classification

Charles Ammi Cutter created the Cutter Expansive Classification system, which is used in libraries. It indicates the top book categories using all letters. This is in contrast to the Library of Congress classification, which utilizes a combination of letters and numbers, and the Dewey Decimal Classification, which uses solely numbers. The Library of Congress's top categories were categorized using this system. Despite being used by relatively few libraries at first, especially in New England, the Cutter classification has been hailed as one of the most academic and rational of all American classification schemes. The Library of Congress categorization, which also adopted some of its features, was based on its outline. (Charles Ammi Cutter, 2023)

Books on related themes are shelved together when books are numbered according to subject and then ordered by those numbers, just like in other classification systems. This system also allocates numbers to subject groups. In academic libraries, it has been supplanted by the Library of Congress system, which was partially inspired by Mr.

Cutter's ideas. Gradually, it lost favour to the Dewey Decimal system in public libraries. There are several progressively more granular variations of the Cutter Expansive Classification system.

A list of the subjects found under each initial letter provides a rough overview of the classification:

A – General Works: encyclopaedias, almanacs, index, and quotations

B – Philosophy, psychology, and some religion

C – Christian and Jewish religions

D – Church History: the history of Christian faith and denominations

E – Biography

F – History

G – Geography and travel

H – Social Sciences: statistics, economics, business, investment, consumer information

I – Sociology, Education, and Careers

J – Political Science

K – Law and Families

L – General Sciences: mathematics, computer science, the Internet and the World Wide Web, physics and chemistry

M – Natural Sciences: environmental science, ecology, weather, geology, oceanography, biology

N – Botany

O-P – Zoology and Animal Behaviour

Q – Medicine: health, homeopathy, naturopathy, medical directories, mental health.

R – Technology/Useful Arts: invention and patents, agriculture, horticulture, forestry, home economics, nutrition and food, cooking, dieting

S – Engineering and Building: construction, engineering, transportation, cars, railroads

T – Handicrafts and Manufacturing: carpentry, sewing, machines, metalwork, leather, textiles, plastics

U - War and the Military

V - Athletics, Recreation, Music, Performing Arts

W - Art: art history, architecture, sculpture, drawing, painting, photography, needlework, furniture

X - Language

Y - Literature: fiction, drama, poetry, essays, speeches

Z - Books and Literary History: writing, printing, public libraries, bibliography, literary criticism, author information (Cutter Classification, 2010)

3.1.5 Korean Decimal Classification

The Korean Decimal Classification, or KDC for short, is a national standard book classification system used by Korean libraries. It is published and kept up to date by the Korean Library Association's (KLA) Classification Committee. Since it was first published in 1964, nearly all public, school, and academic libraries in Korea have utilized it as a basic bibliographic tool to organize their collections. Prior to the establishment of KDC, a number of domestic classification systems had already been created and were in use in Korea. These included the Kuk-Yeon Decimal Classification (1958), the Han-Un Decimal Classification edited by Jae-Chang Koh (1954), the Railway Bureau Library Classification (1920), and the Korean Decimal Classification edited by Bong-Suk Park (also known as KDCP, 1947). Before KDC was introduced, KDCP was the most popular and significant of them all. One of the reasons for this was that the editor was one of the most prominent figures in the contemporary Korean library community, serving as a lecturer at the National Library School, an administrator at the National Library of Korea as the deputy librarian, an editor for the Korean Catalogue Rules for Oriental Books and the KDCP, and an advocate for the library movement by starting the KLA.

Published in May 1964, the first edition of KDC served as the Korean library community's official classification system. Just two years after the first version was released, in May 1966, a second edition attempted to address errors in printing or missing letters, rewrite inappropriate passages, add additional subjects, provide more thorough indexes, and other things. In response to the advances in knowledge, the third edition was released in 1980, fourteen years after the second edition. It focused on improving and enhancing the shortcomings and inappropriateness of the previous

editions while retaining the general framework and structure of the previous editions. The fourth edition was released in two volumes in 1996, sixteen years after the third edition. Thirteen years after the fourth edition's release, in 2009, two volumes of the fifth edition were released, and four years later, in 2013, three volumes of the sixth edition were released. To prepare for the fifth edition, the ten-member Classification Committee was first formed in 2007 and its members discussed and communicated the general policies that needed to be revised. They concluded that the fifth edition's entire content should essentially be written in Korean Hangeul, with the addition of Chinese characters and English where appropriate. (Oh, 2020)

3.1.6 Colon Classification

The Madras Library Association (established by Ranganathan in 1928) issued the first edition of the Colon Classification (CC), which was first conceptualized and developed between 1924 and 1928 and first implemented in the Madras University Library. The seventh edition was the most recent and the first to be released following Ranganathan's passing. Ranganathan, a mathematician, was particularly drawn to classification studies since he was a close pupil of the inspirational teacher W. C. B. Sayers (1881–1960) at the University College London School of Librarianship. The CC is a generic scheme that attempts to categorize all subjects and all types of library documents—books, magazines, reports, pamphlets, microforms, and electronic media—in all types of libraries according to discipline (a method that DDC has embraced and is continuing to use). Its potential increases further for micro-subjects and bibliographic records that need depth classification. The scheme is not an enumerative classification system; rather, it is called an analytico-synthetic5. According to the CC, a system consists of all of human knowledge and has evolved into a cohesive whole. Ranganathan discovered

from the Vedas that there is only one knowledge. In the end, CC gives rise to a structure that is both conventional and revolutionary. However, in terms of how it functions and looks, it is neither Vedic nor Eastern. (Satija, 2017)

3.2 Dewey Decimal Classification

3.2.1 Overview

DDC, being conceived by Melvil Dewey in 1873 and first published in 1876, is a classification system used worldwide to organise and arrange the library resources in a systematic and more accessible way. It's managed by OCLC, Inc. and is available in over 30 languages, making it accessible to libraries in more than 138 countries. Libraries use Dewey numbers to categorize and shelve books, and these numbers are also included in national bibliographies. DDC is being continuously updated to cope up with the recent developments in the knowledge of the world.

The first edition of DDC published by Melvil Dewey was published under the title "*A Classification and Subject Index for Cataloguing and Arranging Books and Pamphlets of a Library"* which was of 44 pages. Later, it transited into 2, 3 and latest edition consisting of 4 volumes.

The practice of assigning a fixed location, where a specific number of shelves were assigned to each subject, and identifying each book by its shelf number and position on the shelf, was superseded by the concept of the relative location of books on a shelf according to the subject with the advent of DDC. In practical terms, all of our decimal fraction notation is done so that the decimal point is placed after the third digit for ease of memorizing the value. All numbers are read as decimals and subdivisions are done in a decimal manner. (Ashikuzzaman, 2023)

The notion of a categorization system that arranged books according to disciplines rather than alphabetically or by simply designating a shelf space for a particular book was originally articulated and defined by Dewey. The DDC was the first contemporary system to include features like a relative index and relative locations at the right time. This made it possible for books to be stacked according to how they related to one another and gave libraries the freedom to start arranging their collections more flexibly. (Dewey, 2003)

3.2.2 Features of DDC

Decimal Classification is an almost enumerative scheme of classification. For the subjects in his design, Dewey introduced the idea of attaching notation to the book itself, rather than the shelves. However, several characteristics that still serve as the foundation for its current shape are as follows:

- Universal scheme: The DDC stands out for having classes that cover every field of specialized knowledge that has been established in contemporary culture. Because these specialized topics are haphazardly arranged in the scheme's core classes, the collation principle—which calls for placing related subjects close together—is occasionally broken.

- Relative location: Melvil Dewey's plan used the notion of "relative location" rather than "fixed location." For this aim, he used decimal notation with Arabic numerals for the subjects and assigned that notation to books based on thought content rather than shelf location. In this method, a new book on a specific subject can be placed in between the current series at the needed position, as

indicated by the notation assigned to that book, and there is no need to place the book at the end of the sequence, as was the case in "fixed placement."

- Decimal notation: Melvil Dewey used decimal fraction notation to organize knowledge on shelves. The sub-divisions of knowledge are represented decimally by Indo-Arabic numbers (0–9). In this method, the universe of subjects is separated into ten major classes, each of which is further divided into ten subdivisions. Again, each division is separated into ten portions. Each stage of division divides a given integer decimally. All of the class numbers in DDC are decimal fractions.

- Mnemonics: Another key aspect of DDC is mnemonics, which means 'help to remembering.' DDC includes mnemonics for subject synthesis. Mnemonics are created when subjects are divided in a consistent order across classes. Subject synthesis is achieved using a variety of tables, including area tables, language tables, standard division tables, and so on. Scheduled Mnemonics, Systematic Mnemonics, and Alphabetical Mnemonics are also available in DDC at various locations.

- Integrity of numbers: One of the most significant aspects of DDC is the integrity of numbers. To incorporate new advancements and keep up with the expansion of knowledge, a categorization scheme should be amended on a regular basis, without affecting the fundamental structure, so that professionals may accept the current version without doubt.

- Auxiliary tables: Auxiliary tables are a crucial foundation for producing numbers and result in uniform interpretations when utilized in varied

circumstances. A document that contains knowledge always has a physical shape. The "form divisions" could be applied to any class number using the methods supplied. The 13th edition featured 5 "Auxiliary Schedules." The 14th edition featured four tables. The name 'Form divisions' was replaced with "Standard Subdivisions" in the 17th edition, along with a new area table in volume 2 (Index). The 18th, 19th, and 20th editions include seven auxiliary tables, as stated in DDC 20.

3.2.3 Timeline of milestones of DDC since its inception

Year	***Milestones***
1876	*A Classification and Subject Index for Cataloguing and Arranging Books and Pamphlets of a Library*—the first edition of the DDC—is published anonymously in Amherst, Massachusetts.
1885	Second edition of the DDC is published under Melvil Dewey's name.
1900	The first abridged edition of the DDC is published.
1911	The seventh edition of the DDC is published, which is the first to carry the Forest Press imprint.
1916	The Decimal Classification Advisory Committee—the American Library Association's (ALA) first advisory committee—is appointed.
1927	The DDC editorial office moves to the Library of Congress in Washington, DC.

1930	The Library of Congress begins to print Dewey numbers on catalogue cards.
1931	Melvil Dewey, creator of the DDC, dies December 26 at age 80.
1937	The Decimal Classification Committee, a forerunner to the present-day Dewey Decimal Classification Editorial Policy Committee, is established.
1953	The Dewey Decimal Classification Editorial Policy Committee is reconstituted to represent the American Library Association, Forest Press and the Library of Congress to guide to editorial development of the DDC.
1958	The 16th edition of the DDC is published, which is the first to be edited under an agreement between the Library of Congress and Forest Press.
1988	Forest Press, based in Albany, New York, becomes a division of OCLC.
1993	OCLC Forest Press publishes Electronic Dewey, the first library classification scheme in electronic form.
1996	The 21st edition of the DDC and Dewey for Windows® are published, which is the first time print and electronic formats are published simultaneously.
1999	The OCLC Forest Press office moves from Albany, New York, to OCLC headquarters in Dublin, Ohio; three years later, the Forest Press imprint is retired.
2000	WebDewey in CORC is published.

2002	WebDewey and Abridged WebDewey are published.
2003	The 22nd edition of the DDC is published.
2004	The 14th edition of the Abridged DDC is published.
2005	The German edition of DDC 22 is published.
2007	EDUG (European DDC Users Group) was established.
2009	The Italian edition of DDC 22 is published.
2011	WebDewey 2.0 is released.
2011	The 23rd Edition of the DDC is published.
2011	Swedish WebDewey is released.
2012	The 15th Abridged Edition of the of the DDC is published.
2012	*Electre Guide* (a French abridgement) of DDC 23 is published.
2012	German WebDewey is released.
2013	The Vietnamese edition of DDC 23 is published.
2014	Italian WebDewey is released.
2015	The French edition of DDC 23 is published.
2015	Norwegian WebDewey is released.
2015	French WebDewey is released.

2017	The Spanish edition of DDC 22 is published.

(A legacy of helping libraries, 2024)

3.2.4 Conceptual Framework

The DDC is an excellent tool for organizing general knowledge because it is based on fundamental concepts, including well-defined categories, rich networks of relationships between topics, meaningful notation in widely recognized Arabic numbers, and well-developed hierarchies. Basic classes at the DDC are arranged according to subjects or fields of study. The DDC can be broadly classified into ten main classes that collectively encompass all of human knowledge. Not every division and section number has been used. Each primary class is further divided into 10 divisions, and each division into ten sections. The DDC Summaries outline the DDC's primary organizational structure. The 10 primary classes are presented in the first summary. The hundred divisions are included in the second summary. The thousand sections are included in the third summary.

The Ten Main Classes

000 Computer science, information, general works

100 Philosophy, parapsychology and occultism, psychology

200 Religion

300 Social Science

400 Language

500 Natural sciences and mathematics

600 Technology (Applied Science)

700 The arts

800 Literature (Belles-lettres) and rhetoric

900 History, geography and auxiliary disciplines

3.2.5 Transitions in DDC editions and volumes

New editions were created as the DDC gained acceptance. The third edition was published in 1888, when Dewey was still employed at Columbia. That being said, the New York State Library in Albany produced the fourth version. In 1888, Dewey departed from Columbia to take on the role of director of the state library. Managing a college library and library school was not as personal to him as dealing with libraries on a larger, more public scale, which was made possible by the new position at Albany. (Comaromi, 1976)

The following table displays the transitions in the editions of DDC since its inception, date of publications, volumes, number of pages and the editors.

Table 3. 1: Transitions in the editions of DDC since its inception

Edition	Date	Volumes	Pages	Editor
1	1876	1	44	Melvil Dewey
2	1885	1	314	Melvil Dewey
3	1888	1	416	Melvil Dewey
4	1891	1	466	Evelyn May Seymour
5	1894	1	467	Evelyn May Seymour

6	1899	1	511	Evelyn May Seymour
7	1911	1	792	Evelyn May Seymour
8	1913	1	850	Evelyn May Seymour
9	1915	1	856	Evelyn May Seymour
10	1919	1	940	Evelyn May Seymour
11	1922	1	988	Evelyn May Seymour
12	1927	1	1243	Jennie Dorkas Fellows
13	1932	2	1647	Jennie Dorkas Fellows
14	1942	2	1927	Constantin Mazney
15	1951	1	716	Milton J. Ferguson
15 rev.	1952	1	927	Godfrey Dewey
16	1958	2	2439	Benjamin A. Custer
17	1965	2	2153	Benjamin A. Custer
18	1971	3	2718	Benjamin A. Custer
19	1979	3	3385	Benjamin A. Custer
20	1989	4	3388	John P. Comaromi
21	1996	4	4115	Joan S. Mitchell
22	2003	4	4076	Joan S. Mitchell
23	2011	4	4175	Joan S. Mitchell

Source: Editions 1 to 23 of DDC

3.3 Conceptualization

According to glossary of DDC following are the concepts relating to the study.

Classification: A logical system for arrangement of knowledge.

Complete revision: Formally called as phoenix, complete revision is a new development in which the base number remains unchanged from the previous edition, but virtually all subdivisions are changed. Here also the changes are shown using comparative and equivalence tables.

DDC Summaries: A listing of the first three levels of Dewey Decimal Classification system, namely main classes, divisions and sections.

Discontinuation: The shifting of a topic or the entire contents of a number to a more general number in a same hierarchy, or the complete removal of a topic or number. A topic or number is discontinued because the topic or concept represented by the number has a negligible current literature or represents a distinction that is no longer valid in the literature or common perception of the field. A note explaining its shift or removal accompanies a discontinued topic or number. Discontinued numbers appear in square brackets.

Expansion: The development of a class in the schedules or tables to provide further subdivisions.

Extensive revision: Involves a major reworking of subdivisions but leaves the main outline of the schedule intact. The revisions are usually shown through comparative and equivalence tables rather than through relocation notes in the schedule or table affected.

Literary warrant: Justification for the development of a class or the explicit inclusion of topic in the schedules, tables, or Relative Index, based on the exitance of a body of the literature on the topic.

Relocation: The shifting of a topic from one number to another number that differs from the old number in respects other than length. Notes at both of the relocation identify the new and former numbers.

Reused number: A number with a total change in meaning from one edition to another. Usually, numbers are reused only in complete revisions or when the reused number has been vacant for two consecutive editions.

Revision: The result of editorial work that alters the text of any class of the DDC. There are three degrees of revision: Routine revision, Extensive revision and Complete Revision.

Routine revision: limited to updating terminology, clarifying notes and providing modest expansions.

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Chapter 4

Data Analysis and Interpretation

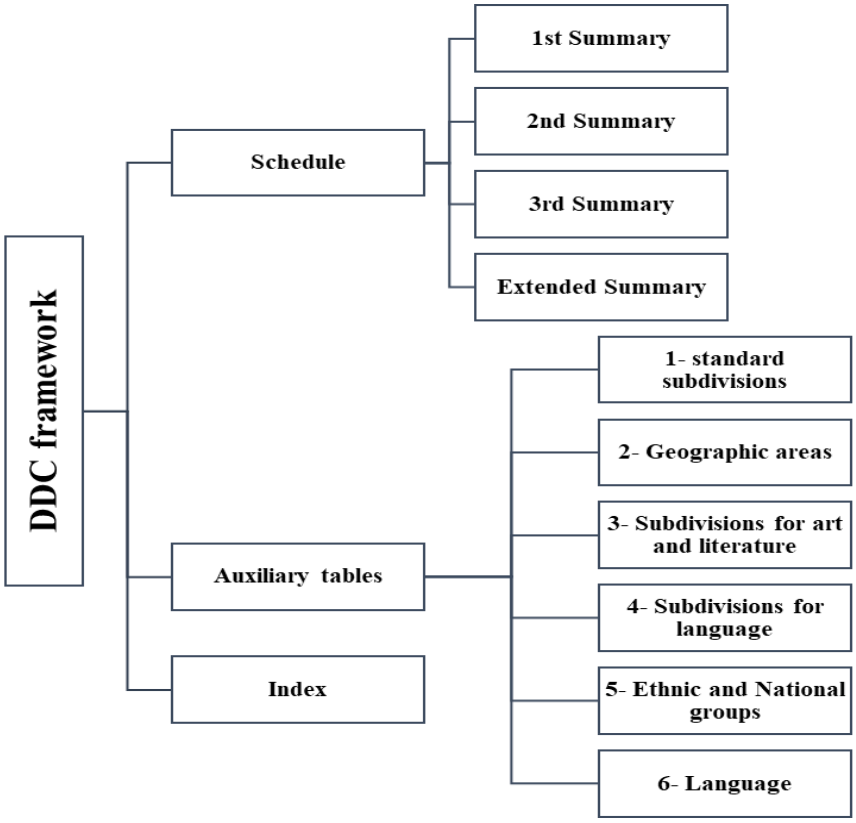
4.0 Introduction

This chapter presents the results of the study of Knowledge development and its organization in Dewey Decimal Classification from 19th edition till 23rd edition. An attempt was made provide the structure and revision process of DDC.

4.1 Structure of DDC

The general structure of DDC is divided into three main parts namely Schedules, Auxiliary tables and Index, organised into 4 volumes of 23rd edition. The following figure depicts the structure of DDC.

Figure 4. 1: DDC Structure



4.1.1 Schedules

The schedules comprise of mainly three summaries, first summary containing of the ten main classes The first digit in each three-digit number represents the main class. Second summary includes hundred divisions and the second digit in each three-digit number indicates the division. Third summary comprises of thousand sections. The third digit indicating section in each three-digit number. In addition, there is an extended summary that is based on the class number's decimal extension. A decimal point follows after the third digit, and division by ten, then proceeds to the required level of categorization.

4.1.2 Auxiliary tables

DDC contains 6 auxiliary tables as follows

Table 1: Standard subdivisions

Table 2: Geographic Areas, Historical Periods, Biography

Table 3: Subdivisions for the Arts, for Individual Literatures, for Specific Literary Forms

Table 3A: Subdivisions for Works by or about Individual Authors

Table 3B: Subdivisions for Works by or about More than One Author

Table 3C: Notation to be Added Where Instructed in Table 3B, 700.4, 791.4, 808-809

Table 4: Subdivisions of Individual Languages and Language Families

Table 5: Ethnic and National Groups

Table 6: Languages

4.1.3 Relative Index

The relative index is annexed to the book classification schedules. This scheme's most significant characteristic is its alphabetical arrangement, which attempts to cover every topic mentioned or suggested in the main tables together with every possible synonym. Although thorough, the index is not exhaustive. The table's additional subdivided subjects are typed in bold fonts. The subdivisions' particular items are listed right next to their names. Since every stage of the subject is covered, the index is relative. The number of classes that a topic is covered in each group is taken if it is covered in two or more. The index is not just useful for finding themes in the tables; it is also useful for finding topics on the shelves and serves as the reader's guide to the shelf arrangements in all libraries that utilize the DDC.

4.2 Revision Procedure of DDC

The DDC is constantly being reviewed. These evaluations may be for a variety of reasons, including the presence of adequate literary warrant, a change in terminology as language and meaning evolve, or even a shift in geopolitical boundaries. The suggested update follows the same procedure, regardless of how the modification is initiated. The following are the staps in the Revision procedure.

1. **Proposal of idea:**
    - Someone proposes an idea for new subject, revision to the DDC editor.
2. **Review:**
    - Review of current DDC handling of the topic.

- Comparison with other classification systems (Library of Congress Subject Headings, etc.).
- Assessment of literary warrant for the update.
- Evaluation of user findability with the current and proposed classification.
- Examination of existing subheadings within the broader classification.
- Consideration of the historical basis for the existing classification.

3. **Decision:**
    - Determine if the update is a minor tweak or a completely new topic.
    - Develop a plan for implementation, considering potential disruption to existing library systems.
4. **Draft Proposal:**
    - Create a concise exhibit explaining:
        - Current treatment of the subject in DDC.
        - Research done on the topic.
        - Proposed changes.
5. **Editorial Review:**
    - The exhibit is submitted to the editors.
    - Editors discuss the proposal and may request revisions.

6. **Editorial Policy Committee (EPC) Review:**

    - The revised proposal goes to the EPC, a committee of international librarians.

    - EPC meets regularly to vote on proposed changes.

7. **Public Review and Implementation:**

    - If approved by EPC, the proposal undergoes public review.

    - If deemed comprehensive and accurate, the DDC editors implement the revisions in WebDewey (online DDC).

Overall, the DDC update process is thorough and ensures that changes are well-considered and meet the evolving needs of information organization.

4.3 Knowledge developments in DDC

4.3.1 Developments in DDC 19

The 1979 edition (19th) of the Dewey Decimal Classification (DDC) was the last overseen by Benjamin A. Custer, who also edited the 16th edition. This edition introduced significant changes, especially in the "Sociology" section (301-307) through the Phoenix Schedule. An even more detailed version of this section was published separately in 1984. Additionally, the DDC reorganized the social sciences (category 300) by merging "Practical Politics" (previously 329) with "Political Process" (previously 324) into a new, combined category at number 324.

Area notation 41-42 have been updated to reflect changes in the United Kingdom’s local administrative structure. The Editorial Policy and Forest Press Committee

approved Phoenix Schedules only when the existing classification system is completely inadequate for modern topics. A planned Phoenix Schedule for Life Sciences was delayed for further development and because the revisions mentioned above were considered more urgent. Starting with this edition (19th), the DDC will no longer reprint the superseded schedules for one last time.

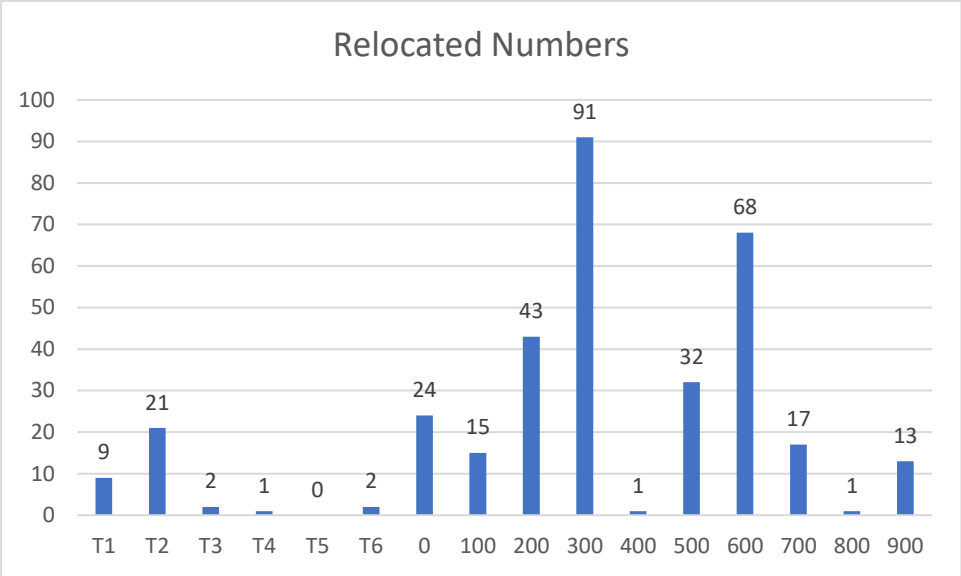
Addition to the Phoenix Schedule, this edition has 340 relocations, which is significantly lower compared to previous editions (1600 in edition 16, 800 in edition 17, and 400 in edition 18). This edition also reused 11 numbers which were discontinued in the previous edition, due to their insignificance.

The following table displays how these 340 relocations are distributed across the main Dewey Decimal classes and tables:

Table 4. 1: Relocations in the 19th edition of DDC

Particulars	Relocated Numbers
T1	9
T2	21
T3	2
T4	1
T5	0
T6	2
000	24
100	15
200	43
300	91
400	1
500	32
600	68
700	17
800	1
900	13

Figure 4. 2: Relocations in the 19th edition of DDC



The above figure number 4.2 displays the distribution of 340 relocation in the 19th edition of DDC.

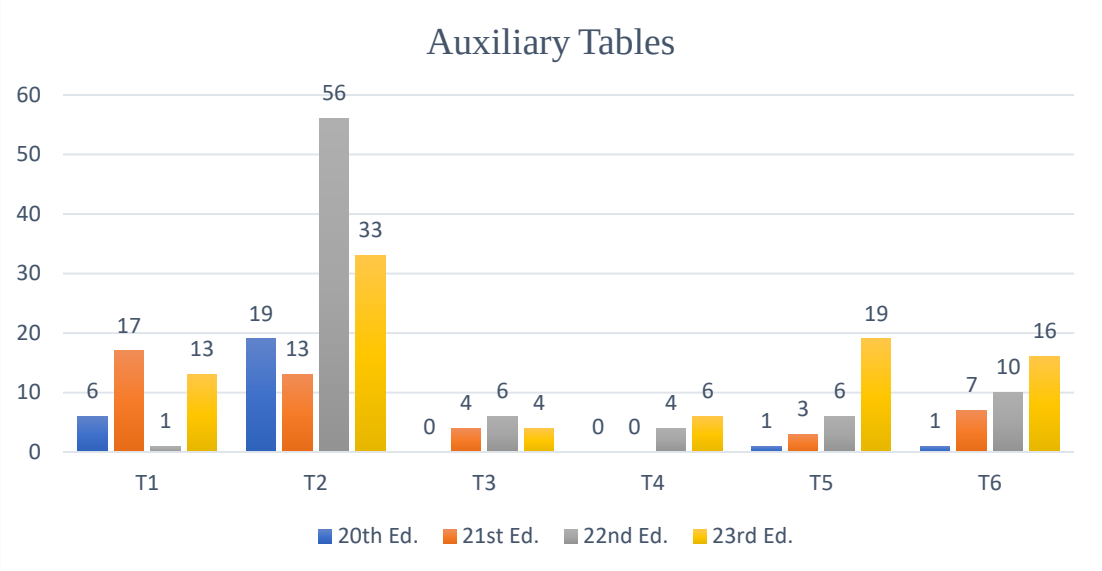
We can see that highest relocations were in social science (91) and applied science (68). There were no relocations made in table 5 and only one relocation each in table 4, 400 and 800.

4.3.2 Knowledge Development from 20th to 23rd edition of DDC

Table 4. 2: Developments in auxiliary Tables

Particulars	20th Ed.	21st Ed.	22nd Ed.	23rd Ed.
T1	6	17	1	13
T2	19	13	56	33
T3	0	4	6	4
T4	0	0	4	6
T5	1	3	6	19
T6	1	7	10	16

Figure 4. 3: Developments in Auxiliary Tables



The data shows changes made to the DDC's auxiliary tables across four editions (20th to 23rd). Table 2 (Area Table) consistently had the most changes throughout all editions compared to other tables, but specifically saw the most changes introduced in the 22nd edition. Tables 3 and 4 saw minimal changes across all editions. Table 5 witnessed the

most development in the 23rd edition. Table 6 also had the most changes in the 23rd edition.

Table 4. 3: Developments in Schedules

Particulars	20th Ed.	21st Ed.	22nd Ed.	23rd Ed.
000	0	7	14	17
100	0	1	5	9
200	7	8	14	8
300	15	18	59	66
400	2	0	9	42
500	3	10	40	12
600	6	25	108	26
700	11	14	15	38
800	0	1	6	14
900	2	4	5	10

Figure 4. 4: Developments in Schedules

The above graph highlights changes within the ten main Dewey Decimal Classes over four editions. The graph indicates a significant spike in developments for class 600 (Applied Sciences) during the 22nd edition. This suggests a major development within this category to accommodate new knowledge or advancements in fields like technology, engineering, or medicine.

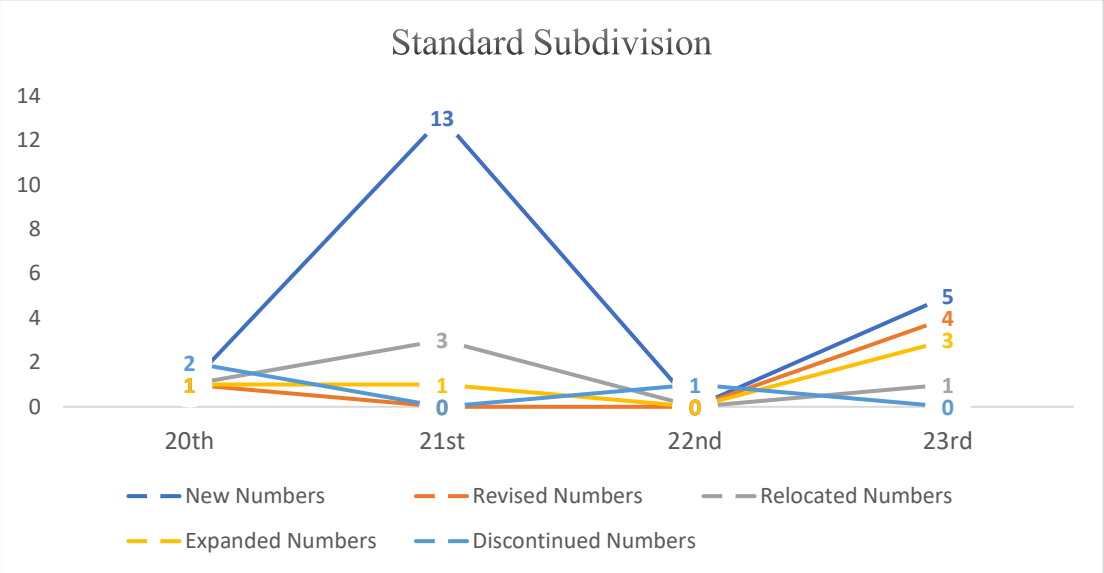
Class 300 (Social Sciences) also experienced notable developments in both the 22nd and 23rd editions. Interestingly, the graph suggests minimal changes in classes 100 (Philosophy and Psychology), 200 (Religion), 800 (Literature) and 900 (History and Geography) across all four editions.

4.3.2.1 Knowledge Developments in Auxiliary tables across four editions

Table 4. 4: Developments in Standard Subdivisions

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	1	1	1	1	2
21st	13	0	3	1	0
22nd	0	0	0	0	1
23rd	5	4	1	3	0

Figure 4. 5: Developments in Standard Subdivisions



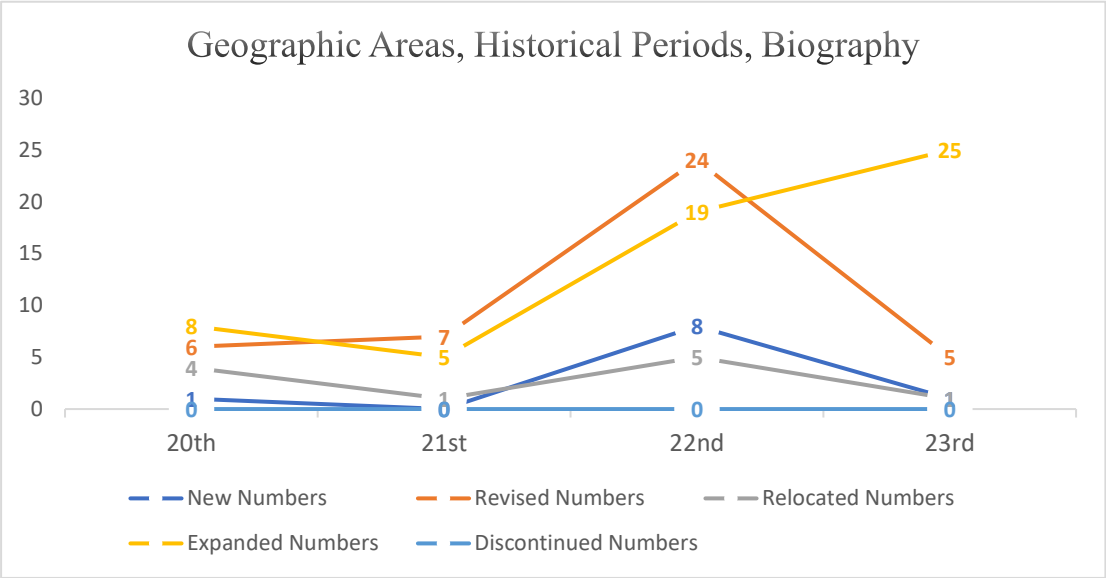
The above graph focuses specifically on how table 1, which deals with standard subdivisions within the DDC system, changed across editions. There were relatively few adjustments made to table 1 in the 20th edition. The 21st edition saw a significant increase in activity for table 1. There were 13 new standard subdivisions introduced, 3

existing ones relocated, and 1 expanded to accommodate more specific needs. The 22nd edition shows minimal changes, with only one class number being discontinued. The 23rd edition witnessed a renewed focus on table 1. There were 5 new standard subdivisions created, 4 existing ones revised, and 3 expanded. Additionally, 1 standard subdivision was relocated to a more appropriate place within the system.

Table 4. 5: Knowledge Development in Geographic Areas, Historical Periods, Biography

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	1	6	4	8	0
21st	0	7	1	5	0
22nd	8	24	5	19	0
23rd	1	5	1	25	0

Figure 4. 6: Knowledge Development in Geographic Areas, Historical Periods, Biography



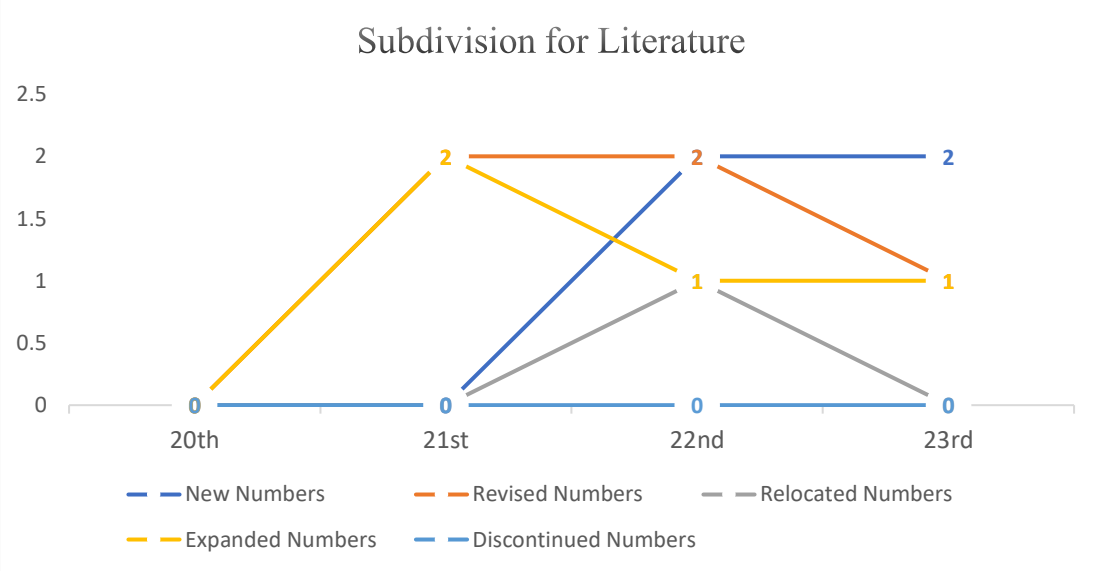
The above graph provides insights into how the development of knowledge in DDC over four editions. It shows a surge in the creation of entirely new Dewey Decimal numbers in the 22nd edition. It also reveals interesting patterns in other types of changes. The number of revised subdivisions fluctuated across editions, with the 22nd edition again showing a spike (24 revisions). This indicates a continued effort to refine the system and ensure it reflects the evolving nature of various disciplines.

Additionally, the number of expansions saw a steady increase, in 23rd being highest with 25 expansions. This suggests a growing need for granular detail within established fields. Relocations remained relatively consistent, with the 20th and 22nd editions showing slightly higher numbers.

Table 4. 6: Knowledge Development in Subdivision for literature

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	0	0	0
21st	0	2	0	2	0
22nd	2	2	1	1	0
23rd	2	1	0	1	0

Figure 4. 7: Knowledge Development in Subdivision for literature



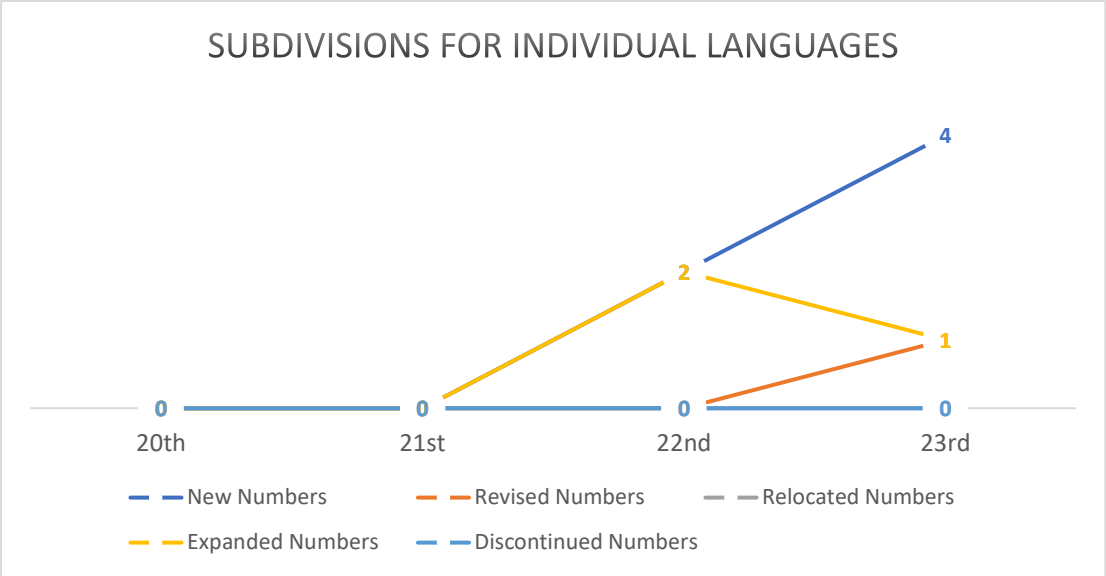
The above graph portrays the trend of developments in the table 3 over four editions of DDC. There was a complete absence of changes in the 20th edition. From the 21st edition onwards, we see a pattern of gradual adjustments being made to Table 3. While not as dramatic as some other tables, these changes indicate an ongoing effort to refine and potentially expand the system's ability to handle the complexities of literature. The

introduction of new numbers might have been due to the emergence of new literary genres or subgenres. Revisions (21st-23rd editions) could reflect adjustments to existing subdivisions to better represent current literary trends or critical approaches. Expansions (21st, 22nd, & 23rd editions) might have accommodated the need for more specific classifications within established literary categories. Interestingly, there were no discontinued numbers in Table 3 across all four editions. This suggests that the core subdivisions for literature remained relevant and adaptable throughout this period.

Table 4. 7: Knowledge Development in Subdivisions for Individual Languages

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	0	0	0
21st	0	0	0	0	0
22nd	2	0	0	2	0
23rd	4	1	0	1	0

Figure 4. 8: Knowledge Development in Subdivisions for Individual Languages

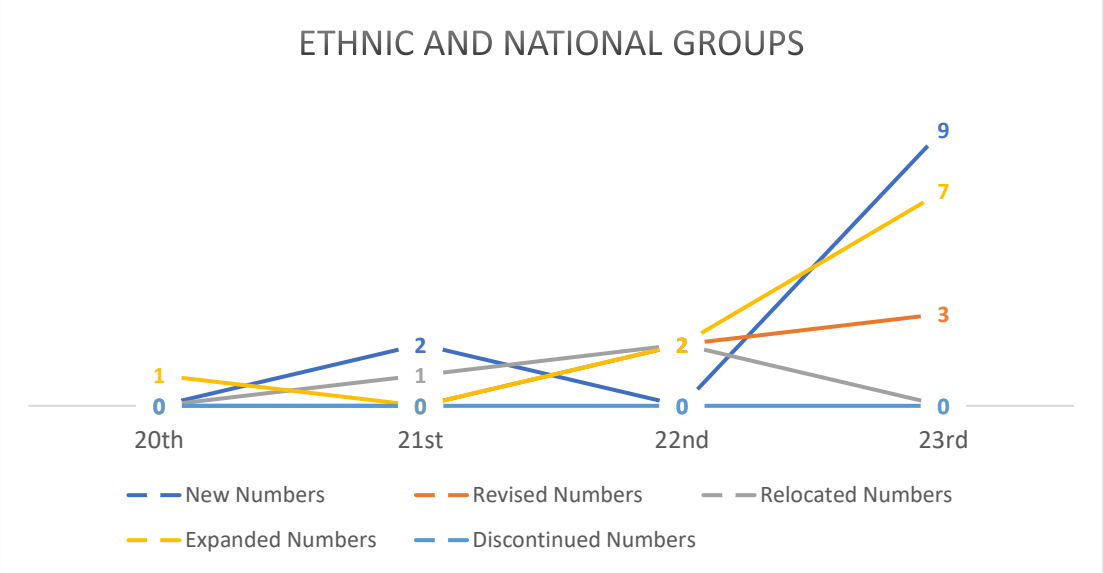


The provided graph offers a glimpse into how the DDC system treated "Language Subdivisions" (Table 4) across four editions (20th to 23rd). The complete absence of changes in the 20th and 21st editions suggests that the existing language subdivisions within the DDC system were considered sufficient and comprehensive during that period. These subdivisions likely provided a well-established framework for classifying materials related to different languages. The introduction of new numbers in the 22nd and 23rd editions indicate a potential need to accommodate developments in the field of linguistics. Additionally, the expansions observed in both editions suggest a refinement of existing subdivisions to encompass more specific aspects of language. Interestingly, the 23rd edition shows a slight increase in activity compared to the 22nd, with one revision alongside the new numbers and expansion. It's noteworthy that there were no discontinued subjects in Table 4 throughout all four editions. This suggests that the core subdivisions for languages remained relevant and adaptable, continuing to serve the needs of classifying language-related resources effectively.

Table 4. 8: Knowledge Development in Ethnic and National Groups

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	0	1	0
21st	2	0	1	0	0
22nd	0	2	2	2	0
23rd	9	3	0	7	0

Figure 4. 9: Knowledge Development in Ethnic and National Groups



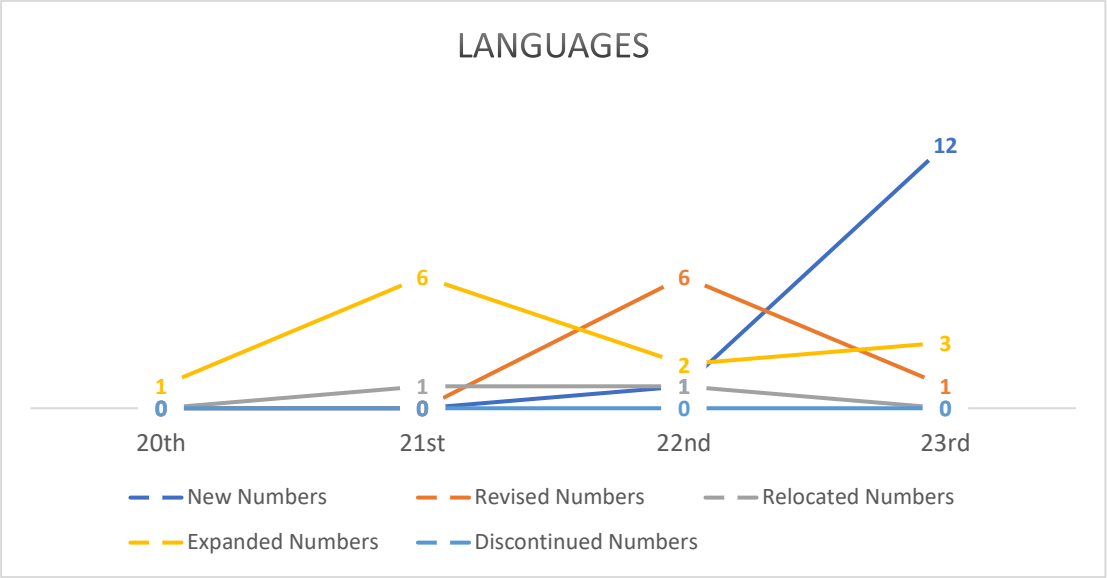
The figure reveals how developments unfolded in Table 5 of the DDC system across four editions. The 20th edition saw minimal changes in Table 5. Only one number was expanded. Starting from the 21st edition, we see a growing focus on Table 5. The introduction of new numbers (21st & 23rd editions) indicates a need to accommodate

potentially new areas of knowledge or concepts within the category covered by this table. Additionally, relocations (21st edition) have aimed to improve the organization of existing knowledge within the table. Expansions (22nd & 23rd editions) suggest a refinement of existing subdivisions to handle more specific information. Notably, the 23rd edition witnessed a significant increase in activity, with a surge in new numbers (9), revisions (3), and expansions (7). It's interesting to note that there were no discontinued numbers in Table 5 throughout the four editions.

Table 4. 9: Knowledge Development in Languages

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	0	1	0
21st	0	0	1	6	0
22nd	1	6	1	2	0
23rd	12	1	0	3	0

Figure 4. 10: Knowledge Development in Languages



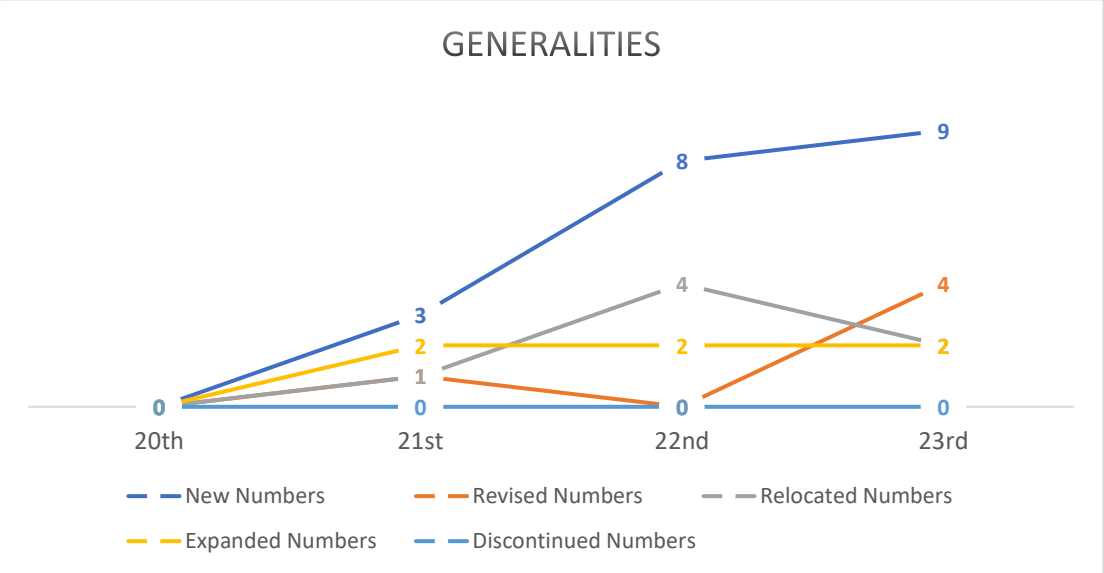
The table and graph provide a compelling window into how knowledge within a specific area in Table 6 of the Dewey Decimal Classification has flourished over four editions (20th to 23rd). The 20th edition saw minimal activity in Table 6, with only one number being expanded. This suggests that the existing structure was sufficient to encompass the knowledge base at that time. From the 21st edition onwards, we observe a growing focus on refining and expanding Table 6. The introduction of new numbers in 22nd and 23rd editions signify the emergence of entirely new concepts or subfields within this area of knowledge. The substantial increase in new numbers (12) in the 23rd edition points to a period of rapid growth. 6 relocations in 22nd edition and 1 relocation in 23rd edition have aimed to improve the organization of existing content within the table. Interestingly, there were no discontinued numbers in Table 6 across all four editions.

4.3.2.2 Knowledge Developments in Schedules across four editions

Table 4. 10: Knowledge development in Generalities

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	0	0	0
21st	3	1	1	2	0
22nd	8	0	4	2	0
23rd	9	4	2	2	0

Figure 4. 11: Knowledge development in Generalities



The above graph offers insights into how knowledge within the "Generalities" class (000) of the Dewey Decimal Classification (DDC) system evolved across four editions (20th to 23rd). The absence of changes in the 20th edition proposes that the existing structure for classifying general knowledge topics within the DDC system was

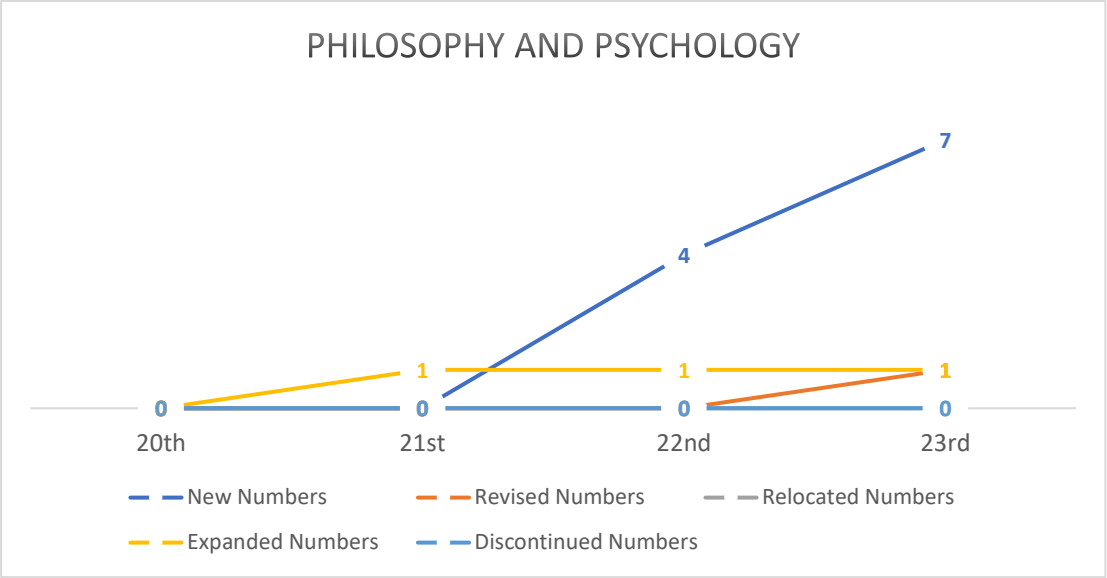
considered sufficient at that point. From the 21st edition onwards, we see a significant increase in 000 likely reflecting a growth in the field of knowledge. The introduction of new numbers across all editions signifies the emergence of entirely new concepts or subfields within the realm of "generalities." The increasing number of new numbers (reaching 9 in the 23rd edition). Relocations observed throughout the editions indicate adjustments to the organization of existing content within 000. This reflect shifts in how different general knowledge topics are understood or how they relate to each other. There were 2 expansions each in 21st, 22nd and 23rd editions. Revisions in the later editions could indicate updates to existing classifications to better represent current perspectives and approaches within the field of "generalities."

It's noteworthy that there were no discontinued numbers in Table 000 throughout the four editions.

Table 4. 11: Knowledge development in Philosophy and Psychology

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	**0**	**0**	**0**	**0**	**0**
21st	**0**	**0**	**0**	**1**	**0**
22nd	**4**	**0**	**0**	**1**	**0**
23rd	**7**	**1**	**0**	**1**	**0**

Figure 4. 12: Knowledge development in Philosophy and Psychology

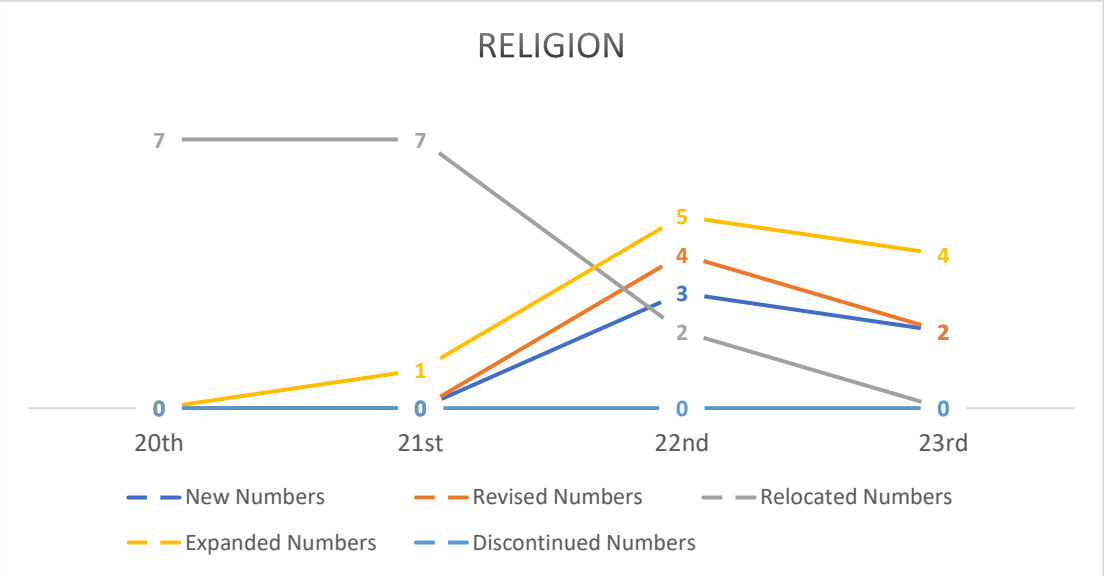


The graph reveals that the "Philosophy and Psychology" section of the DDC system (100) saw relatively minimal changes compared to other sections across the four editions (20th to 23rd). There were no new numbers, revisions, expansions, or relocations in the 20th edition. While not as dramatic as some other sections, there were some adjustments made to class 100 in the later editions. The introduction of a few new numbers (4 in the 22nd and 7 in the 23rd) indicates the emergence of some new concepts or subfields within philosophy and psychology. A single revision in the later edition (23rd edition) suggests a minimal but ongoing effort to refine the existing classifications within this section. One expansion each in the 21st, 22nd and 23rd editions.

Table 4. 12: Knowledge development in Religion

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	7	0	0
21st	0	0	7	1	0
22nd	3	4	2	5	0
23rd	2	2	0	4	0

Figure 4. 13: Knowledge development in Religion



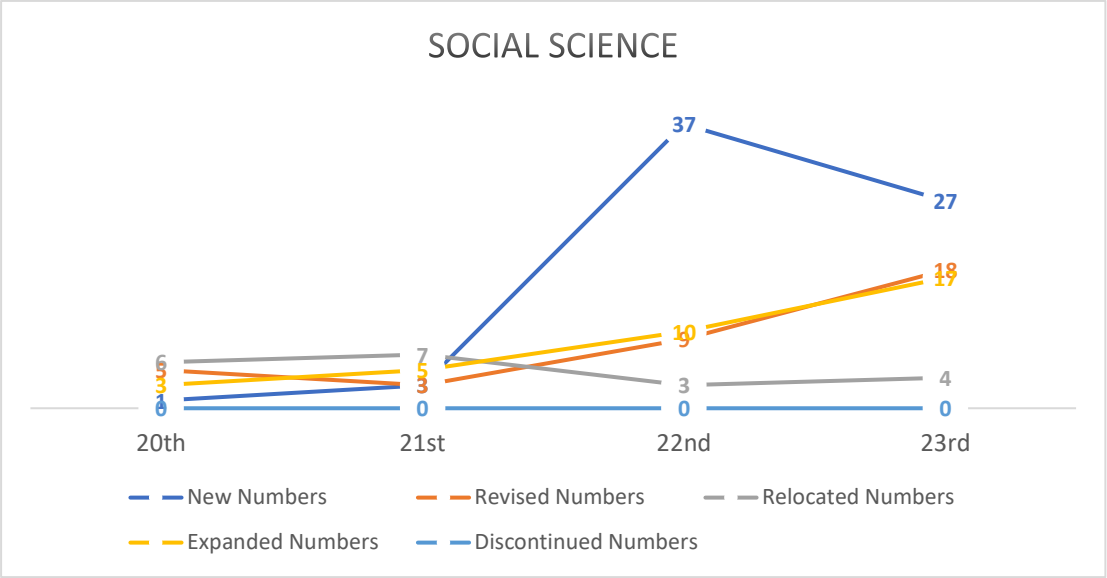
The graph displays interesting trends religion class. Notably, the 20th and 21st editions primarily focused on relocating existing subjects within the religion category. There were no new numbers, revisions, or expansions in the 20th edition. The 21st edition saw one additional expansion alongside the relocations. The later editions (22nd and 23rd) witnessed a more balanced approach to changes in 200 (Religion). While

relocations continued (2 in the 22nd and none in the 23rd), they were accompanied by the introduction of new topics (3 in the 22nd and 2 in the 23rd). Additionally, revisions (4 in the 22nd and 2 in the 23rd) and expansions (5 in the 22nd and 2 in the 23rd) suggest an ongoing effort to refine existing classifications and accommodate the evolving nature of religious studies.

Table 4. 13: Knowledge development in Social Science

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	1	5	6	3	0
21st	3	3	7	5	0
22nd	37	9	3	10	0
23rd	27	18	4	17	0

Figure 4. 14: Knowledge development in Social Science

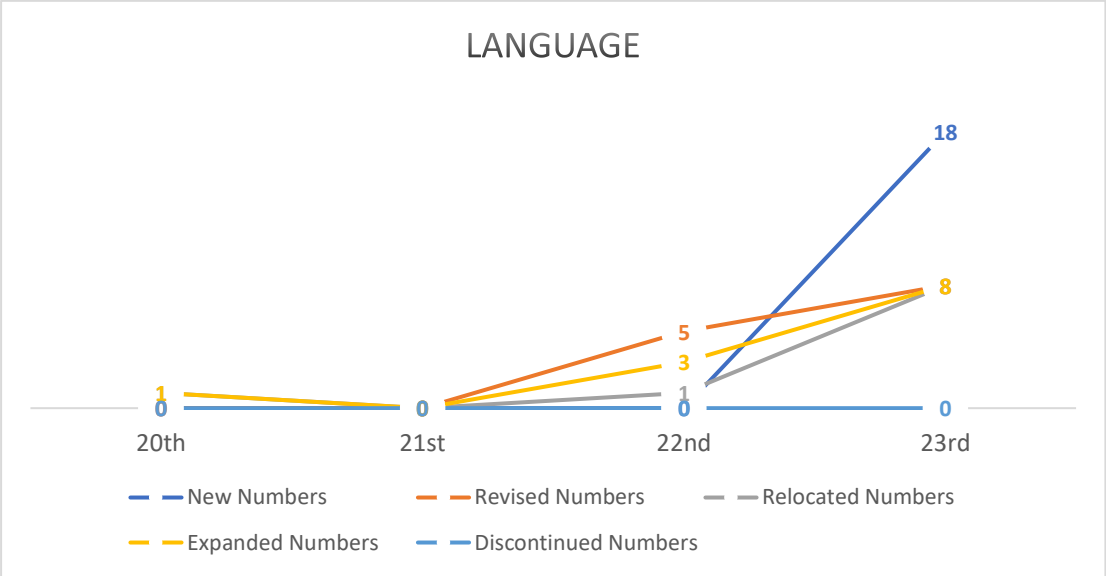


The graph sheds light on how the DDC system categorized social sciences over four editions. The 20th and 21st editions witnessed a measured pace of development in social sciences. The introduction of new numbers (a total of 4), revisions, relocations, and expansions propose a continuous adaptation of the classification system to keep pace with evolving social issues and research areas. The 22nd edition stands out as a period of explosive growth in the social sciences. The introduction of a significant number of new subject areas (37) indicates a rapid expansion and diversification within this field. Additionally, 9 revisions, 3 relocations, and 10 expansions advocate a comprehensive restructuring of the classification system to accommodate this influx of new knowledge. While the pace of change slowed down in the 23rd edition compared to the 22nd, there was still considerable development. 27 new topics, 18 revisions, 4 relocations, and 17 expansions were accommodated in 23rd edition.

Table 4. 14: Knowledge development in Language

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	1	1	0
21st	0	0	0	0	0
22nd	0	5	1	3	0
23rd	18	8	8	8	0

Figure 4. 15: Knowledge development in Language



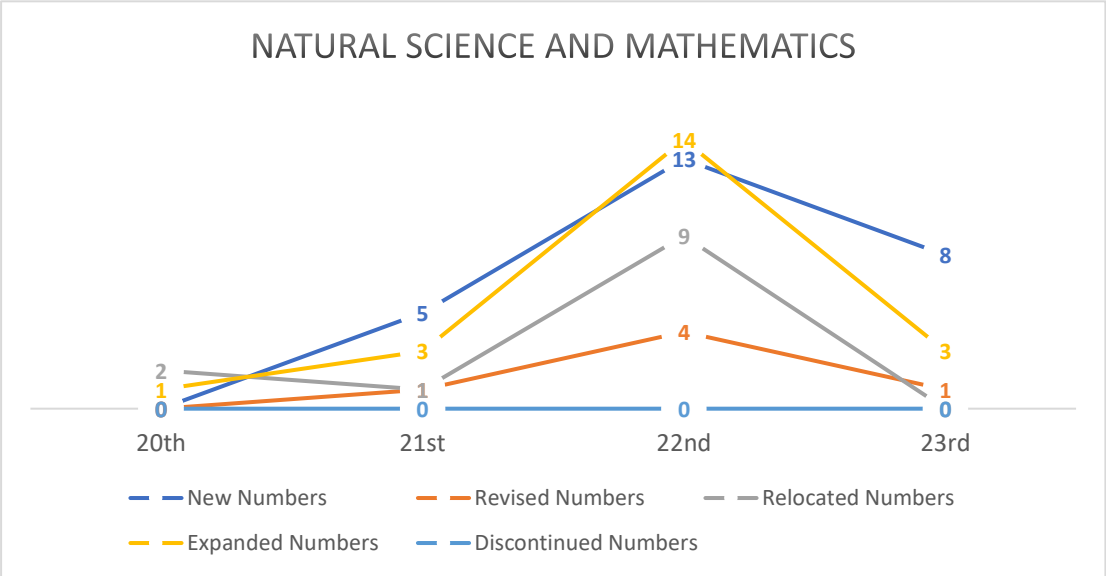
The graph offers a glimpse into how the DDC system categorized religious texts across four editions (20th to 23rd). The 20th edition saw minimal activity, with only one relocation and one expansion. The 21st edition showed no changes at all. This submits that the existing classification structure for religion might have been considered well-established during this period. The 22nd edition saw a moderate increase in activity

with revisions, a relocation, and expansions. The 23rd edition displayed a significant surge, incorporating a substantial number of new topics (18), alongside revisions (8), relocations (8), and expansions (8).

Table 4. 15: Knowledge development in Natural Science and Mathematics

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	0	2	1	0
21st	5	1	1	3	0
22nd	13	4	9	14	0
23rd	8	1	0	3	0

Figure 4. 16: Knowledge development in Natural Science and Mathematics

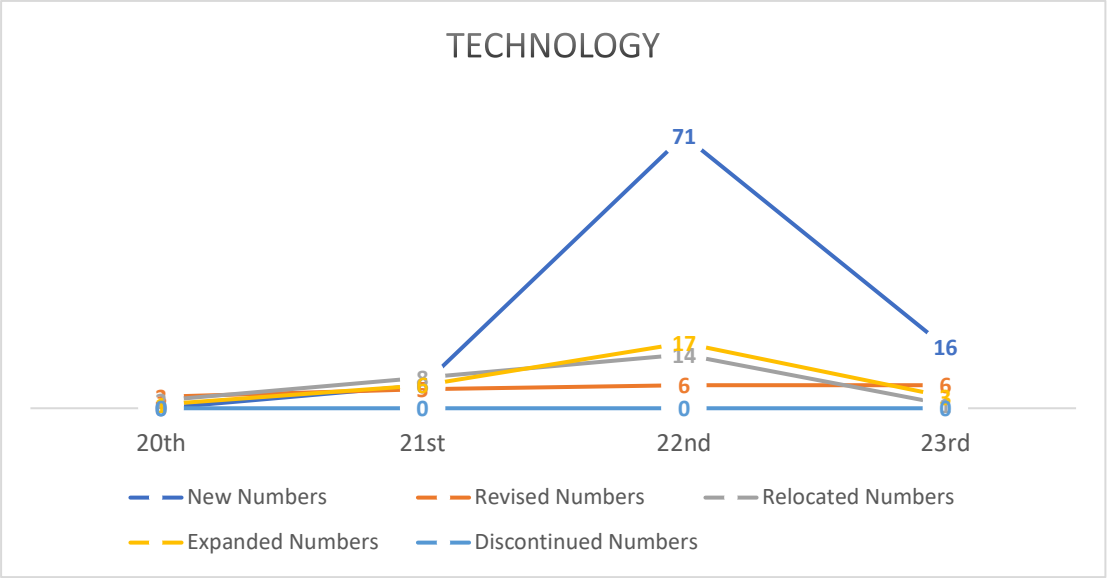


The graph displays the trend in the developments of pure sciences (500) over four editions (20th to 23rd). The 20th edition saw minimal development in pure sciences, with only a few relocations and one expansion. The 21st edition witnessed an increase in activity, with the introduction of 5 new numbers, a revision, a relocation, and 3 expansions in the subject. The 22nd edition stands out as a period of significant development in pure sciences. The introduction of a substantial number of new subject areas (13) suggests a rapid expansion of scientific knowledge. Additionally, 4 revisions, 9 relocations, and 14 expansions point towards a comprehensive restructuring of the classification system to accommodate this influx of new information. While the pace of change slowed down in the 23rd edition compared to the 22nd, there was still some development. 8 new topics, a revision, and 3 expansions provided for the ongoing process of refining the classification.

Table 4. 16: Knowledge development in Technology

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	3	2	1	0
21st	6	5	8	6	0
22nd	71	6	14	17	0
23rd	16	6	1	3	0

Figure 4. 17: Knowledge development in Technology

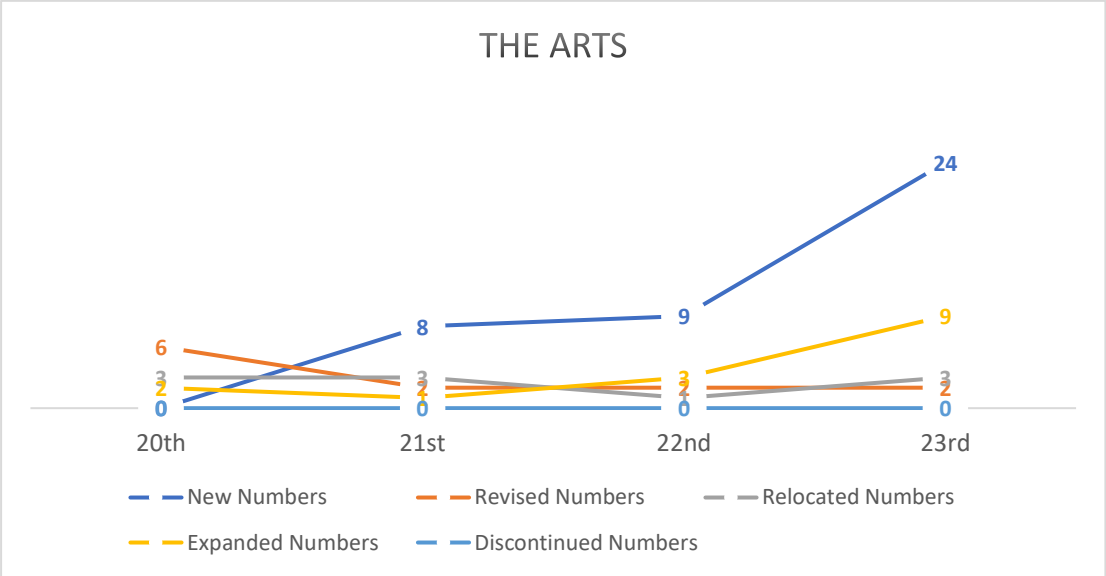


The above graph portrays the developments in applied sciences (600). The 20th and 21st editions saw a gradual increase in activity for applied sciences. The 22nd edition witnessed a period of remarkable growth in applied sciences. The introduction of a significant number of new subject areas (71) indicates a rapid expansion of knowledge and the emergence of new subfields. Additionally, 6 revisions, 14 relocations, and 17 expansions suggest a comprehensive overhaul of the classification system to accommodate this surge in information. While the pace of change slowed down in the 23rd edition compared to the 22nd, there was still considerable development. 16 new topics, 6 revisions, and 3 expansions highlight an ongoing process of refining the classification system to reflect the ever-evolving nature of applied sciences.

Table 4. 17: Knowledge development in The Arts

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	6	3	2	0
21st	8	2	3	1	0
22nd	9	2	1	3	0
23rd	24	2	3	9	0

Figure 4. 18: Knowledge development in The Arts



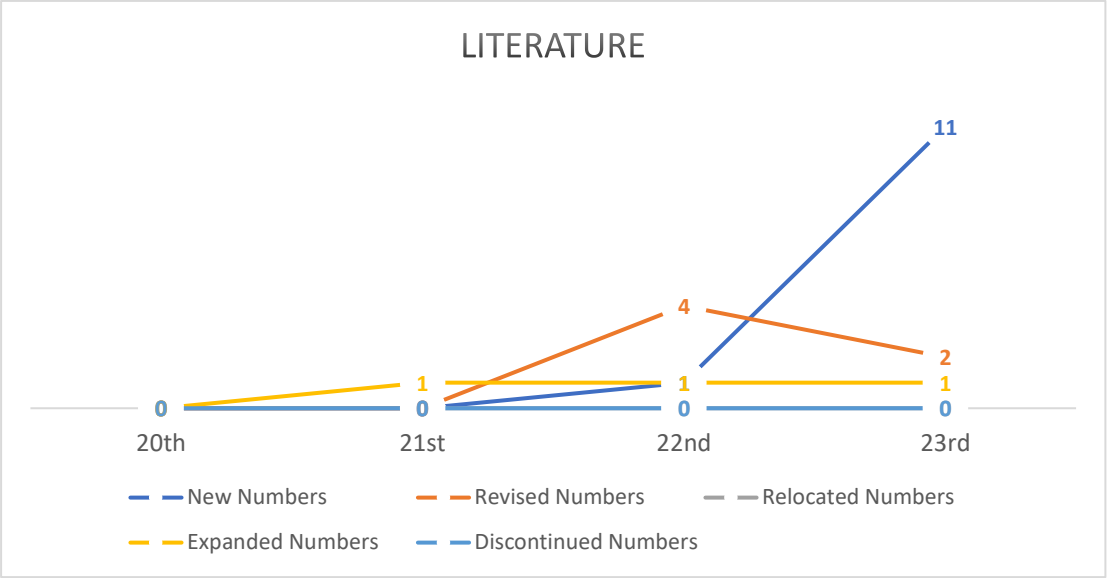
The graph insights into the development of the "Art and Recreation" (700) within the Dewey Decimal Classification (DDC) system across four editions (20th to 23rd). The 20th edition primarily focused on revisions (6), relocations (3), and expansions (2) of existing classifications within Art and Recreation. The 21st edition witnessed the introduction of a notable number of new classifications (8) alongside revisions (2),

relocations (3), and an expansion (1). The 22nd edition, which saw significant growth in other sections, displayed a more modest increase in Art and Recreation. There were introductions of new subject areas (9), but the number of revisions (2), relocations (1), and expansions (3) remained relatively low. The 23rd edition saw a resurgence of activity in Art and Recreation. The introduction of a substantial number of new topics (24) suggests a period of growth and diversification within these fields. Revisions (2), relocations (3), and expansions (9) further indicate ongoing efforts to refine and adapt the classification system.

Table 4. 18: Knowledge development in Literature

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	**0**	**0**	**0**	**0**	**0**
21st	**0**	**0**	**0**	**1**	**0**
22nd	**1**	**4**	**0**	**1**	**0**
23rd	**11**	**2**	**0**	**1**	**0**

Figure 4. 19: Knowledge development in Literature

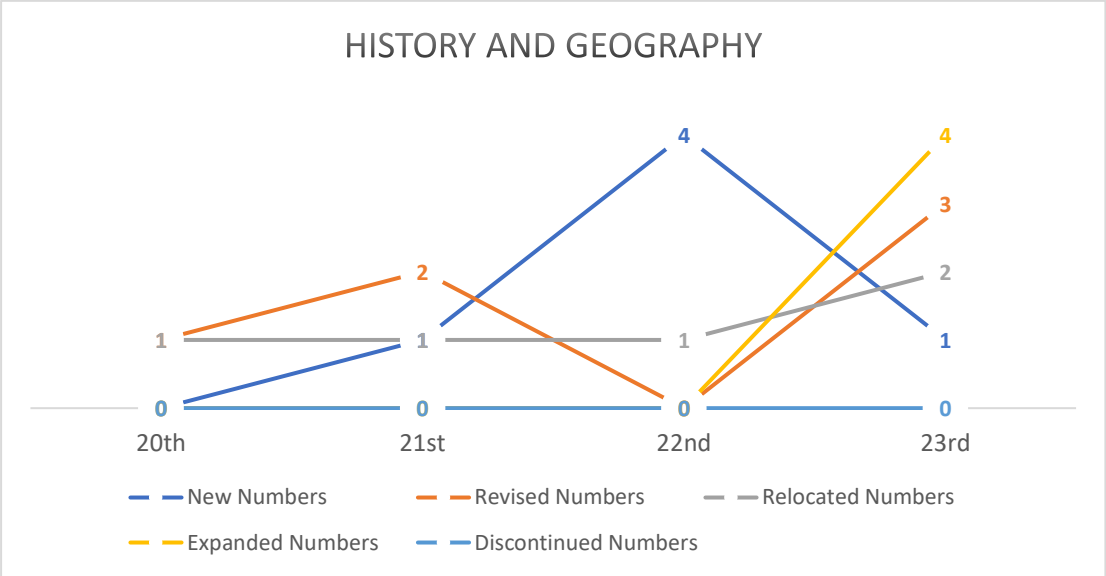


The graph reveals interesting trends in how the "Literature" (800) of the Dewey Decimal Classification (DDC) system was treated across four editions (20th to 23rd). The 20th edition saw no development in the field of Literature within the DDC system. The 21st edition witnessed minimal development in Literature, with only one expansion of an existing subject area. The 22nd edition, which saw significant growth in other sections, displayed a more modest increase in Literature. There was just one new subject area incorporated, along with revisions to 4 existing subjects and an expansion of another. The 23rd edition saw a renewed focus on Literature in the DDC system. The introduction of 11 new topics indicates an acknowledgment of emerging areas or subfields within literature. Revisions to 2 subjects and an expansion of another suggest ongoing efforts to refine the classification system.

Table 4. 19: Knowledge development in History and Geography

Editions	New Numbers	Revised Numbers	Relocated Numbers	Expanded Numbers	Discontinued Numbers
20th	0	1	1	0	0
21st	1	2	1	0	0
22nd	4	0	1	0	0
23rd	1	3	2	4	0

Figure 4. 20: Knowledge development in History and Geography



The graph you described reveals trends in how the "History and Geography" (900) of the DDC system was treated across four editions (20th to 23rd). The 20th and 21st editions for History and Geography exhibited a similar pattern of development compared to social sciences (300). The 20th edition focused on revising (1) and relocating (6) existing classifications, while the 21st edition introduced a single new

number, revised 2 subjects, and relocated 1 subject. Similar to social sciences, the pace of change remained slower for History and Geography compared to some other sections in the later editions (22nd & 23rd). The 22nd edition incorporated 4 new subject areas and relocated 1 existing subject. The 23rd edition introduced 1 new topic, revised 3 subjects, relocated 2 subjects, and expanded 4 existing classifications.

Chapter 5

Findings and Conclusion

5.0 Introduction

The major objective of the study is to know the developments in the DDC from 19th edition to the 23rd edition. This chapter colludes the major findings, tenability of the hypotheses.

5.1 Findings

5.1.1 Developments in 19th Edition

- The revision process followed by EPC for revision of the edition or incorporating a new number include the steps such as submission of proposal, review of proposal, decision of committee, drafting of proposal editorial review and public decision.
- In DDC 19, major changes were made in 301-307 Sociology through Phoenix schedule. In 300 (Social Sciences), 329 (Practical Politics) was merged with 324 to create new topic Political Process.
- United Kingdom's local administration structure have been given place in DDC in area notation 41-42.
- 19th edition include total of 340 relocations and 11 reused numbers.
- Highest relocation in DDC 19 was made in 300 Social science.
- Table 2 had peak developments in all 4 editions, in terms of 6 auxiliary tables.
- Very less developments were found in DDC 20 as compared to other 3 editions.
- DDC 20 incorporated new schedule for 780 Music and also 004-006 Data Processing and Computer Science.

- Table 3 was further refined, modified and split into three sub-tables namely T3A, T3B and T3C, in 20th edition of DDC.
- The 21st edition saw a significant increase in activity for table 1 Standard Subdivision with introduction of 13 new standard subdivisions.
- Some of the major new schedules were:
    - 269 Judaism and 297 Islam
    - 350-354 Public administration
    - 368 Insurance
    - 370 Education – 376 Education of women; 377 school of religions have been made subdivisions of 371 Generalities of Education.
    - 560-570 Life Science
- Peak development took place in the 22nd edition of DDC.
- Table 3 was further refined, modified and split into three sub-tables namely T3A, T3B and T3C in 20th edition.
- The major change in DDC 22 was the retraction table 7 from DDC and its content was shifted into other tables and schedules.
- New number was devised for Konkani in 22nd edition.
- 12 languages were added to table 6 in the 23rd edition of DDC (Yao, Tongan, Sign language, Pahari, Saami, etc.).
- Overall, there were only 4 discontinuations in the editions 2 being in 20th, 1 in 22nd and 1 in 23rd editions.

5.2 Testing of Hypotheses

H_1: New class numbers are assigned based on literary warrant in DDC.

Testing

By going through the various editions of DDC, Dewey blog and OCLC and the revision process mentioned in chapter 4 for the project report proves that new numbers are assigned in DDC based on literary warrant.

Therefore, this hypothesis is proven to be true.

H_2: Dewey Decimal Classification system is frequently updated.

Testing

Now DDC in 23rd printed edition and the data shown in table 3.1 indicates that the DDC was updated 23 times in terms of volumes and pages, incorporating all the developments in the knowledge in the DDC.

This shows that the hypothesis is true and accepted.

5.3 Conclusion

DDC is the most widely used classification in the world. It is frequently revised, updated, expanded and till date 23 print editions have been published.

Anyone can suggest new numbers or updates for DDC; however, this are incorporated only after the verification with reference to the literary warrant on that particular subject. Suggestions are invited from different scholars, library professionals and others and these are often debated on the Dewey Blog. New number in DDC is assigned based on literary warrant.

Table 3 was split into T3A, T3B and T3C giving scope for detailed classification. Table 7 was Persons was retracted from DDC 22 and the content was shifted to other tables.

On an average, each edition was published after a gap of 8 years. However, no edition was published after 23rd edition. Now the editions are printed on demand and these editions are not named as 24th edition.

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Annexures

Annexure 1: Synopsis of Project

Knowledge Development and Its Organization in Dewey Decimal Classification From 19th Edition Till 23rd Edition.

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Introduction

Classification provides a system for organizing knowledge. It is used to organize knowledge represented in any form, e.g., books, documents, electronic resources. The Dewey Decimal Classification—conceived by Melvil Dewey in 1873 and first published in 1876—is a general knowledge organisation tool continuously revised to keep pace with knowledge. This study is about the developments in the DDC since 19th edition till 23rd edition and its organization.

Definition

According to Online Dictionary for Library and Information Science (by Joan M. Reitz) Literary Warrant is "the quality of words that have been written on a specific subject or topic. In library cataloguing, the development of portions of a classification system in response to the content of the materials requiring classification. A body of literature must exist on a topic for a new class to be added. In indexing, the addition of a subject heading or content descriptor to an indexing language, based on the frequency of its occurrence in the title or text of the documents indexed. Compare with user warrant." (Reitz, 2014)

Expansion is "the development of a class in the schedules or tables to provide further subdivisions". (Dewey, 2011)

Relocation is "the shifting of a topic from one number to another number that differs from the old number in respects other that length. Notes at both ends of the relocation identify the new and former numbers". (Dewey, 2011)

Revision means "text that has been altered by the original author or by another writer, usually to correct, amend, update, or otherwise improve it." (Reitz, 2014)

Literature Review

There is not much literature available on knowledge development in Dewey Decimal Classification, however, the literature found is patchy and segmented and which gives some idea about the topic.

In (Satija, 2013) study, he discusses the evolution of Dewey Decimal Classification. The DDC, despite being capable of classifying in complex situations, is noted for becoming more user-friendly. The facet structure is highlighted for its increased clarity, demonstrating the capability to incorporate multiple facets within a single class number. Significantly, ongoing research aims to identify broader applications of the DDC in various forms of information management. Three summaries of the DDC are already employed to organize information on the internet, exemplified by the development of a browser based on the DDC for Net First—an OCLC database providing access to internet sources. This showcases the novelty and adaptability of the DDC system to contemporary information organization.

In (Idrees, 2012), he highlights the global usage if major classification schemes such as DDC, UDC, LCC and CC, emphasizing their adequacy in various disciplines. However, he expresses his concern that these systems inadequately address the organization of Islamic knowledge, creating challenges for libraries with extensive Islamic Knowledge. Furthermore, the author believes that a new system should be developed for the libraries that have rich collection of Islam.

(Majumder & Sarma, 2011) in their in their paper "journey of Dewey Decimal Classification in last four decades" discusses the history and evolution of DDC in last few years, specifically focusing on the last four decades and also provides insights on the revisions and changes made to DDC to keep it updated. It provides details about

editions from 18th to 22nd, and also highlighting to role of Dewey for Windows and Web Dewey, which provides convenient access to classification system. The findings shows that the system has gone continuous revisions to adapt to the dynamic universe of knowledge. In conclusion, the article emphasizes the importance of regular revisions to meet the challenges of a changing knowledge landscape and acknowledges the role of electronic and web versions in facilitating efficient classification, especially in the context of digital and online collections.

Objectives

- To study the general framework of DDC.
- To know the revision procedure of DDC.
- To see the growth of knowledge in DDC till 23rd edition.
- To conduct a comparative study of class wise development in DDC.
- To find out the discontinued and relocated class numbers in DDC.

Scope and Limitation

- This study is limited knowledge developments as per DDC.
- The study considers data collected from 19th to 23rd editions.
- The study considers Knowledge development i.e. new classification numbers allowed in DDC from 19th to 23rd editions. It includes new and updated topics and subtopics mentioned in the main classes and tables.

Hypothesis

- New class numbers are assigned based on literary warrant in DDC.
- Dewey Decimal Classification system is frequently updated.

Research Methodology

Extensive literature search on project topic from journal articles, blogs, conference proceedings, books and so on.

Data will be collected and examined from 19th edition to 23rd edition of DDC using MS Excel and interpreted in tabular form using charts.

APA style, 6th edition, will be used for references and bibliography.

Chapterisation

This study is organized into six chapters which supplement tables, figures and appendices.

- Chapter 1 - Introduction
- Chapter 2 - Literature Review
- Chapter 3 - Conceptualization
- Chapter 4 - Data Analysis and Representation
- Chapter 5 - Findings and Suggestion
- Chapter 6 – Conclusion
- Bibliography
- Appendices

Significance of the Study

- This study would highlight the knowledge developments in various subjects which will help the researchers to find gaps in subjects.
- It will help the library professionals to understand how DDC works and help the to suggest new class numbers in DDC.

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