3.1 INTRODUCTION

A document is a graphic record of ideas and thoughts created by human mind and expressed in language or symbols or in any other mode and recorded either on conventional analogue media or digital media fit for easy use, transmitted across space and preservation through time. Document refers to printed, handwritten and engraved materials such as books, manuscripts, serials, microfilms, photographs, gramophone records, tape records, magnetic tapes, video books, floppy disks, CD-ROMS, DVD-ROMS, and other newly emerging forms of digital resources. The modern libraries acquire various types of printed, non-printed and digital resources in their collection to meet the information needs of their users.

S.R. Ranganathan defines 'document' as a record made on more or less flat surface admitting of being spread flat when required, made of paper or other materials fit for easy handling, transport across space and preservation through time of thought created by mind and expressed in language or symbols or in any other mode, and or record of nature of social phenomena made directly by instrument without being passed through human mind and woven in to thought created and expressed by it' (Ranganathan : 1963 : 29). A document is any concrete or symbolic indication of a physical or mental phenomenon that has been recorded for reconstructing or recreating that phenomenon (Buckland: 1991: 355). In short 'a
Documents embody knowledge of many generations considered to be inevitable for the advancement of human civilization, to know the technical achievement of the past, understand society, culture and people. Because of their importance, the documents are collected, organized and stored in the libraries. The basic role of the library is to collect sources of information in any format and organize them in such a way so that any of these sources could easily be accessible to those who require. In order to make these sources of information easily accessible to users, the libraries have to adopt certain methods especially when the collection grown up. The method practiced in the libraries since long time for making information easily accessible to users were basically a description of the documents according to certain code(s) of cataloguing and then arranging them on the shelves by way of a certain scheme of classification. “The arrangement of the documents on the shelves necessarily needed to synchronize in some way with the description of the document. The whole process of describing the documents and arranging them accordingly is what we call cataloguing” (Murthy: 2000: 43-44). The cataloguer describes a documents physical identity and establishes the names of persons and entries involved in its creation and states the intellectual content of the document denoting its subject heading and classification number. Identification and description of documents according to certain methods are closely interrelated process in cataloguing. The Cataloguer identifies the conventional elements of the document according to certain set of rules formulated by codes of cataloguing and
then describes an item. When a cataloguer has properly identify the elements of the
document, these are described in a catalogue record in such a way that the
description is unique and can’t be applied to any other item in the collection. Name
of the person responsible for the content, title, editor, publisher, year of publication,
series etc. are some such conventional elements that a cataloguer looking to identify
for describing a document. The rules for identify and describing documents are in
general standard rules that have national and to a large extent, international
acceptance. The development of such rules for identifying and describing documents
under different important modern cataloguing codes are discussed briefly in section
3.2 bellow.

3.2 DEVELOPMENT OF MODERN CATALOGUING CODES

The development of modern cataloguing codes has been characterized with
the notable contribution made by the librarians, the influence wielded by the
organizations, societies and conferences. Without a code the cataloguer would be
reduced in making individual decisions for every document catalogued and
inconsistencies would be inevitable. There would be inconsistencies for the same
type of author unless there is catalogue code of international standard.

3.2.1 Development During Nineteenth Century

The nineteenth century has been characterized as the formative era of
modern catalogues and cataloguing codes. It was a time that revealed a keen interest
in catalogues and the involvement of individual libraries and librarians in the
The transformation of library cataloguing to its present form occurred in the nineteenth century, when it was argued that simple author access was not enough and that a different, more sophisticated, and more elaborate approach was needed. The printed book catalogue was widely used throughout the nineteenth century. The book catalogue, on the contrary, were found to be inflexible and it became less popular within a short span of time as this form of catalogue had some disadvantages such as – need of constant updating and reprinting; limited number of access points per entry. By the end of nineteenth century the printed card catalogue, though not in a standard form, replaced the printed book catalogue. The use of printed card catalogue was widespread in the twentieth century in the United States and many other countries.

The two other developments in the cataloguing in the nineteenth century were the classified catalogue and the alphabet catalogue. The classified catalogue which is a type of subject catalogue depends upon a systematic classification, was used in British, French and American Libraries but later its application was limited to a relatively small number of libraries because of the difficulties in understanding this catalogue. On the other hand, alphabetical catalogue became popular as it was very easy to understand and this form of catalogue best suited for finding items in the catalogue. Most cataloguing codes developed by individuals or national agencies in modern times have been formulated for alphabetical catalogues rather than classified catalogues.

The construction of early catalogues was based on traditions inherited in individual libraries. These were prepared only by rule of thumb, without taking into consideration the functions to be performed by a catalogue. It was only about two
hundred years ago that attempts were made to prepare a code for cataloguing of
documents. The development of modern cataloguing codes has its roots in the
landmark works of a few librarians who formed the theoretical foundations of
descriptive cataloguing. Anthony Panizzi, librarian of British Museum, is regarded
as the first person who with his assistants, codified rules for cataloguing by
preparing a formal code of rules for cataloguing.

i) Anthony Panizzi and the British Museum Rules

The beginning of the development of modern cataloguing codes is generally
attributed to Sir Anthony Panizzi (1797-1879) whose influence in descriptive
cataloguing in general, and the theory of cataloguing in particular, is well known to
the profession. The ninety-one rules of the British Museum code of 1841 were
drafted by Panizzi for the printed book catalogues. These rules were a monumental
achievement, as they represented the first attempt to codify rules for the compilation
of an author catalogue with the inclusion of logical guides for cross references. This
system was suited to book catalogues in which only one full entry was provided for
each book and other entries were in the form of cross references.

Panizzi defined the alphabetical catalogue and brought the concept ‘heading’
as the most important bibliographical element in alphabetical catalogue. He
emphasized on the concept of uniformity and warned of the difficulties resulting
from the lack of uniformity in the catalogue and for this purpose he formulated rules
for choice and form of a name. The focus of Panizzi code was primarily on the
creation of entries based on the information found on the title page. He selected the
title page as the authoritative source of cataloguing data in the sense that it would
offer the same information to all cataloguers (rules 20, 1, 3). This was the first approach to standardization in descriptive cataloguing and has been continued through some of the subsequent codes.

The principle of multiple authorship, without any differentiation between joint and collective authorship is apparent in Panizzi's code. In terms of cataloguing of publications by corporate bodies, the 91 rules did not envision corporate authorship. Instead, corporate entries could be used as a default or as an organizing element.

Panizzi suggested the use of form headings as the main entry for certain types of publications. Publications such as acts, memoirs, transactions, and minutes published by institutes, universities and learned societies were entered under ACADEMIES; newspapers, magazines, and annuals under the heading PERIODICAL PUBLICATIONS; and dictionaries under DICTIONARIES. These form headings, which can be regarded as akin to today's form subject headings, were a means for the bringing together of works of a common nature.

It is generally agreed that Panizzi's ninety-one rules for the construction of the British Museum catalogue became the source for all subsequent Anglo-American codes. According to Hyman (1989: 14), 'All later catalogers started with Panizzi to compose their codes, and though the debates of his time are still with us, suggested solutions are largely expansions or refinements of the Ninety-One Rules.'
ii) Jewett and His Thirty-Three Rules

It was Panizzi's code that influenced American cataloguer Charles Coffin Jewett (1816 – 1864), the librarian of the Smithsonian Institute, to prepare the first code of cataloguing rules in the United States. Jewett's code of 1852 entitled: On the Construction of Catalogues of Libraries and of a General Catalogue, and Their Publication By Means of Separate Stereotype Titles: With Rules and Examples, consisted of thirty-three rules, mainly based upon Panizzi's code (Hyman, 1989: 14). Jewett, through modification to Panizzi's code was attempted to compose a code of cataloguing rules to be used for preparation of both author listing and the alphabetical listing of subjects. Jewett continued the work of Panizzi and laid the foundation for the later Anglo-American concept of authorship based upon the principle of intellectual responsibility (Tait: 1969: 31). Unlike Panizzi, who did not envision corporate authorship, the concept of corporate authorship was reinforced and established more clearly in Jewett's Code.

Jewett composed rules for the choice of headings to provide effective access to the author / title catalogue and he prescribed in his rules that the heading was to be written above the transcribed title. Unlike Panizzi, Jewett did not use form headings for anonymous works.

Jewett emphasized uniformity as an essential issue in cataloguing and suggested all libraries should adhere to same set of rules. He made important contribution to author / title catalogue and brought the idea of centralized and cooperative cataloguing and proposed to prepare stereotype entries for the printed book catalogue. The stereotype entries that Jewett proposed could be used to print book
catalogues for other libraries. Jewett's rule were in the line of modern cataloguing codes of recent times such as AACR (1967) and the modern codes developed later had a strong influenced on Jewett's code.

iii) Cutter and his Rule for Dictionary Catalog

The year 1876, besides being the year in which the American Library Association (ALA) was established, is also a significant date in the Anglo-American history of descriptive cataloguing as in this year Charles Ammi Cutter (1837 – 1903) published his famous Rules for a Dictionary Catalog. This code is a landmark in the continuation of the Anglo-American cataloguing code tradition. Cutter's rules are undoubtedly the most comprehensive set of rules ever produced by an individual (Quigg: 1966: 19). It was the first American code receives recognition. Cutter's rule set out the first principles of cataloguing, and included a statement of the objectives of catalogue. The code goes beyond the practice of a single library and is the first complete code for preparation of a catalogue. It is also only code, which attempts to provide rules in a systematic and exhaustive manner, based on principles for the preparation of all the entries required for a dictionary catalogue. The code covers rules for dictionary catalogues including both entry for authors, titles, subjects, form headings and description. Cutter provided rules governing the choice of subject heading in his 'Rules for a Dictionary Catalogue'.

Cutter's rules were greatly influenced in formulating and designing objectives and principles of cataloguing codes developed later. Cutter in the preface to the 4th edition of his Rules for a Dictionary Catalog, illuminated cataloguing theory by considering the principle that 'the convenience of the public is always to
be set before the ease of the cataloguer’ (Cutter:1904:6). Through his objectives of the catalogue, Cutter reinforced the contention that the catalogue should not only function as a finding list of what exits in a library, but also should assemble 'literary units' by showing what the library has under a given author (Cutter:1904:12). He formulated the objectives of the catalogue as:

1. To enable a person to find a book of which either
   (A) the author
   (B) the title
   (C) the subject
   } is known

2. To show what the library has
   (D) by a given author
   (E) on a given subject
   (F) in a given kind of literature

3. To assist in the choice of a book
   (G) as to its edition (bibliographically)
   (H) as to its character (literary or topical)

Cutter expressed his thought that the function of the catalogue should go beyond the limit of the finding-list function and expected that the catalogue should assemble all the editions of a work. This concept of Cutter considered to be an evolutionary step toward the further development of the concept of the functions of the catalogue.

Cutter made a significant contribution to the development of the author catalogue and the establishment of the authorship principle. He enriched the concept of authorship by using main and added entries, which would fulfill both the finding and the assembling function of the catalogue. The assembling functions of the catalogue ultimately brought together all works of an author and all editions of a
work. Cutter's Rules for a Dictionary Catalog was a relatively comprehensive code that included provision for author, title, subject, form headings, description, and filing.

Another significant feature of Cutter's rule was that he extended the concept of corporate authorship and the corporate bodies were considered as the author of works that were published by them. "Bodies of men are to be considered as authors of works published in their name or by their authority" (Cutter, 1904: 41). Cutter's principle of corporate authorship, as Lubetzky (1980: 22) points out, dominated all subsequent Anglo-American codes up to AACR2, which attempted to restrict it to only a few specified categories.

Cutter's Rules were designed for the construction of a dictionary book catalogue suited for small and medium-size public libraries. His approach to the dictionary catalogue was to design a code consistent with the dominant printed book catalogues of that time. Thus, the types of entries he proposed and the kinds of access points he prescribed were relevant to this form of catalogue. The use of a full main entry with abbreviated added entries for the retrieval of bibliographic information was suited to the printed book catalogue. In a book catalogue, the complete bibliographic record would be identified under the main entry and added entries would refer the user to the main entry. The added entry function before Cutter was performed by cross-references, which referred the reader to the main entry record (Strout: 1957:25). From the fourth edition of Cutter's rules onward the boundary between the use of added entries and cross references became clearer. added entries to provide added access to a bibliographic record, and cross references for name variations (Tillett: 1989: 156).
Rules for a Dictionary Catalog became the chief source for later codes in the English language (Ranganathan :1955:14). Lubetzky, like many others, was influenced by Cutter and the principles he proposed in his Code of Cataloging Rules (1960) and to the International Conference on Cataloguing principles (1961) are an indication of this influence. According to Tait (1969: 38), "The principles laid down by Cutter in 1876 remained almost without challenge until almost the present decade - a testimony to their value."

iv) Prussian Instructions

Prussian instruction was designed originally for compiling a union catalogue of the then German State Libraries. A significant contribution to cataloguing rules is found in Prussian instruction, after Cutter's rule.

In 1886 Professor K. Dziatzko, a German Librarian published the instructions in German language which was later translated and published into English in 1890 by an American Librarian under the title, "Eclectic card catalogue rules: author and title entries". The instruction found a profound influence over the German libraries because of its simple, direct and appropriate language with clear definitions of all terms used.

The Prussian instructions were applied with great success to the German Union Catalogue produced by the Prussian State Library which brought many libraries in Germany and Austria into conformity with the rules.
3.2.2 Development During Twentieth Century

The nineteenth century was characterized by the development of a number of notable catalogue codes, which were followed more or less the same trend in establishing principles for the construction of library catalogues. There was agreement on a number of general principles, particularly entry under author, corporate author etc. The nineteenth century developments in catalogues were basically based on the contributions made by the individuals.

In the twentieth century a number of library associations, international organizations viz. International Federation of Library Associations and Institutions (IFLA), National Libraries etc. were actively engaged in formulating bibliographic standards for international co-operation and exchange of bibliographic records, which are considered to be a significant phenomena in the development and standardization of catalogue codes at international level. There was a strong trend towards international co-operation and the exchange of catalogue record between bibliographic agencies in the twentieth century. The move toward closer cooperation among Anglo-American for the formulation of a joint code is a clear expression of such trends in the cataloguing community.

i) Anglo-American Code (AA Code), 1908

The American Library Association and the British Library Association having previously produced independent codes and being engaged in revising them, agreed to co-operate in 1904 to produce an Anglo-American Code. As a result of co-operation, a joint cataloguing code was published in 1908 under the title "Catalogue
rules, Author and Title Entries’. This was the first joint code at international level, which attempted to address the common interests and problems in descriptive cataloguing that existed in the United States and United Kingdom in the late nineteenth and early twentieth centuries. It was the result of co-operation between the [British] Library Association and the American Library Association in the production of ‘a joint code which would bring uniformity into the cataloguing practice of the English-Speaking Countries’ (Quigg : 1966 :21).

The AA Code (1908) was not formulated for an individual library, unlike most older codes of nineteenth century. This code was designed for larger libraries of scholarly character and it was influenced by other codes such as Cutter’s rules, the Prussian instructions, the British Museum code etc. The printed card catalogue service of the Library of Congress (LC) was started in 1898, which was considered to be a significant factor in the rapid proliferation of card catalogues in the libraries in United States. In this situation, formulation of a new joint code AA (1908) brought uniformity in cataloguing practice in different libraries, particularly in the United States. The code recognised the ‘literary unit’ as the basis for cataloguing.

ii) Vatican Code, 1931

The Vatican Library published a code of rules in 1931. ‘The Vatican code was notable for a number of reasons. It included rules on name and title entry, description, subject headings, and – the only code since the Cutter to do so’ (Gorman : 2000). The code was based on Cutter’s rule for dictionary catalogue and was the first code to contain rules on the choice of subject heading for dictionary catalogue.
iii) **Classified Catalogue Code, 1934**

Dr. S. R. Ranganathan was formulated Classified Catalogue Code (CCC) in 1934 and the latest 5th edition came out in 1964. This code is based on the normative principles of cataloguing. However, there is lack of provision for complete bibliographical information and no rules for cataloguing of non-book materials have been provided. The special features of CCC are the provision of rules for compilation of union catalogue of books and periodical publications, national bibliographies, indexing and abstracting periodicals, use chain procedure to derive subject heading from a number. This code is found effective in special and research libraries. However this code is used only in India.

iv) **American Library Association (ALA) Draft Code, 1941**

Due to a perceived need for a more detailed and comprehensive code, which would cover the various problems encountered by cataloguers, there was increasing demand for the revision of the 1908 code. In 1930, the Library of Congress appointed a subcommittee to study its revision. Based on cataloguers' experiences in the actual use of the code, work was begun by ALA with the cooperation of the [British] Library Association. Because of the outbreak of World War II, the British could not continue their cooperation. A preliminary edition was published in 1941 and a second American edition was published in the same year as: ALA Catalog Rules; Author and Title Entries. However, because of its adherence to American perspectives and cataloguing tradition, ALA (1941) is not considered an international code.
ALA (1941) code was not welcomed by the cataloguing community because of its complexities. The code, rather than defining principles, it supplemented and amended AA (1908) code.

v) American Library Association (ALA) Code, 1949

Due to the severe criticism of ALA (1941), a new edition i.e. the rules for entry was published by the ALA in 1949. As the [British] Library Association could not continue their co-operation because of the outbreak of the World War II, the American Library Association had decided to prepare its own rules for descriptive cataloguing and continued its work with the revision of Part I of ALA (1941) code. The 1949 code covered only rules for entries. The code was basically influenced by Cutter's rules for main entry.

The ALA (1949) was based on AA (1908) and ALA (1941) with some new features added such as:

1. The code chose 'work' as the basis for description. In this regard, it followed AA (1908) and took the concept of 'literary unit' (as opposed to 'bibliographic unit') from Cutter's rules.

2. With regard to the choice of main entry, the code prescribed that the entry was to be made under "...the person or body chiefly responsible for the intellectual content of the book, literary, artistic or musical" (ALA :1949: 3). Intellectual responsibility was not confined to title page information, rather, the author was usually to be chosen from either the work itself or other sources. In this regard, the concept of principal responsibility was a new idea in ALA (1949).
3. It emphasized the concept of corporate versus personal authorship by giving more guidance on the construction of corporate headings. For example, Rule 1 prescribed that: "Enter a work under the name of its author whether personal or corporate" (ALA: 1949: 3).

ALA (1949) was criticized for not continuing the trend towards internationalism, which AA (1908) had tried to achieve at the beginning of the century. Ranganathan (1955:161) in his book Headings and Canons: comparative study of five catalogue codes, criticizes the ALA code because of redundancies and inconsistencies in its rules. The code was constructed on the same formula as AA (1908) and ALA (1941) but lacked a clear statement of basic principles. Among major critiques of the code was Lubetzky's report, Cataloging Rules and Principles: A Critique of the A.L.A. Rules for Entry and a Proposed Design for their Revision, 1953. Lubetzky (1953: 61) stated that a major shortcoming of the code was that it was 'vague in design and weak in structure.'

vi) Code of Cataloguing Rules (CCR 1960)

In 1953, Lubetzky had prepared Cataloging Rules & Principles for the Board of Cataloguing Policy and Research of the ALA which received general approval. Later Lubetzky was invited by the ALA Catalog Code Revision Committee to prepare a new edition of ALA and produced his 'Code of cataloguing rules, author and title entry: an unfinished draft 1960 known as CCR (1960). The code was influenced by Cutter's objectives and he stated the objectives on which the rules were formulated as follows:
The objectives, which the catalogue has to serve are two:

1. To facilitate the location of a particular publication, i.e., a particular edition of a work which is in the library.

2. To relate and display together the editions which the library has of a given work and the works which it has of a given author.

The two functions are complementary, but both are essential to the effectiveness of the catalogue.

Lubetzky adopted Cutter's objectives with minor changes. He introduced the word ‘Work’ and ‘Edition’, in place of ‘Book’, to give priority to the literary unit concept and to cater for the inclusion of various types of ‘non-book’ items in the code. By a clear definition of the main entry concept, Lubetzky tried to remove inconsistencies within Cutter's Code, AA (1908), and ALA (1949), in which the main entry sometimes represents 'work' and sometimes 'edition' (Tait :1969 : 93). His emphasis was on the ‘work’ and he considered that a major function for the main entry was the assembling of the editions of a certain work by a certain author. To Lubetzky, the ‘work’ rather than the ‘edition’, was the primary unit.

In CCR (1960) the concept of authorship was broadened and extended in all types of materials in comparison to the older Anglo-American Cataloguing Codes. The code emphasized on the concept of corporate authorship and incorporated a general rule for works of corporate bodies in the code.

Another concept emphasized in the code was a reliance on title-page information in providing standard cataloguing data. In this respect, Lubetzky followed Panizzi, who was the first to recognize the importance of the title-page.
CCR (1960) was very influential at that time as the compilation of the code was on logical and theoretical basis. Lubetzky was hailed as one of the great theoreticians in descriptive cataloguing and the principles adopted by him were internationally agreed upon at the International Conference on Cataloguing Principles (ICCP), Paris, 1961 were to a large extent influenced by CCR (1960).


The International Conference on Cataloguing Principles (ICCP), Paris, 1961 is considered to be an important milestone in the history of descriptive cataloguing. The Conference has had a great impact on the development of current cataloguing codes, which brought international agreement on the principles of cataloguing. The conference aimed at providing basic agreement for the compilation of national bibliographies and national codes (ICCP : 1963 : 91). The Paris conference had been considered to be one of the most effective attempts in the direction of Universal Bibliographic Control (UBC) and international standardization in cataloguing in order ‘to facilitate the international communication of knowledge by achieving the widest possible uniformity in library catalogues and other means of bibliographical communication’ (ICCP : 1963 : 13).

The principles discussed and agreed upon at the ICCP (1961) applied mainly to the choice and form of headings and entry words as the most important organising elements in author/title catalogues, which needed uniformity at an international level. The ICCP (1961) continued the principles of the older codes in the sense that the emphasis was on alphabetical author/title catalogues and lists of books. The
functions of the catalogue agreed and stated in the Statement of Principles (ICCP Report: 1963:91) were:

The catalogue should be an efficient instrument for ascertaining

1. Whether the library contains a particular book specified by
   (a) its author and title, or
   (b) if the author is not named in the book, its title alone, or
   (c) if the author and title are inappropriate or insufficient for identification, a suitable substitute for the title; and

2. (a) which works by a particular author and
   (b) which editions of a particular work are in the library.

Two important papers were presented at ICCP, which had illustrated the two contradictory approaches in relation to the functions of the catalogue and the choice and form of main and added entries, one by Lubetzky and another by Verona. Lubetzky (1963:139-143), in his working paper stated that 'literary unit' should be the basis for description which is to be considered as the principal element for bringing together different editions and translations of a work rather than under their own titles. The name of an author must be uniform to bring together all publications by that author. In terms of titles, Lubetzky put emphasis on entering publication of the work, or where this was not possible, under the accepted 'conventional title'

Verona (1963:145-157), who presented her paper on the function of the catalogue, emphasized the publication in hand as the basis for description. She stressed that the functions of main entries are: 1) to represent particular publications, and 2) to bring together in the catalogue all publications by one author” (Verona, 1963: 157).
A significant improvement of the ICCP (1961) over AA (1908) and ALA (1949) was in the definition that is provided for personal and corporate authorship. In this respect, ICCP (1961) put the emphasis on the intellectual responsibility concept of authorship (Tait:1969: 109). A work should be considered as corporate author if it may be concluded that it is the result of the creative and or organizational activity of a corporate body as a whole, and not the result of an independent creative activity of the individual(s) who drafted it. Another interesting issue that was discussed at ICCP, but not fully acknowledged at that time, was the potential impact of electronic systems upon the process of cataloguing. Gull (1963) in his working paper presented at the conference discussed the potential impact of electronics, such as machine readable text and the concept of ‘automatic authorship’ on cataloguing rules and suggested that the issue be addressed in the design of cataloguing codes.

As a result of the conference, most subsequent current national cataloguing codes have been compiled on the basis of the statement of principles adopted at ICCP. Although ICCP (1961) was regarded as being highly successful in its resolutions and objectives, it was later criticised for some inconsistencies and vagueness. Full conformity to the statements was found not to be practical due to variations in cataloguing traditions and practices.

viii) Anglo-American Cataloguing Rules (AACR 1967)

After ICCP (1961) it was decided to develop an Anglo-American joint code, which could provide for greater uniformity both in library catalogues and in the exchange of bibliographic information between libraries in the English-speaking countries. Based on ICCP (1961), the library associations of the United States,
Canada and the United Kingdom, with the collaboration of the Library of Congress (LC) compiled a new joint code AACR in 1967 which would be applicable at an international level. But due to some variations in cataloguing practices, the code was separated into two editions: North America and British editions.

The Anglo-American Cataloguing Rules, 1967 was oriented primarily to respond to the needs of general research libraries. Significant feature of the AACR is the inclusion of the rules for descriptive cataloguing and for the cataloguing of non-book materials. The rules are not only comprehensive enough to cover cataloguing of almost all types of library materials, but are equally flexible to allow the intercalation and merging of the entries of book and non-book material in the same catalogue. Unlike the 1949 ALA code, which was only for entry and heading, AACR, 1967 incorporates rules for entry and heading, description and cataloguing of non-book materials. AACR is based on a set of principles which have been consistently followed with least prejudice to earlier codes. "The rules on choice of heading, for main and added entries, are usually adequate and often very useful; the rules on form of heading or reference are rarely less than comprehensive and brilliant both in their wording and results" (Gorman: 1978: 31).

A thorough examination of the code reveals that the rules for entry and heading are substantially based on ALA (1949), Lubetzky’s CCR (1960), and ICCP (1961). The primary criteria for determining ‘authorship’ in the code was intellectual responsibility. The title page is as the chief source for determining entries (i.e. main and added entries) and the ‘work’ has been chosen as the basis for cataloguing.

After the adoption of AACR1 in large libraries, a number of drawbacks were found in the code which necessitate for many additions and changes in the code. The
LC and the ALA's Division of cataloguing and classification approved the need for the additions or changes of a numbers of rules. The British Library Association did not welcome the revisions of the rules that were being undertaken in the United States. However, cataloguing trends in the 1970's, such as introduction of the International Standard Bibliographic Description (ISBD), necessitated that the code should be brought in to the line with these new trends.

ix) International Standard Bibliographic Description (ISBD)

The International Federation of Library Associations and Institutions (IFLA), in order to develop a generally accepted standard for the international exchange of bibliographic information whether in manual or machine-readable form, convened an International Meeting of Cataloguing Experts (IMCE) in Copenhagen in 1969. An International Working Party was set up by the International Meeting of Cataloguing Experts in Copenhagen in 1969 with an aim to study and develop a universally accepted International Standard Bibliographic Description for monographs. Outcome of the study was a standard subsequently drawn up by the working party which was officially adopted by the IFLA Committee on Cataloguing at its meeting in 1971. The standard drawn up by the working group was basically a standard which, lists: i) the elements to be included in the descriptive part of an cataloguing entry, ii) the order in which the elements are to be cited and iii) the punctuation which is to be used to separate the elements.

ISBD was developed to specify requirements for the description of publications for the purpose of international communication. The standard assigns an order to the descriptive elements, and specifies a system of punctuation for the
description. It is designed primarily as an instrument for the international communication of bibliographical information not only in library cataloguing but also in book trade activities (IFLA: 1971: 1). ISBD is not a set of cataloguing rules, it does not deal with access points and 'does not include any prescription for the heading under which a description should appear in a catalogue or other bibliographical list' (IFLA: 1971: iv). In addition to the General International Standard Bibliographic Description (ISBD (G)), IFLA had developed specialised ISBDs for specific types of material such as ISBD (M) for Monographs; ISBD (S) for Serials; ISBD (CM) for Cartographic Materials; ISBD (PM) for Printed Music, ISBD (AV) for Audio Visual materials and ISBD (ER) for Electronic Resources.

The development of ISBD is one of the greatest contributions made by IFLA towards the standardization of cataloguing practice. It promotes uniformity in cataloguing practice and the catalogue codes developed after 1970 do reflect the implication of ISBD. The AACR2 1978 and its later revisions in 1988, 1998 and 2002 have based on ISBD for the preparation of rules for descriptive catalogues. Adherence to these descriptive standards by many cataloguing agencies, whether working in a manual or an automated environment, has provided greater uniformity in the communication and understanding of bibliographical information within countries and between countries.

The development of ISBD made a greatest contribution towards the standardization of bibliographic records. The main purposes of ISBD are:

- To facilitate bibliographic records from various sources interchangeable.
• To assist in the interpretation of bibliographic records across the language barriers.

• To assist in the conversion of bibliographic records into machine-readable form.

In ISBDs, the descriptive information is taken from the item itself in the form in which it is presented in that item. This descriptive feature of the ISBDs has been recognized as the most economical and found to be most appropriate in ensuring compatibility in bibliographic record. The use of the ISBDs has lessened the importance of traditional differences in cataloguing practice. ‘Guidelines for the application of the ISBDs to the description of component parts represents a more radical approach, designed to bridge the alleged gap between the cataloguing tradition of the library community and the citation practices of the abstracting and indexing community’ (IFLA:1998:v).

The bibliographic records made in accordance with the ISBDs are undoubtedly sufficient to ensure identification of an item available in the library collection. National bibliographic agencies are expected to apply the standard in full when creating authoritative national bibliographic record so as to exchange them with other national bibliographic agencies. Many cataloguing codes, including AACR2, have adopted ISBD(G) as a basis for their own rules for description, with the result that standardization of bibliographic description is further advanced than any other area of bibliographic record construction (Gredley and Hopkinson :1990:20). The description of elements provided in the families of ISBDs forms only a part of a complete bibliographic record. The other factors which make up a complete bibliographic record, such as headings, subject information, uniform title, filing
devices and tracing, are not included in the ISBD stipulations. The rules for such factors are left to the compilers of national and international codes of cataloguing rules. The statement of principles adopted at the International Conference on Cataloguing Principles held in Paris in 1961 have been accepted as the basis for the choice and form of headings in national cataloguing rules.


In 1974 a meeting was held where the representatives from the National Library Association and National Libraries of Canada, the United Kingdom and the United States were participated in order to make numerous changes to rules in AACR 1 and to have an international standard of bibliographic description not only for monographs but also for serials and all medias. The meeting drawn up a new memorandum of agreement and complete the planning of the project for a second edition of AACR. From the point of international cooperation, two important objectives established in the meeting are (Manning: 1999: 69):


2. To provide for international interest in AACR by facilitating its use in countries other than the United States, Canada and the United Kingdom”

The second edition of AACR was the result of four years' work by the Joint Steering Committee for Revision of AACR (JSC) which had been set up in 1974 by the American Library Association, the [British] Library Association and the Canadian Committee on Cataloguing, with the support and cooperation of the
British Library and the Library of Congress. After a general deal of consultation and collaboration, particularly with IFLA, the JSC published the 2nd edition of AACR in 1978. Although there was controversy and there were implementation difficulties, AACR 2 became firmly established as a cataloguing standard and by the time the 1988 version was published, AACR 2 had found general acceptance in most English-speaking countries. The Anglo-American Cataloguing Rules (AACR) are designed for use in the construction of catalogues and other lists in general libraries of all sizes. The rules cover the descriptions of all library materials commonly collected at present time. The AACR-2 is the result of progression of ideas about how to approach the cataloguing process in order to prepare catalogues that provide the best possible access to library collections. It represents the current agreements that have been reached in order to standardize cataloguing practice and thereby facilitate co-operation among libraries.

During the period between the publication of the first and second editions of AACR (1967-1978) many changes had taken place, such as the development of MARC formats, the development of computerised catalogues, the growth of centralised and cooperative bibliographic services and the proliferation of new media and nonbook materials, which had significant effects on cataloguing and bibliographic control. Also, the introduction of ISBD (M), which was incorporated in AACR2, was considered to be a major factor moving toward Universal Bibliographic Control (UBC).

In spite of these factors, AACR2 maintained the same principles and objectives as was in AACR1. The aims of the second edition of AACR as set out by JSC were (Gorman:1978: 209):
i) to incorporate already agreed revisions to AACR1;

ii) to harmonize the British and North American texts of AACR1;

iii) to incorporate international standards and international agreements;

iv) to take developments in library automation into account; and

v) to incorporate changes arising from proposals for change coming from any source.

AACR2 maintained a more logical and consistent structure than AACR1. It incorporates fully the General ISBD (ISBD (G)) in the rules for description. The rules were divided into two parts: bibliographic description in the first part and choice and form of heading in the second part. Unlike AACR 1, the rules for entry and heading were applicable to all types of library materials. A major difference of AACR2 from the older Anglo-American code was that editors of collections were no longer regarded as authors. The decision was made in accordance to Statement adopted in the Paris principles.

The concept of main entry was retained in AACR2 as was in AACR1, in spite of the fact that the computer catalogue can have a numbers of equal access points. The main entry is a central principle in conventional cataloguing theory and it has practical utility in printed book catalogues, in self listing and in single-entry listing. Although AACR2 encourages the use of 'access point' for any entry, it did not ignore the usefulness of main entry and states that (AACR2 : 1978 : 2):

It will be necessary, however, for all libraries to distinguish the main entry from the others when:

a) making a single entry listing

b) making a single citation for a work (as required for entries for related
works and for some subject entries).

In addition, the concept of main entry is considered to be useful in assigning uniform titles and in promoting the standardization of bibliographic citation.

Despite its weakness in a number of aspects, such as not being based on coherent principles, a lack of integrity, a lack of separate rules for deciding on serial publications access points and inconsistent treatment of the various media, ambiguities which make the rules open to misinterpretations, irrelevance to computerized catalogues, AACR2 obtained overall support among cataloguers and cataloguing educators. It undoubtedly went further toward achieving standardization and internationalization than AACR1 and even more than any other code (Delsey : 1989:53). The code was considered by the UNISIST Guide to Standard for Information Handling (1980:152) as one of the standard codes to be used in a multinational context.

In 1986 the Australian Committee on cataloguing was made a full participant in the Joint Steering Committee (JSC) for revision of AACR and in 1989 an agreement was established between the American Library Association, the British Library, the Canadian Library Association, the Library Association and the Library of Congress in order to clarify the responsibilities and relationship of the various bodies charged with the production and publication of the Anglo-American Cataloguing Rules. The National Library of Canada was also became the member of the JSC and extended full support to the agreement in 1991. These six organisations became known as the Principals of AACR and form the Committee of Principals. One of the key functions of the Committee of Principals is reviewing development and progress in the work of JSC for revision of rules of AACR. The JSC develops
and maintains the AACR according to established principles for bibliographic
description and access. The constituent organizations represented on the JSC are -
The American Library Association, The Australian Committee on Cataloguing, The
British Library, The Canadian Committee on Cataloguing, Chartered Institute of
Library and Information Professionals (CILIP), The Library of Congress.
International co-operation continued to mark the development of the rules of AACR
through its ongoing process of revision.

xi) AACR, Second Edition, Revision (AACR-2R)

In 1998 a new revision to the second edition of the AACR 2 was planned
which incorporated all rule revisions and corrections that have been identified since
the 1988 and the 1998 revision was published concurrently in print and in electronic
form which was a new development in the history of AACR 2.

The implementation of AACR2 engendered frustration in many types of
library and generated a large amount of literature concerning its problems,
shortcomings and flaws. To many cataloguers, the code did not fulfill their
cataloguing requirements in a time of rapid movement towards information
networks and the international exchange of bibliographic records. Based on these
criticisms and recommendations, the JSC (this time with a new member, the
Australian Committee on Cataloguing (ACOC)) published three separate groups of
rule revisions in 1982, 1983, and 1985. These revisions and the complete revision of
chapter 9 (Machine-readable data files), published in 1987, made it necessary to
provide the profession with a new revision of the code. Thus, the Anglo-American
Cataloguing Rules, Second Edition, 1998 Revision (AACR2R) was published under the editorship of Michael Gorman and Paul Winkler.

The appearance of the 1998 revision of the Anglo-American Cataloging Rules did not arouse as much enthusiasm as its predecessor (AACR2) had in 1978. Although AACR2R is the result of ongoing revisions, it maintains the same principles and guidelines as AACR2. The major differences relate to the rules for description of some types of materials, notably computer files (in chapter 9). Part II (Headings, Uniform titles, and References) has some changes, of which the most important are in the areas of pseudonyms and geographic names as well as the headings for some subordinate corporate bodies and uniform titles for music.

The framers of AACR2R have tried to prepare a set of rules that could be applicable to all types of library materials in all formats and all languages. Thus, in comparison to its predecessors, the code moves further toward internationalise. The code has been adopted by many countries as their national cataloguing standard (Delsey: 1989: 53). It has also been translated into Arabic, Finnish, French, Japanese, Korean, Malaysian, Norwegian, Portuguese, Spanish, Swedish, Urdu (Smiraglia :1992: ix), and into Afrikaans, Chinese, Italian, Russian and Persian.

The responsibility for ongoing revision of AACR2 rests with the Joint Steering Committee for revision of AACR (JSC), working in conjunction with the Committee on Principals of AACR. The current 2nd edition, 2002 revision with 2003 and 2004 updates incorporates all changes approved by the Joint Steering Committee for revision of AACR (JSC). The 2002 revision of AACR2 incorporated the 1999 and 2001 amendments, and changes approved in 2001, including complete revision of chapter3 and chapter12. The 2002 revision incorporated the
recommendations of the International Conference on the Principles and Future Development of AACR organized by the JSC in 1997 which was held in Toronto, Canada with sixty-four invited participants.

It is very encouraging to know that the JSC is working towards a new edition of AACR which is scheduled to be published in 2008. The JSC has decided to provide a new working title for the new revision of AACR as "Resource Description and Access (RDA) rather than AACR3, with a different approach to accommodate rules for emerging networked and multimedia resources and also to make the code fully relevant in computerized cataloguing environment in the present day context.

3.3 MAJOR CATALOGUING CONCEPTS DEVELOPED IN NINETEENTH AND TWENTIETH CENTURY: AN ANALYSIS

In studying the development of modern cataloguing codes in the nineteenth and twentieth century, a range of factors and elements have been highlighted as the most important concepts. The important concepts those are highlighted in the study and those are considered to be very important in underlying principles of descriptive cataloguing are briefly stated below.

1. The early catalogue codes were prepared without taking into consideration the functions to be performed by a catalogue. It was in the nineteenth century, when Anthony Panizzi had developed the first modern cataloguing code by drafting famous 91 Rules for compilation of author catalogue for the British Museum. He formed the foundation of the descriptive cataloguing theory, which was later greatly influenced by Jewett, Cutter and Lubetzky.
He focused primarily on the creation of entries based on the information found on the title page, which was considered to be the first approach for standardization in descriptive cataloguing.

2. The formulation of objectives and functions of catalogue by C.A.Cutter in the nineteenth century is another significant contribution in the development of cataloguing principles. His rules for dictionary catalogue are the most comprehensive set of rules ever produced by an individual in descriptive cataloguing.

3. The concept of dictionary catalogue developed by Cutter has been one of the most popular forms of catalogue, which influenced the development of cataloguing rules in the Anglo-American context for the choice and form of heading throughout the twentieth century. The dictionary card catalogue has been accepted universally as a practical and responsive catalogue in the later part of nineteenth century.

4. The concept of one full record per book (i.e. main entry) was found dominant in the classified and alphabetical catalogue in nineteenth century and later the concept of multiple entries were evolved through the works of Cutter in the dictionary catalogue.

5. By the end of nineteenth century, the pattern of catalogue construction was characterized with well-defined subject headings, main entry, literary unit principle, dictionary catalogue, classification, unit cards, added entries and adequate bibliographical descriptions.

6. The classified catalogue code of the early nineteenth century gradually replaced by alphabetical catalogue, particularly the dictionary catalogue. The
development of cataloguing rules in Anglo-American context has been influenced by dictionary catalogue throughout the twentieth century.

7. One of the significant achievements in the twentieth century was that the American Library Association and the British Library Association was agreed to produce a joint code at international level viz. AA (1908), in order to address common interest and problems in descriptive cataloguing that existed in the United States and the United Kingdom. The Anglo American Co-operation for producing a more detail and comprehensive code that encountered various problems of the cataloguer was continued. In 1967, the first edition of AACR was published in two texts in order to provide greater uniformity in cataloguing practice in the English-speaking countries. The code more clearly enunciated the principle of authorship where the primary criteria for determining authorship was 'intellectual responsibility'.

8. Joint Steering Committee has decided to publish AACR under a new title 'Resource Description and Access' (RDA), which is likely to be published in 2008. This code is expected to address the problems of cataloguing of emerging networked multimedia resources that the earlier editions of AACR could not provide. The AACR 2 has been addressed the major changes in authorship concepts including corporate body. Despite it has its own limitations, AACR2 obtained overall support among cataloguers and got international recognition than any other code.

9. The International Conference on Cataloguing Principles held in 1961 had a great impact on the development of current cataloguing codes. The conference aimed at providing basic agreement for compilation of national bibliographies and cataloguing codes. This conference has been an important
landmark in the field of cataloguing, which attempts to achieve Universal Bibliographic Control (UBC) and international standardization in cataloguing. One of the major products of the activity set in motion in the conference was the development of ISBD by a Working Group set up by the International Meeting of Cataloguing Experts, held at Copenhagen in 1969. Development of ISBD's gave direction to bibliographic description of elements, which brought uniformity in international communication of bibliographic information. Development of ISBD by IFLA, is one of the significant contribution made in the field of cataloguing. The bibliographic description of AACR2 is based on ISBD.

10. Entry is the most important means in cataloguing, which surrogates library materials. The concept of main entry, under which the complete catalogue record of an item is entered, was more clearly defined by Lubetzky in his code of Cataloguing Rules, 1960. By defining the concept of main entry, Lubetzky tried to remove inconsistencies within Cutter's code, AA (1908) code and ALA (1949) code in which the main entry sometimes represent 'work' and sometimes 'edition'. He emphasized on 'work' rather than the 'edition' as the primary unit.

11. The concept of authorship is one of the important organizing elements in catalogues and bibliographic lists. Most of the catalogue codes have tried to define the concept of authorship and also to address its numerous conditions and problems. The AACR has defined the concept of personal authorship and it extended the personal authorship to the persons other the editors, compilers of collection, artists, photographers, cartographers and composer of music.
12. The Anglo-American cataloguing tradition has also extended the concept of authorship to corporate bodies. The concept of corporate authorship was retained for more than a century through the work of Panizzi, Jewett, Cutter, AA (1908), ALA (1941), ALA (1949), ICCP (1961) and AACR-1 (1967). In AACR-2 the term ‘corporate authorship’ has been changed to ‘corporate responsibility’.

13. Cataloguing codes of the last two centuries are more concerned with the form of name to be chosen as heading in order to bring uniformity in bibliographic description and access. In most modern cataloguing codes, it is suggested that a single form of name (i.e. uniform heading) be used for all the works of an author.

14. To bring the standardization in bibliographic information, most of the modern cataloguing codes developed in the nineteenth and twentieth century have embodied the provision of rules for transcription of cataloguing data from uniform sources (e.g. title page as chief source of information), standardization in bibliographic description (e.g. ISBDs) and formulated uniform rules for different types of materials.

3.4 THE MACHINE READABLE CATALOGUE (MARC)

MARC is an acronym for Machine Readable Catalogue or Cataloguing developed by the Library of Congress in 1965-66 for producing LC cataloguing data in machine-readable form. The term MARC is misleading as it is often understood by many that MARC is a kind of catalogue or a cataloguing code. In fact, MARC is a framework standard to which cataloguing content has to be added so that catalogue
records can be handled by computers. The MARC format was primarily designed to serve the needs of libraries as well as it is a means of storing and exchanging bibliographic data between nations and continents.

The LC initiated a Pilot Project in 1965-66, known as MARC I, with an aim of investigating the feasibility of producing cataloguing data in machine readable form. A similar work was also undertaken by the Council of the British National Bibliography (BNB) in the United Kingdom, known as BNB MARC project, on the use of machine-readable data for producing the printed BNB. These parallel developments led to the Anglo-American co-operation on the MARC II project which was initiated in 1968. The MARC II was the instrumental in defining the MARC as a communication format. It is the archetype of all subsequent MARC formats. The record structure of MARC II was later adopted by the American National Standard Institute (ANSI), the British Standards Institute (BSI) and the International Organization for Standardization (ISO). MARC format adhere to the ISO 2709 record structure. The MARC format, both by its structure and the content designators, has brought a revolution in the creation of bibliographic database world-wide. Many national formats were later developed on the principles based on the MARC II format.

Other countries were also shown keen interest on the LC MARC and BNB MARC format and developed their own national MARC format based on them. In early 1970’s an extended family of more than 20 MARC formats were developed whose data contents were found different owing to different national cataloguing practice and requirements. Variability in MARC formats create a major problem for exchange of data between national bibliographic agencies throughout the world.
This led to the development of a Universal MARC format (UNIMARC) by IFLA in 1977, which would accept records created in any MARC format.

3.5 METADATA

The concept of metadata has got significance in the context of enormous growth in the volume of information on the Internet. The volume of information on the web, openness of the web for publishing documents, nature of web documents, all these factors affect the process of retrieval of information from the web. The organization and presentation of the content of web documents is not generally systematic and indicative as found in the print documents. The validation process obtaining in the print medium is virtually non-existent in the web world. The nature, un-controlled and un-organized publication of digital resources on the web make the process of effective retrieval of information, with acceptable levels of recall and precision, from the web more difficult. The most widely used tools for searching and retrieving information from the web are search engines and subject directories. However, their retrieval effectiveness is greatly affected because of the nature and characteristics of web documents. So, the Internet community has initiated several efforts in order to enhance retrieval effectiveness of web documents. Metadata initiative is one of an efforts initiated to describe digital resources from the web and to retrieve them effectively.

Metadata is structured data usually describing the attributes and characteristics of digital web resources in order to index and retrieve information available on the World Wide Web (WWW).
A brief overview of metadata schema viz. Dublin Core Metadata Initiative has been discussed in chapter – 4.

3.6 CONCLUSION

Document description is considered to be an essential component of library infrastructure. No modern library of present age can function without having the provision of adequate document description of reading materials. It is a process of recording, describing and indexing the resources of a library or of a group of libraries.

The process of modern document description, which provide access to resources by their authorship, title and subject, was began in the nineteenth century with the first codification of rules for compilation of an author catalogue by Panizzi. Since then many developments in document description procedures have been noticed. The ICCP (1961) is considered to be one of the most important events in the history and development of document description. The conference was aimed to provide uniformity in document description practices so as to overcome the various conflicting issues found in the different cataloguing codes and practices, which made the exchange of bibliographic record difficult at international levels. One of the major achievement of the conference was the formulation of ISBD which was came out because of the activity set in motion by ICCP. ISBD was developed to specify the requirements for the description of documents for the purpose of international communication of bibliographic information. The development of ISBD made the practice of document description standardized.
The development of dictionary card catalogue during the late nineteenth century in the libraries in United States is considered to be another milestone in the history of document description. The card catalogue replaced the book catalogues and its use was found widespread in the libraries. The comprehensive use of card catalogue was continued in the libraries for more than a century. Later the use of card catalogue became gradually decreases because of introduction of machine-readable catalogues.

The Machine Readable Catalogues came into existence in the libraries in USA in 1960’s. The Online Public Access Catalogue (OPAC) began to appear in 1980’s and the web-based OPACs in the late 1990’s. The developments of OPACs have brought revolutionary changes in the use of library catalogues. OPACs serve as a gateway to the resources not only held by a particular library but also to the holding of other libraries.

The advent of World Wide Web (WWW) in 1990’s is considered another significant development. The WWW has become a strong media for publishing documents and an enormous growth in the volume of information over WWW is noticed over the years. The concept of metadata has got significance in the context of growth in the volume of information over WWW. Metadata is recent development, which describes the attributes and characteristics of digital web documents for the purpose of indexing and retrieving information available on WWW.

Since the introduction of MARC in 1965-66, we have noticed a very fast technological development in the field of automated document description. MARC brought a revolution in library automation in the libraries in America in 1970’s. The
advent of the WWW and the proliferation of networked full-text electronic resources over WWW made a profound change in the organization and access of online electronic resources. Besides conventional and non-conventional forms of document, we have noticed, in recent times, a tremendous explosion of digital web documents, which are usually organized on the web using certain metadata schema. Library and information professionals should give a new look on this new tool metadata in order to have proper organization and description of growing digital documents of their respective libraries. They should develop the skill of metadata creation for organizing web resources and also to integrate them into the library database so as to provide access to such resources to the university community specially for this region.