

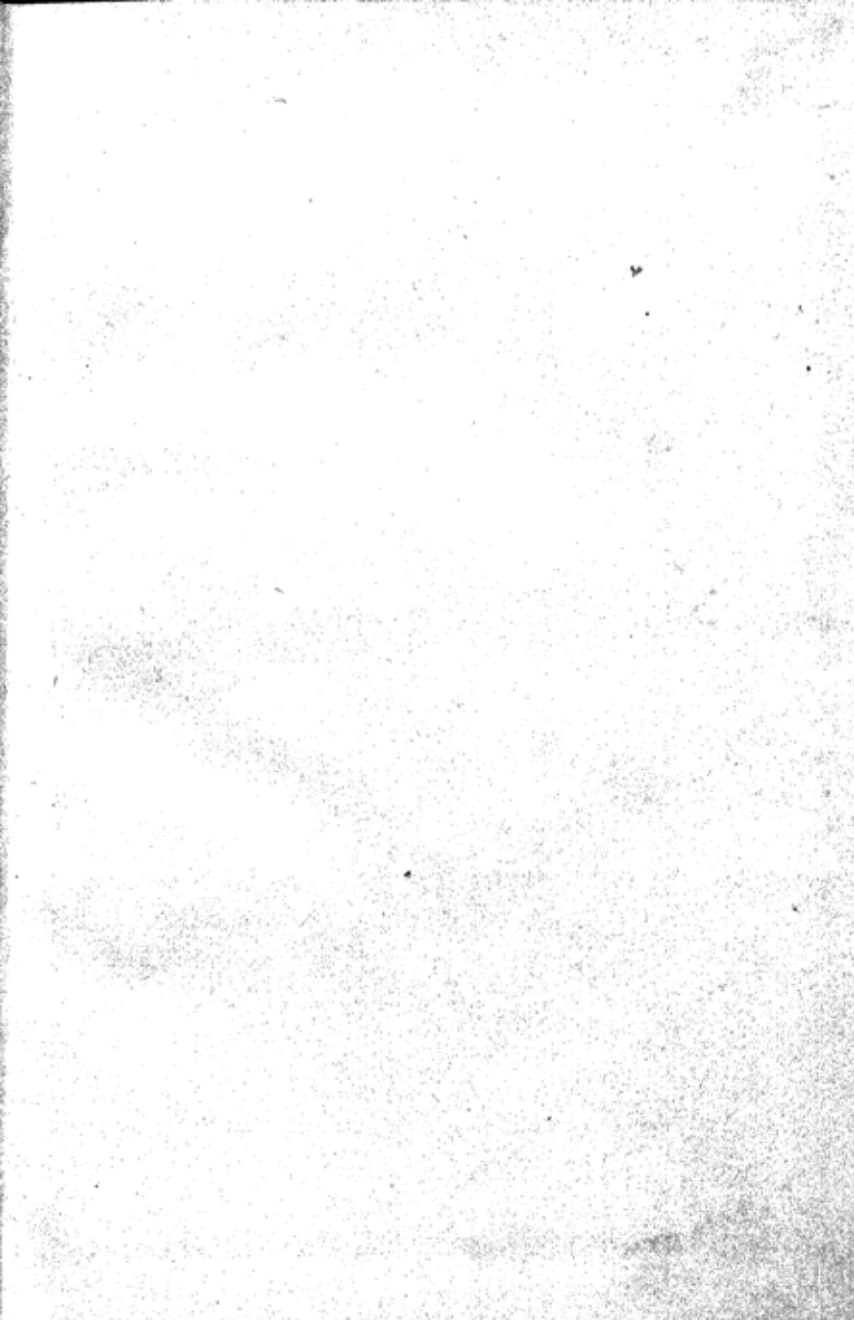
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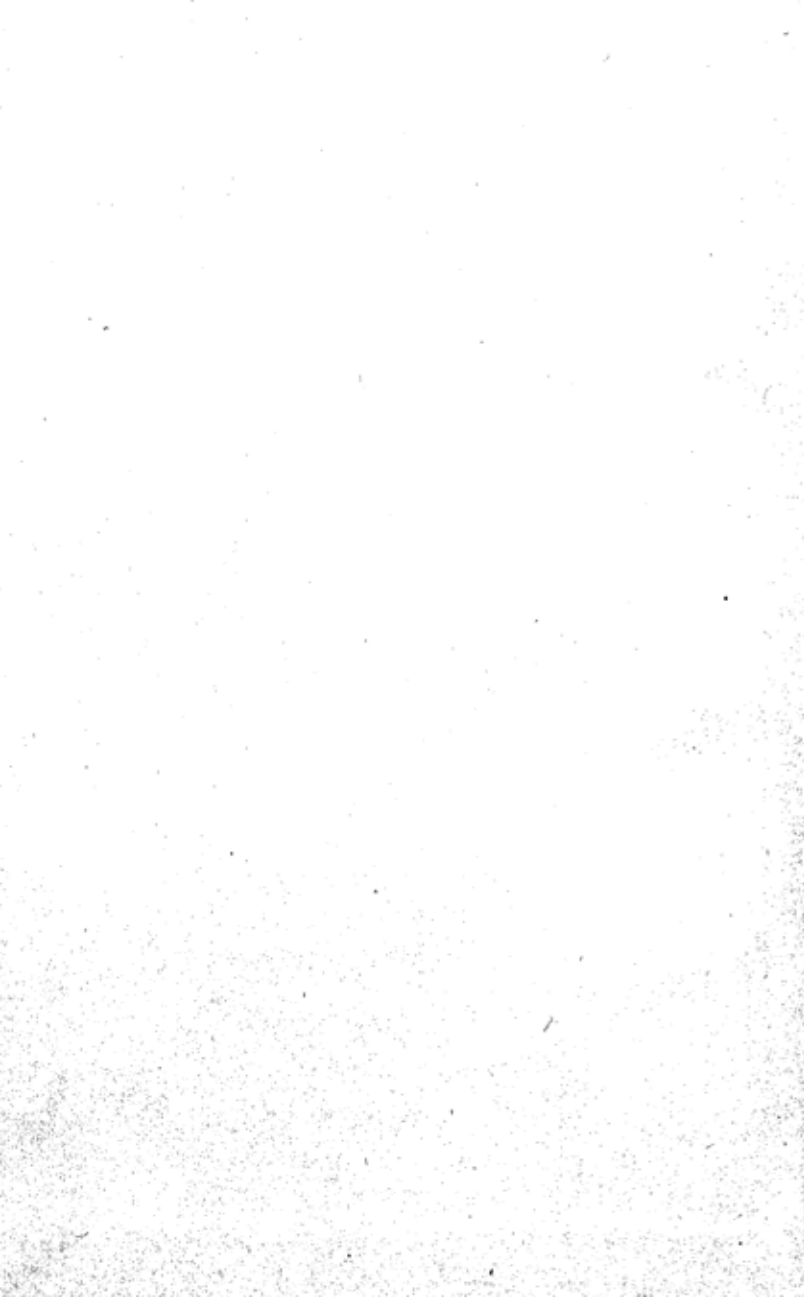
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LIBRARY CLASSIFICATION
EVOLUTION OF A DYNAMIC THEORY



SARADA RANGANATHAN LECTURES

- 1 From Little Acorns, by B I Palmer. 1965
- 2 United Nations Family of Libraries, by P K Garde. 1966
- 3 Sociological Foundations of Librarianship, by J H Shera. 1967
- 4 Library Classification: Evolution of a Dynamic Theory, by R S Parkhi. 1968
- 5 Teaching of Library Classification, by D W Langridge. 1969
- 6 Putting Knowledge to Work: An American View of the Five Laws of Library Science, by Pauline A Atherton. (1970 Sarada Ranganathan Lectures)
- 7 Reference Service: The Penultimate Purpose of Library Work, by Dr (Mrs) Suseela Kumar. (1971 Sarada Ranganathan Lectures)

LIBRARY CLASSIFICATION

EVOLUTION OF A DYNAMIC THEORY

R S PARKHI

Author of

*DECIMAL CLASSIFICATION AND COLON
CLASSIFICATION IN PERSPECTIVE*

and

Retired Librarian, Fergusson College, Poona

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Raghunath Shatanand Parkhi (1901-1968)

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FOR LIBRARY SCIENCE (1961)

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THE FIVE LAWS OF LIBRARY SCIENCE

- 1 Books are for use
- 2 Every reader his/her book
- 3 Every book its reader
- 4 Save the time of the reader
- 5 A library is a growing organism

CHAPTER A

PREFACE TO THE SERIES

The SARADA RANGANATHAN ENDOWMENT FOR LIBRARY SCIENCE was founded in 1963 by Dr S R Ranganathan and Mrs Sarada Ranganathan. Its funds are vested in the Treasurer of Charitable Endowments for India in accordance with Sections 4 and 5 of the Charitable Endowment Act, 1890 (6 of 1890). The Endowment is administered by a self-perpetuating Committee of five.

The objects of the Endowment are:

- 1 Furthering the cause of library science;
- 2 Organizing periodically a course of lectures based on the latest ideas and research on library science and called, "THE SARADA RANGANATHAN LECTURES IN LIBRARY SCIENCE"; and
- 3 Assisting in the publication of these lectures and of nascent ideas in library science. The lectures can be delivered under the auspices of any university or any library association or any other body having similar interest and the funds can be spent in any part of India.

In fulfilment of the third objective, this series of books called "Sarada Ranganathan Lectures" is

CONTENTS

A	Preface to the Series	6
B	Raghnunath Shatanand Parkhi (17 March 1901 to 22 October 1968) by S R Ranganathan ..	11
C	Parkhi Bibliography. Books and Articles By and On Parkhi. <i>Compiled by</i> G R Parkhi and M A Gopinath	20
D	Inaugural Function: Welcome Address, by A Neelamegham ..	35
E	Practice Before Theory in Philosophical System of Subjects ..	37
F	Evolution of Theory of Library Classification: Stage 1: Descriptive Theory Distilled Out of Past Practices in Design Work ..	52
G	Canons in the Four Descriptive Theories of Library Classification ..	62
H	Observations on the Table of Canons in Chapter G	80
J	Evolution of Theory of Library Classification: Stage 2: Dynamic Theory Guiding Design Work ..	84
K	Idea Plane ..	102
M	Postulates for Work in the Idea Plane ..	109
N	Postulational Procedure in Classifying: a Demonstration ..	123
P	Canons for Work in the Idea Plane ..	131
Q	Principles for Facet Sequence for Work in the Idea Plane ..	133

being published. They are based on the courses of lectures delivered by the respective authors at the invitation of the Endowment. It is hoped that the books in this series will be of help in advancing library science and in improving library service.

Sarada Ranganathan Lectures

- 1, 1965, From Little Acorns by B I Palmer
- 2, 1966, United Nations Family of Libraries by P K Garde
- 3, 1967, Sociological Foundations of Librarianship by J H Shera
- 4, 1968, Development of the Theory of Library Classification by R S Parkhi

IN PREPARATION

- 5, 1969, Teaching of Library Classification by D W Langridge
- 6, 1970, Putting Knowledge to Work by Pauline Atherton

CHAPTER B

RAGHUNATHA SHATANANDA PARKHI (17 March 1901 to 22 October 1968): **IN MEMORIAM**

Dr S R Ranganathan

a Parkhi's Last Days

R S Parkhi was with us in Bangalore from April to June 1968. Besides doing his duty as Visiting Professor of Classification, he was working hard in the preparation of his Sarada Ranganathan Lectures to be delivered by him in December 1968. Little did we then dream that that would be the last occasion when he would be with us. Little did we dream then that his body was being undermined by cancer. But alas! he has gone from us; he has gone away for ever!! Who can replace him, I wonder. Who will equal him in his industry, persistence, and single-minded devotion to library science. He had this devotion and industry for the long stretch of 47 years from 1921 to 1968. After he reached Poona in July 1968, I had a few letters from him. Then came news dripping in that he had been admitted to a hospital. Parkhi's consideration for me was so great that he had advised his friends not to disclose to me that he was ill, lest it should affect my health. All the same I was

hearing regularly about his progress in the hospital and later at home. But all on a sudden, in the morning twilight hours of 23 October 1968, came the shocking telegram that Parkhi had disembodied himself on the previous day. The grief of my wife and myself and of the inmates of the DRTC was unbounded. "How can we get a man like him?" was on the lips of everybody.

b School Career

R S Parkhi came of a poor family. His father was a Vedic scholar working in the household of His Highness the Maharaja of Bhore, a small Indian Principality in Maharashtra. Parkhi had his primary education in Bhore and his secondary education in the Dravid High School in Wai in the Satara District of Maharashtra. Due to illness, he could not complete his school education.

c Education for the Library Profession

In 1921, he began to serve the Fergusson College, Poona, as a clerk. The Principal, R P Paranjape, "discovered" him and appointed him as the librarian of that College in 1922. He continued his education in a night school, Saraswati Mandir, and passed his matriculation examination in 1925. One day in March 1932, a shy, slim figure entered my room in the Madras University Library. He announced himself as R S Parkhi who had been

admitted to our School of Library Science. In the class, he struck me as if he were ill-at-ease amidst the post-graduates and graduates taking the course along with him. But I found him easily to be the most attentive and the most industrious of all the members of the class. He would spend long hours in the library till 8 p m and take into his head and his notebook as much information as possible from the few books on library science we had in those days. In the University Examination, he came out very high.

d Take-off in Library Career

After the course in Madras, Parkhi went back to the Fergusson College and courageously introduced "open access" system immediately and threw the library open for nearly fourteen hours in the day—from 8 a m to 10 p m. The Principal had given him quarters very near the Library. This enabled him to spend most of the hours in the Library, giving in-training to his staff, infusing into them all the enthusiasm he had developed himself for library cause, and in helping the readers individually, be they teachers or students. This devotion soon earned for him a high place in the estimation of the professors and of the students of the college.

e A Testimony from Justice Shri Tukol

While inaugurating the Sarada Ranganathan Lec-

tures in December 1969, Shri T K Tukol, Vice-Chancellor of the Bangalore University and a retired judge of the High Court of Mysore, spoke about R S Parkhi as follows:

“I was, as your Professor told you, a student of the Fergusson College and it was there that for the first time I came to know that there was something like library science. When I was a student for the M A, I had taken English literature for my subject. The late Mr Parkhi was our librarian. The most helpful person, most unassuming, always democratic, affable in his manners, and very pleasant in his dealings both with students and the staff. One thing that surprised me about Mr Parkhi, was the amount of knowledge that he had about the different authors, about the different books; and I will not be exaggerating if I say that Parkhi knew what most of the books in the library contained. I do not know how he knew them. But the moment I asked him — or if a student or a Professor in the College asked him — ‘I want to have something about Shakespeare’s Women’ or ‘I want to have something about the tragedies of Shakespeare’, well at once he would use the magic contained in your classification and class numbers; and that was where he began to speak so highly about Ranganathan, that I felt that here was a person, a great man, great in his own science, a person who could uphold not only the dignity of the

science but also the dignity of the country which he represented elsewhere." When Shri Tukol met me in person he told me in effect, "I learnt that Parkhi was not a graduate. This increased my admiration for the great and very useful help he gave me in the choice of the books and articles for my higher studies." A librarian cannot have a more enduring testimony and expression of gratefulness from the readers served by him.

f Ever up-to-date in Library Science

My own books began to appear year after year from 1931; and Parkhi mastered each one of them, before another would come out. This habit he continued till the fatal disease took him into the hospital a few weeks before his death. He was always up-to-date. Whenever a new issue of our quarterly *Library science with a slant to documentation* reached him, he used to write to me, in effect, "How much I have been longing to get the solution you have given in this issue for the problem which had been engaging my attention for some years!"

g Parkhi Bibliography

Parkhi's research in Library Classification, which began in 1934, never stopped till the cruel hand of death took him away. Parkhi's bibliography is a long and meritorious one. As many titles as possible

have been gathered by his son G R Parkhi, and by M A Gopinath. This bibliography is given in Chapter C. It is of both the "By" and "On" type.

h Anecdote About His Reputation

Parkhi is certainly one of the greatest librarians of India. One of his works was well known abroad. This I discovered in December 1964, when I was conducting a Seminar on Colon Classification at the Rutgers University in New Brunswick, USA. When the time came for discussion by the panel members, M F Tauber, Dewey Professor of Library Science in the Columbia University, waved before the audience a copy of Parkhi's *Colon Classification and Decimal Classification in perspective* (1964), which had been published a few months earlier, and said, in effect, "Everyone of us should read this book. This is a mine of information." A remark like that from one's compeer in the profession is the most valued reward possible for a scholar. And Parkhi had it most deservingly. He had no university degree to his credit. He did not draw any high salary and yet he was a prince among librarians.

j Service After Retirement

The DRTC invited him every year from 1965 onwards to come as a Visiting Professor and conduct classes in Library Classification. He had also

been teaching Library Classification in the University of Bombay from 1944 to 1952, and again in the University of Poona from 1954 to 1961. He retired from the Fergusson College in 1951. Since then his services were requisitioned to organise the collections in the following libraries:

- 1 Library belonging to H H Maharaja of Bhore;
- 2 Poona Agricultural College Library;
- 3 Naval Library at Bombay;
- 4 Jaipur University Library;
- 5 Library of the Swastik Rubber Products, Poona; and
- 6 Library of the Karve Institute of Social Service, Poona.

From 1951 to 1954 he worked as Officer on Special Duty in the Library of the Asiatic Society and the Central Library at Bombay to classify the copyright collections received there. At the invitation of Dr D R Gadgil, the then Director of the Gokhale Institute of Politics and Economics, Poona, he worked as its librarian from 1954 to 1961.

k Participation in Library Conferences

Parkhi was a familiar figure in most of the All India Library Conferences and in Library Conferences in Maharashtra. He regularly contributed papers to almost all the conferences. For some time

he was Vice-President of the Indian Library Association and of the Maharashtra Granthalaya Sangha.

m Family of Librarians

A measure of Parkhi's faith in the social value of library service can be seen in the fact that he put all his three sons into the library profession.

n Magnanimity and Non-attachment to Money

On his sixty-first birthday, Parkhi was presented with a purse by his friends and admirers. Poor though he was, he handed it over to the Poona University to be used for giving an annual prize to the student of the Department of Library Science of the University getting the highest marks in Classification in the University Examination. This is another measure not only of his magnanimity but also of his devotion to and faith in library science.

p Source of Inspiration

Parkhi is gone. But his reputation and his works will live long to inspire the new generation of librarians to throw themselves heart and soul into the discharge of their duty in their noble profession.

q Performance of a Sad Duty

While living in Bangalore as Visiting Professor in DRTC from April to June 1968, Parkhi was spending most of his time in preparing his Sarada

Ranganathan Lectures for the year. Every day he used to come and discuss with me the various points intended by him to be covered by the Lectures. At that time I had with me the galley proof of Ed 3 of my *Prolegomena to library classification*. He read through every line of this proof and took notes of every new idea found in it, for incorporation in his Lectures. I thus got a complete preview of the Lectures to be delivered by him. When he had to leave Bangalore suddenly on account of illness, he left with me his notes and the draft of some of his Lectures. I told him that I would get everything put into shape and typed out, before he would be back in December to deliver the Lectures. Never did I dream at that time that the advance copy of his lectures prepared by me would be of use, alas, as the Press Copy for its publication. Taking advantage of the four years of delay in printing the book, I have brought the terminology to the latest one developed by the Research Team in DRTC. I have also introduced the latest results got by the Research Team. I am sure that, if he were living today, the ever-up-to-the-minute Parkhi would have himself done so. Putting Parkhi's lectures in the final form is a sad duty that has fallen to my share. But I bear it with the satisfaction that this is probably the best of the books written by my dear old friend and colleague in the profession, R S Parkhi.

CHAPTER C

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99 Parkhi (R S) — an ideal librarian of Maharashtra. (Maharashtracha adarsha granthapal — R S Parkhi). (Sahitya sahakar. 1961, March; 3).

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103 Sixtieth birthday celebration of Shri Raghunatha Shatananda Parkhi, Poona, 17 March 1961.

(Shri Raghunatha Shatananda Parkhi *yanch shashtyabda poorti samarambha). (Sahitya sahakar. 1961. April; 9).

5 Foreword to R S Parkhi's Books

Note. — These are “on Parkhi”

104 Ranganathan (S R). Foreword (*In* Parkhi (R S). Decimal Classification and Colon Classification in perspective. 1964. vi-vii).

105 Ranganathan (S R). Foreword (*In* Parkhi (R S). Dvibindu vargikarana paddhati. Part 1. 1957. 2-12).

106 Ranganathan (S R). Foreword (*In* Parkhi (R S). Dvibindu vargikarana: pancha mulabhoota prakaranchi mukhe. 1967. 7-8).

107 Ranganathan (S R). Foreword (*In* Parkhi (R S). Dvibindu vargikarana yathartha darshan. Khanda 1. Bhag A: Mandavi ani tajar varganka. 1965. v-vii).

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tive (In Ranganathan (S R) Colon Classification (Rutgers series on systems for the intellectual organisation of information. Ed by Susan Artandi. 4). 1965. Int ed. 1967.

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CHAPTER D

INAUGURAL FUNCTION: WELCOME ADDRESS

A Neelameghan, *Professor, Documentation Research and Training Centre, Bangalore 3*

a Token Function

It is under very sad circumstances that we are holding this token function of inaugurating this year's Sarada Ranganathan lectures. Shri R S Parkhi, a name, I am sure familiar to each one of you here, and every professional librarian, young or old, in India, was to have delivered this year's lectures on the subject "Evolution of the Theory of Library Classification." As you are well aware, God willed it otherwise. On 23 October last Dr Ranganathan and myself received telegrams from Poona conveying the sad news of the demise of Shri Parkhi.

b Diligence and Industry of Parkhi

Shri Parkhi was one of the earliest students of Dr Ranganathan, in the School of Library Science in Madras in 1932. I understand that, though Shri Parkhi was not a graduate, Dr Ranganathan was greatly impressed by his diligence, intellectual ability, and his dedication and industry.

c Parkhi's Service as Librarian

Shri Parkhi organised the Fergusson College Library in Poona on modern lines, providing very commendable service to readers. After retirement from the College, he helped to reorganise the Vikram University Library in Ujjain and later the Town Hall Library at Bombay. The Maharashtra State bibliography was planned by him.

d Parkhi's Service as Teacher and Author

As a teacher of library science, he has inspired, formally and informally, many a young librarian and aspirant to the profession. He kept himself up-to-date in the subject, particularly in classification, by reading almost every piece of current writing on it. In the true Vedic tradition, he communicated his experiences and the findings of his studies in the form of articles and books in Marathi and in English. All of his works are widely read and well appreciated.

CHAPTER E

PRACTICE BEFORE THEORY IN PHILOSOPHICAL SYSTEM OF SUBJECTS

2 Three Uses of the Term 'Classification'

In the documents on Library Classification, the term 'Classification' is used indifferently in three different senses,

a1 Grouping together the like entities, found in the universe of entities considered;

a2 Grouping together as in Sec Ea1 and arranging the groups in a helpful sequence; and

a3 Representing each group by an ordinal number to facilitate and mechanise the maintenance of the preferred sequence.

Though this ambiguity has been pointed out repeatedly since 1951 onwards (19), the term 'Classification' still continues to be used by many writers indifferently in all the three senses. This causes a considerable confusion and refraction in the communication of ideas on Library Classification. This should be avoided by using the terms enumerated below for the different senses for which the term 'Classification' is now used.

a4 For Sense 1, the term 'Grouping of subjects' may be used;

a5 For Sense 2, the term 'Philosophical system of Subjects' may be used;

a6 For Sense 3, the term 'Library Classification' may be used.

The persistence of the use of the term 'Classification' in all the three senses is probably due to the fact that the concept of Classification had been in vogue all along from the days of the primitive man.

b Early Beginning of the Practice of Classification

Even a child of two or three years, divides its toys into different groups; it may be by colour, by size, by shape or on some other basis. Mankind also should have begun to classify in this way at the very beginning. Neither the child nor the primitive man could have developed sufficient intellectual capacity to arrive at the process of grouping and arranging on the basis of a theory. He should have done it by mere trial and error or rule of thumb and arrived at some helpful grouping and arrangement. In the early years of the history of mankind, not merely concrete entities would have been grouped in this way, but even methods of action in different situations would have been devised and hit upon by trial and error, out of sheer necessity. This should have been done under the pressure of mere "Life Force," in order to add to comfort. In this way, several practices would have been developed by the

early man. Any particular practice should have been in vogue for a long time, before man in a more advanced stage would have thought of finding out a scientific basis for the helpfulness of that practice, and if possible to improve or refine the practice. The work of grouping concepts or subjects should also have gone through the same course.

c Development of Classificatory Sense

This instinctive urge to classify in sense one or sense two, found in children, should be reinforced, by demonstration and suitable help at the different stages of the education of the child. The development of a good classificatory sense of kind 2 (Sec Ea) will greatly benefit the child in its work with materials as well as with concepts. As the child grows, the simple concepts will give place to increasingly complex concepts and progressively to ideas of a more advanced nature. It is educationally desirable that this classificatory sense should be trained in the children from the very beginning. Perhaps it is to emphasise this that Mr Bernard I Palmer, Educational Officer of the Library Association of UK, has chosen the title *Itself an education* (15) for the lectures on Library Classification delivered by him at Oslo and in Copenhagen.

d Philosophical System of Subjects

The first to seize the problem of Classification of

Subjects in Sense 2 (Sec Ea2 and Ea5) and to base it on a theory were the Philosophers. Each school of philosophers approached the theory from its own angle and provided its own Philosophical System of Subjects. This has been happening from very ancient times.

e Ancient and Medieval Indian Philosophical System of Subjects

A Philosophical System of Subjects is implied in the *Upanishads* forming the philosophical and the mystic supplements to the different recensions of the four *Vedas* of ancient India. This is perhaps the earliest Philosophical System of Subjects known. It was adopted by the later epics, and the encyclopaedias known as *Puranas*. The *Bhagavad-Gita* adopted it in its systematic exposition; and so did the later *Tantras*. The Vedic System divided the universe of subjects into the four Main Subjects: *Dharma*, *Artha*, *Kama* and *Moksha*. These correspond to the four fundamental values of the same names. In fact any universe whatever — be it of human beings, or of animals, or of plants, or of phenomena, or of concepts or of ideas of any kind — were grouped and arranged in Array 1 on the basis of these four values. The values themselves and the corresponding Subjects were usually arranged in the sequence mentioned above (30). The coverage of

the four main Subjects of the Vedic System are as given below:

e1 *Dharma*. — The dominant subjects included in this group are what are now denoted by the terms 'Law', 'Theology', 'Ethics' and 'Sociology'. This group was taken to comprehend the subjects involved in the maintenance of society as a coherent organism.

e2 *Artha*. — The dominant subjects included in this group are what are now denoted by the terms 'History', 'Political Science', 'Economics', and the 'Applied Sciences', forming the basis of economic well-being. This group was taken to comprehend the subjects leading to social well-being.

e3 *Kama*. — The dominant subjects included in this group are what are now denoted by the terms 'Literature', 'Fine Arts', and 'Pure Sciences'. This group was taken to comprehend the subjects arising out of the fulfilment of the involuntary creative urge in man, and/or for the enjoyment of the result of such creation. A work of this group has generally an elevating effect on its readers. It is charged with the personality of its author.

e4 *Moksha*. — The dominant subjects included in this group are what are now denoted by the terms 'Philosophy' and 'Spiritual Experience'. The former seeks to understand the universe by intellect and thereby get over the miseries of life, and attain

peace. Spiritual Experience, on the other hand, apprehends the totality of the universe in a single integral process in its entirety, through intuition, and leads to Peace. Fine Arts and Literature lead to an approximation to Peace.

f Sequence in the Vedic Philosophical System of Subjects

It can be seen that this sequence of the four groups corresponds to the different stages through which a society or an individual tends to move. The first pre-requisite is Coherent Existence. Then further progress requires production of commodities, and their equitable distribution. A few persons do not get satisfaction merely by the fulfilment of these two factors. They want, in addition, the joy of creative work. Their personality and creative work are of help also in the progress of the society. Last comes the state of bliss attained by a few through spiritual realisation. To put it schematically, Exist —» Grow towards full Happiness —» Seek creative Joy —» Attain ultimate Delight. The Vedic System is Socio-centred.

g Ancient European Philosophical System of Subjects

Plato's philosophy is said to have mentioned logic, physics and ethics as constituting the system

of subjects as understood in his day. This sequence is seen to be the reverse of the one in the Vedic System. Aristotle's System throws the then known major subjects in the sequence: Logic, Metaphysics, Mathematics, Physics, Ethics, Politics, Economics, Law and Useful Arts. These were formed into a triad in the array of Main Subjects. The first four formed the Main Subject, Theoretical Philosophy; the next three, Practical Philosophy; and the last, Productive Arts. The Ancient European System is Utility-centred.

h Medieval European Philosophical System of Subjects

The Medieval European Philosophical System of Subjects is known as the "Scholastic System." In this system, the following sequence of subjects was adopted: Grammar, Dialectics and Rhetoric; Arithmetic, Astronomy and Music; and Theology, Metaphysics and Ethics. The first group was called the Trivium; the second, the Quadrivium; and the first two together, the Seven Liberal Arts. These were preliminaries to the last triad forming the substantive group. This System followed the sequence of subjects in the universities of that age. It was the basis of arrangement in the universal bibliography brought out by Konard Gesner of Zurich in 1548. The Medieval European System is University-centred.

j Modern European Philosophical System of Subjects

In his *Advancement of learning* (1605), Francis Bacon examined the universe of subjects, as it was known in his time. This led him to a new Philosophical System of Subjects. It had a triad of main subjects, as given below:

History (memory)

Natural history

Generations (Physics,
physical geography,
species, etc) Pratergene-
rations (monsters)

Arts

Civil history

Ecclesiastical

Literary

Civil history proper

Science of Philosophy**(Reason)**

Philosophy

Divine philosophy
(natural theology)

Natural philosophy

Speculative

Physic

Metaphysic

Operative

Mechanic

Magic

Poetry (imagination)

Narrative

Dramatic

Parabolical

Philosophy of humanity

Human physiology (or
physical anthropology)

Human psychology

Logic

Ethics

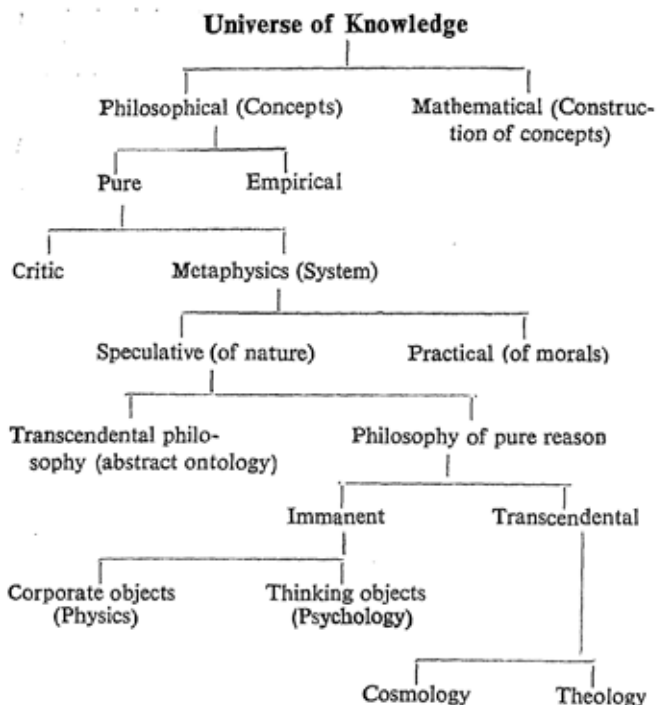
Civil philosophy (modern
sociology)

Human philosophy (anthropology)	Society (social relations) Commerce (economics) Government (political science) Theology (revealed religion)
---------------------------------	--

This is not Socio-Centred as the Vedic system; nor was it Utility-Centred as the Greek System, University-Centred as the European Scholastic System. The Modern European System is Psychology-Centred. The main subject Philosophy included all the subjects other than History and Literature. Naturally the sub-divisions of the main subject were greatest in number. We see the influence of Baconian system in the Array of Main Subjects of D C and consequently of U D C also. In these schemes the Baconian system is inverted. Directly or indirectly, Bacon held sway for a long time in Europe.

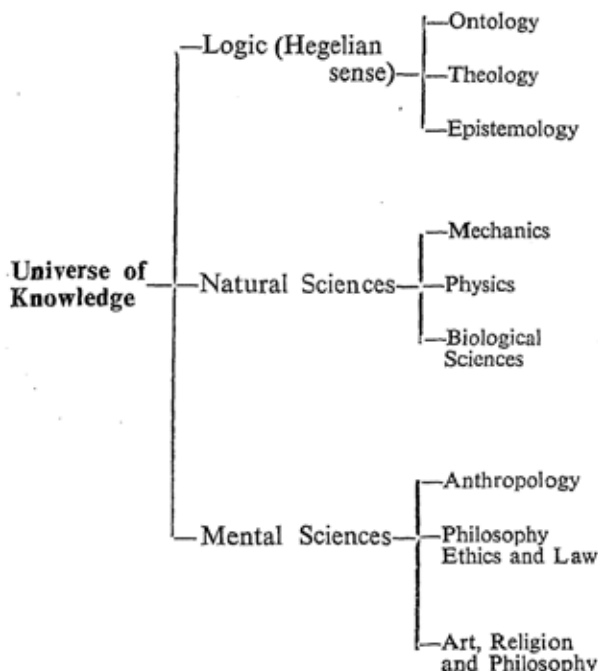
k Kant's Dichotomic Philosophical System of Subjects

In his *Critique of pure reason* (1781), Immanuel Kant (1724-1804) has given the following Dichotomic Philosophic System of Subjects. This scheme is apparently based on the primitive human instinct: to say of anything, either "This is A" or "This is not A." In other words, it is an attempt to exhaust all the entities under consideration within two groups, at each stage of division.



m Hegel's Trichotomic Philosophical System of Subjects

In his *Logic* (1812) Georg Wilhelm Friedrich Hegel (1770–1831), has given the following Triadic Philosophical System of Subjects:



This System was apparently influenced by the tradition of Greek Triad.

n Hobbes's Philosophical System of Subjects

Even during the period, when philosophers do not appear to have thought of putting a pure discipline before its applications, in their respective

Philosophical Systems of Subjects, in his *Leviathan* (1651), Thomas Hobbes (1588–1679) had divided the universe of subjects into groups such as follows:

- 1 Mechanics, Engineering, Architecture, Navigation; and

- 2 Acoustics, Music.

In the deviation from what appears to have been the normal practice of philosophers, Hobbes may perhaps be described as a “freak.” His method of building up a Philosophical System of Subjects appears to have been systematically followed only by the philosophers of the nineteenth century onwards. Perhaps his method may be described as follows: He gave up

- 1 The socio-centred approach;

- 2 The university-centred approach;

- 3 The psychology-centred approach; and

- 4 The self-imposed restriction that each successive step in classification should include either two and only two sub-divisions, or three and only three sub-divisions, as if in imitation of the Greek Triad. This method of his was worked out in great detail by the nineteenth-century philosophers.

p Comte's Philosophical Serial System of Subjects

In his *Cours de philosophie positive* (1830), Auguste Comte (1798–1857) arranged the subjects

in the following sequence: Mathematics, Astronomy, Physics, Chemistry, Biology, and Social Physics. In respect of this sequence, Comte's claim is that each subject is virtually an application of the preceding one. The name "Serial System" is used to denote this kind of Philosophical System of Subjects.

q Ampere's Philosophical Serial System of Subjects

In his *Essai sur philosophie de sciences où exposition analytique d'une classification naturelle de toutes les connaissances* (1834-1843), Andre Marie Ampere (1776-1836) appears to have worked out the Philosophical Serial System of Classification more thoroughly. He has named the subjects in his System in a clear way. A sample of his Serial System is given below:

Physics, Engineering, Geology, Mining;
Botany, Agriculture;
Zoology, Animal Husbandry, Medicine.

r Spencer's Philosophical Serial System of Subjects

In his *Classification of sciences* (1864) Herbert Spencer (1820-1903) gave the following as his version of Serial System:

Logic, Mathematics, Mechanics, Physics, Chemistry, Astronomy, Geology, Biology, Psychology, and Sociology.

We cannot regard this sequence to be as helpful as that of Ampere. Indeed, Ampere's scheme should be taken to be the best Serial System, given by the philosophers of the nineteenth century.

s **Karl Pearson's Philosophical System of Subjects**

The first of the systems listed as belonging to the 20th century is the one of Karl Pearson published in his *Grammar of science*, Ed 2, 1900. Its outlines are:—

A Abstract Science

Logic

orthology

methodology

(qualitative)

Arithmetic

Algebra

Calculus, etc

(quantitative)

Trigonometry, etc

(relations of space)

Kinematics, etc

(relations of time)

B Concrete Science

Precise physical sciences

Physics of the

ether (light, heat,

electricity,

magnetics, etc)

Atomic physics

Molecular physics)

C Concrete Science — Organic Phenomena

Geography and Natural

History (old sense)

Physiology

Psychology

(space)	Theory of instance,
History (inculding	etc
evolution of species)	Psychics
	Sociology

Biology

Morphology, etc
(form and struc-
ture)
Embryology, etc
(growth, etc)

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CHAPTER F

EVOLUTION OF THEORY OF LIBRARY CLASSIFICATION: STAGE 1

DESCRIPTIVE THEORY DISTILLED OUT OF PAST PRACTICES IN DESIGN WORK

a Difference between Philosophical System of Subjects and Library Classification

There are a few essential differences between a Philosophical System of Subjects and a Library Classification. These are:

a1 A Philosophical System of Subjects seldom appears to continue the sub-divisions of a subject to the full extent demanded by the emergence, from time to time, of subjects of smaller and smaller extension; but

a2 A Library Classification should continue the sub-divisions of a Subject, whatever be the extent to which they go;

a3 A Philosophical System of Subjects seldom appears to fit in with a notational system — in other words to provide a translation of the names of the subjects into an ordinal language giving a unique class number for each subject — for use in mechanising and maintaining the preferred sequence of subjects; but

a4 A Library Classification should fit in with a notational system to serve the purpose mentioned in Sec Fa3.

b Practice of Library Classification

According to E C Richardson about 181 Schemes for Library Classification — each with a Notational System of its own — had been designed from the third century B C onwards. This list is brought up to 1901 when the Bibliographic Classification of H E Bliss was on trial in the New York City University Library (37). We should now add to it the Colon Classification of S R Ranganathan, designed from 1924 onwards, with its first edition published in 1933. This brings the total number of Schemes for Library Classification to 182.

c No Evidence of Theory Guiding any Classificationist

The design of all the 182 Schemes for Library Classification had been done largely with the aid of the flair of the classificationist, with occasional help from a trace of intuition. There seems to be no evidence of their having been guided by any theory of library classification, though it is not improbable that each classificationist was guided by some unexpressed theory working from the sub-conscious level.

d Restriction in the Number of Schemes for Consideration

In the approach to the Emergence of a Theory of Library Classification it would be unrealistic to take into consideration all the 182 Schemes, mentioned in Sec Fb. Therefore in this chapter we shall confine ourselves only to the undermentioned 7 Schemes. These are the only Schemes used in the formulation of a Theory of Library Classification based on the Schemes designed on the basis of flair and not on an objectively Stated Theory of Library Classification.

d1 Decimal Classification (D C) (1876), designed by the Classificationist Melvil Dewey of USA: This was the first scheme to have accustomed librarians and readers alike to the presence of Class Numbers on the backs of books and on Catalogue Cards. As if it were a prize for the pioneering work done by D C, it is widely used in many countries.

d2 Expansive Classification (E C) (1893), designed by the Classificationist Charles Ammi Cutter of USA: It differs from D C in the use of literal digits instead of confining itself to Indo-Arabic numerals. It differs from D C in the sequence of Main Subjects also. It does not seem to be used in many libraries. But it influenced the design of the L C (Sec Fd4).

d3 Universal Decimal Classification (U D C)

(1896), originated by two non-librarians — Henri La Fontaine and Paul Otlet of Belgium — and being developed by the International Federation for Documentation (FID): It uses the D C Schedule as its core and grafts to it Time and Space facets and also Analytic divisions which are special facets applicable to specified Core Subjects. Of late, it is making some changes from D C in subjects with class numbers of 4 or more digits. Its notation is a mixed one, as it uses certain punctuation marks. Many specialist libraries are vigorously persuaded to adopt it.

d4 Library of Congress Classification (L C) (1904), developed by the staff of the Library of Congress of USA, on the basis of the arrangement of its collection: It adapts the Schedule of Main Subjects of E C. It has a great influence over the libraries in USA and a few other countries on account of its being backed and financed by the Government of USA. But, unfortunately, its notational system is as bad as it can be. It uses Integer Notation, instead of the Decimal Fraction Notation whose utility has been well established by D C and which is adopted by all the other schemes. It has left gaps in its Integer Notation to accommodate newly emerging subjects — both coordinate and subordinate — claiming a place of helpfulness between two consecutive integers. Any such gap is prone to get mixed up the coordinate and subordinate sub-

jects. Further, a gap gets choked up in course of time, denying hospitality to newly emerging subjects, in their mostly filiatory positions. This scheme usually figures only as a Negative Model in the development and study of Library Classification.

d5 Subject Classification (S C) (1906), designed by the Classificationist James Duff Brown of UK: This scheme is not very much in use. However, its inclusion of "Categorical Tables" as an auxiliary to the Schedule of Subject had implied the idea of Faceted Classification though in an incipient form. For this reason it is usually included in the Study of Theory of Library Classification.

d6 Colon Classification (C C) Rigidly Faceted Version (1933), designed by the Classificationist S R Ranganathan of India: It abandons the practice, till then in vogue, of giving a Schedule of Compound Subjects with all its resistance to interpolation of new subjects in a helpful place. On the other hand it provides a Schedule of Main Subjects and many Schedules of Special Isolates of different kinds, needed in the formation of the Compound Subjects going with specified Main Subjects. The Schedules of Main Subjects and of Special Isolates are all short. It also provides a set of Common Isolates. Its notation is a mixed one. As substantial digits, it uses Roman smalls, Indo-Arabic numerals, Roman caps, and the Greek letter "Δ" (Delta). In this way, it overcomes the difficulties experienced by

D C in accommodating newly emerging subjects. It also uses the punctuation mark ":" (Colon) to separate the isolate numbers — that is, the numbers representing the successive isolates — forming part of the class number of a compound subject. Each isolate number in a class number is denoted by the term 'Facet'. The scheme is, therefore, denoted by the term 'Faceted Scheme'. In this Scheme a subject is first *analysed* into its Basic Subject and Facets. Then the names of these are translated in their respective numbers. Lastly these numbers are *synthesised* using the digit ':' (Colon) as the connecting digit. For this reason C C is also denoted by the term 'Analytico-Synthetic Scheme'. Bliss was the first to describe it as "Synthetic" in the Preface to the Preliminary edition of his *Bibliographic classification*. It is learnt that the term 'Synthetic' was replaced by the term 'Analytico-Synthetic' at the suggestion made by A Jack Wells at a meeting of the Society for Visiting Scientists held in London in September 1948 and addressed by Ranganathan. In contradistinction to this D C, E C, and L C are denoted by the term 'Enumerative Scheme'.

Note. — The Freely Faceted Version of C C is excluded from this list as its design is based on an objectively stated Theory of Library Classification.

d7 Bibliographic Classification (B C) (1936), designed by Henry Evelyn Bliss of USA: It has a mixed notation. Its class numbers admit of a dash

of facet structure.

**e Distillation of the Theory of Library Classification
From Library Classification-in-Action**

As it had happened in every other field of study and work, so it has happened in the field of Library Classification. Library Classification-in-action was in practice for a number of years. Seven different schemes with different approaches in the enumeration or synthesis of subjects and in the formation of their respective class numbers had been practised for a few decades. This gave an opportunity for a comparative study of the methodology used in the design of the different schemes. In due course this comparative study has led to the distillation of a Theory of Library Classification. In fact, more than one Theory has been already distilled. And more may come in future. Such a distilled Theory does usually no more than give a descriptive annotation of the practice.

f Grammar of Library Classification

It is usual to speak of a descriptive Theory of Library Classification as a grammar of Library Classification. Sec Fg to Fn give a list of the descriptive Theories produced from 1896 to 1937.

g James Duff Brown and the Theory of Library Classification

In 1896, James Duff Brown of UK published his

Manual of library classification. Its substance was incorporated in his book *Library classification and cataloguing* (1921).

h E C Richardson and the Theory of Library Classification

In 1910 E C Richardson of USA published his *Classification, theoretical and practical*. Its core consists of two chapters containing his lectures on the subject. In the Introduction to this book he enumerates three Laws or Principles of Library Classification — Canons, to use our terminology.

j Wyndham Hulme and the Theory of Library Classification

In 1911-12 Wyndham Hulme of UK published his "Principles of Book Classification" in the *Library association record*. It has been reprinted in the A A L Series. Sayers refers to this contribution of Hulme as "A valuable lead-up to the more complete and satisfactory theories of today," though he did not complete his Theory.

k W C Berwick Sayers and the Theory of Library Classification

In 1915, W C Berwick Sayers of UK gave an elementary account of the Theory of Library Classification in his small book entitled *Canons of classification*. He expanded the outline of the Theory contained in this book in three further books:

1 *Grammar of classification*

2 *Introduction to library classification*; and

3 *Manual of library classification*. Ed 3 of this book prepared by Sayers himself came out in 1955. Ed 4 revised by Arthur Maltby was published in 1967. But Maltby's edition is not of much help in the present study. Its language is non-technical. It has not reproduced the Canons of Sayers in their original crisp form.

m H E Bliss and the Theory of Library Classification

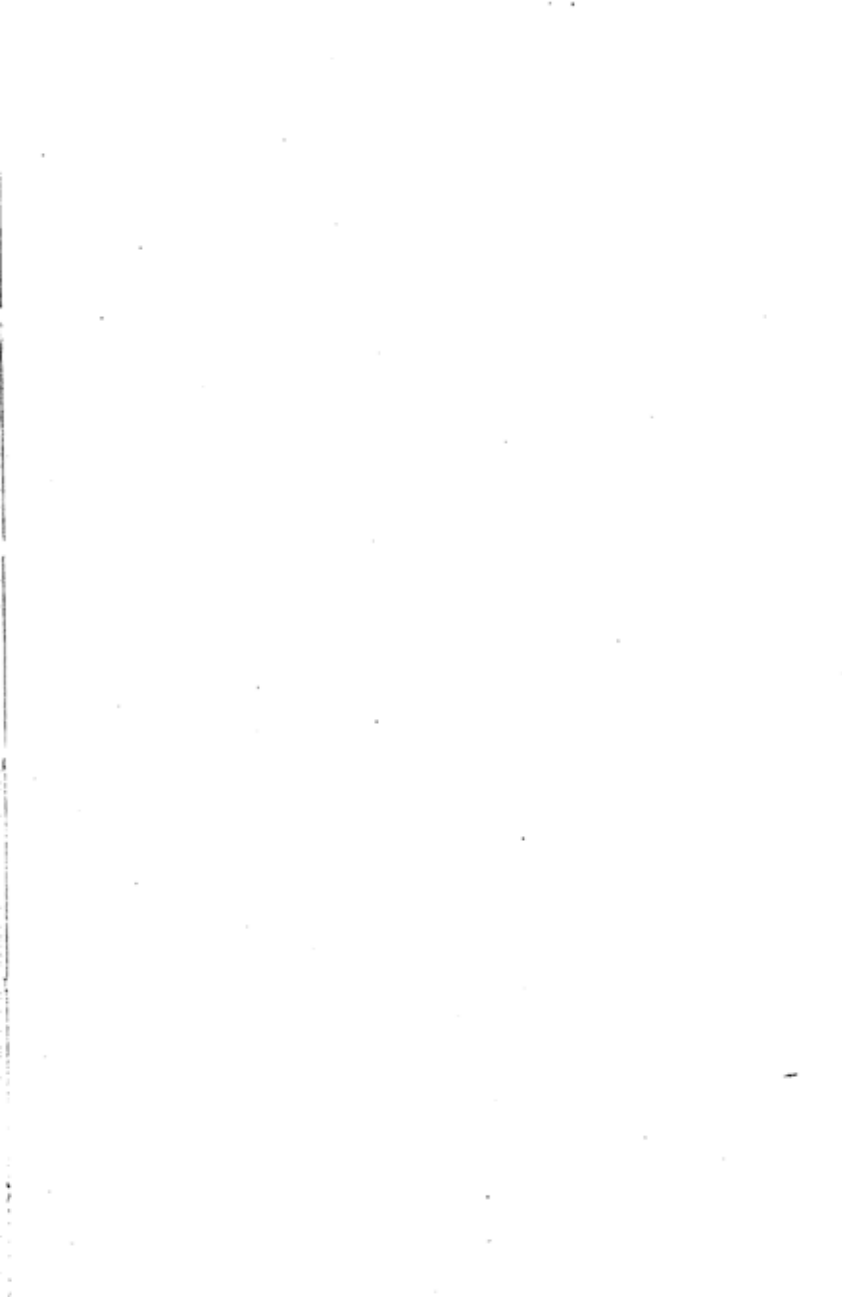
In 1933, Henry Evelyn Bliss of USA published his Theory of Library Classification in his *Organisation of knowledge in libraries and the subject approach to books*.

n S R Ranganathan and the Theory of Library Classification

In 1937, S R Ranganathan of India published his Theory of Library Classification in his *Prolegomena to library classification*. The Theory in this edition was mainly descriptive of the practice in classification then in vogue.

p The Texts Used in the Study of the Evolution of the Theory of Library Classification

The theories of Richardson, Sayers, Bliss, and Ranganathan (1937 Version) which contain a sizable list of the Principles of Library Classification formulated by them will be studied in Chap G and H.



CHAPTER G

CANONS IN THE FOUR DESCRIPTIVE THEORIES

Note.—1 The wording in the column "Ranganathan: Prolegomena

2 The number at the end of each Canon denotes the

Ranganathan: Prolegomena. Ed 1. 1937	Bliss: Organisation of knowledge in libraries and the subject approach to books. Ed 1. 1933
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a/e Canons for Characteristic

a Canon of Differentiation

A characteristic used as the basis for the classification of a universe should differentiate some of its entities—that is, it should give rise at least to two classes... (P 31).

b Canon of Concomitance

No two characteristics in the associated scheme of characteristics should be concomitant—that is, they should not give rise to the same array of subjects or of isolate ideas. (P 31)

a/e Canons for Characteristic

a Canon of Likeness

Objects and realities exist in relation to one another and to minds, or subjects, which by likeness relate them in classes or correlative concepts. These relations are basic to knowledge, to its relativity, and to the classification of subject matters. (P 38)

OF LIBRARY CLASSIFICATION

Ed 1" is the more precise one given in Ed 3.

number of the page in which it occurs in the book concerned.

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

a/e Canons for Characteristic

a Canon of Likeness

Classification arranges things according to their degrees of likeness and separates them according to their degrees of unlikeness. The likeness chosen is called the characteristic of classification. (Sec 119.7)

a/e Canons for Characteristic

a Canon of Likeness

Classification is the arranging of things according to likeness and unlikeness. (P 1)

Ranganathan: Prolegomena.
Ed 1. 1937

Bliss: Organisation of knowledge in libraries and the subject approach to books. Ed 1. 1933

c Canon of Relevance

A characteristic used as the basis for the classification of a universe should be relevant to the purpose of the classification. (P 32)

c Canon of Relevance

The classification should be consistent with its chosen principle or purpose. (P 43, XXI)

d Canon of Ascertainability

A characteristic used as the basis for the classification of a universe should be definite and ascertainable. (P 33)

e Canon of Permanence

A characteristic used as the basis for the classification of a universe should continue to be unchanged so long as there is no change in the purpose of the classification. (P 34)

Sayers: Manual of classification. Ed 3. 1955

Richardson: classification, theoretical and practical. Ed 3. 1964

c Canon of Relevance

Characteristics chosen as the basis of division should be the most convenient for the purpose in view. (Sec 119.8)

Ranganathan: Prolegomena.
Ed 1. 1937

Bliss: Organisation of knowledge in libraries and the subject approach to books. Ed 1. 1933

**f/g Canons for Succession
of Characteristics**

f Canon of Relevant Succession

The succession of the characteristics in the associated scheme of characteristics should be relevant to the purpose of the classification. (P 37)

g Canon of Consistent Succession

The succession of the characteristics in the associated scheme of characteristics should be consistently adhered to, as long as there is no change in the purpose of classification. (P 39)

h/m Canons for Array

h Canon of Exhaustiveness

The classes in an array of classes...should be totally exhaustive of their common immediate universe. (P 40)

h/m Canons for Array

h Canon of Exhaustiveness

A bibliographic class comprises all the items that may be classed under its definition and named by its term, or terms. (P 39)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

f/g Canons for Succession
of Characteristics

g Canon of Consistency

Characteristics must be used consistently. (Sec 119.12)

h/m Canons for Array

h Canon of Exhaustiveness

The process of division must be exhaustive. This means that each subject must be divided, step by step, as minutely as is possible, and again, that

Ranganathan: Prolegomena.
Ed 1. 1937

Bliss: Organisation of knowledge in libraries and the subject approach to books: Ed 1. 1933

j Canon of Exclusiveness

The classes in an array of classes...should be mutually exclusive. (P 41)

k Canon of Helpful Sequence

The sequence of the classes in any array of classes... should be helpful to the purpose of those for whom it is intended. (P 42)

m Canon of Consistent Sequence

Whenever similar classes... occur in different arrays, their sequence should be parallel in all such arrays, wherever insistence on such a parallelism does not run counter to other more important requirements (P 46)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

the sum of all the divisions, sub-divisions and sections shall be as complete an analytical statement of the meaning and content of the class term as is possible. (Sec 119.10)

Ranganathan: Prolegomena. Ed 1. 1937	Bliss: Organisation of know- ledge in libraries and the sub- ject approach to books. Ed 1. 1933
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n/p Canons for Chain

n/p Canons for Chain

n Canon of Decreasing Extension

n Canon of Intension

While moving down a chain from its first link to its last link, the extension of the classes...should decrease and the intension in them should increase at each step. (P 59)

A class may be divided into sub-classes, and these into their subordinate sub-classes, in each case by more specific differences in characteristics, relations, etc. (P 40)

p Canon of Modulation in Chain

A chain of classes ... should comprise one class ... of each and every order that lies between the orders of the first link and the last link of the chain. (P 61)

q/t Canons for Terminology

q Canon of Currency

The term used to denote a class...in a Scheme for Classification should be the one current among those specialising in the subject-field covered by the scheme. (P 64)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

n/p Canons for Chain

n Canon of Intension and Extension

A classification begins with isolate ideas of great extension and small intension and proceeds to isolate ideas of great extension and small extension. (Sec 119.9)

p Canon of Modulation in Chain

The process of [sub-division] must be gradual, each term following it, and the whole perfectly co-ordinated. (Sec 119.10)

q/t Canons for Terminology

q Canons of Currency

Terms should be unambiguous. They may be technical or popular, but with a tendency towards the technical as likely to be more permanent. (Sec 120.15)

Ranganathan: Prolegomena.
Ed 1. 1937

Bliss: Organisation of knowledge in libraries and the subject approach to books. Ed 1. 1933

r Canon of Reticence

The terms used to denote a class...in a Scheme for Classification should not be critical—that is, express any opinion of the classificationist. (P 68)

s Canon of Enumeration

The denotation of a term in a Scheme for Classification should be determined and should be left to be determined in the light of...through the sub-classes...enumerated in the various chains having the class...denoted by the term in question as their common link. (P 69)

t Canon of Context

The denotation of a term in a Scheme for Classification shall be determined in relation to the different classes...belonging to the same primary chain as the class...denoted by the term in question. (P 71)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

Ranganathan: Prolegomena,
Ed 1. 1937.

Bliss: Organisation of know-
ledge in libraries and the sub-
ject approach to books. Ed 1.
1933

w/3 Canons for Notational
Plane

w/3 Canons for Notational
Plane

w Canon of Relativity

The number of digits (including digit groups treated as a single digit) in a Class Number...should be the same as the order of the subject...represented by it. (P 90)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

u *Canon of Expressiveness

Terms may be any word or phrase which expresses adequately the connotation of the class it names. (Sec 120.14)

v *Canon of Consistency

Terms should be used with a consistent meaning in every act of classification. (Sec 120.16).

w/3 Canons for Notational Plane

*This Canon does not belong to Descriptive Theory; it belongs to Dynamic Theory.

Ranganathan: Prolegomena. Ed 1. 1937	Bliss: Organisation of knowledge in libraries and the subject approach to books. Ed 1. 1933
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x/y Canons for Hospitality

x/y Canons for Hospitality

x Canon of Hospitality in Array

x Canon of Hospitality in Array and Chain

The Class Numbers belonging to an Array should be so constructed that any number of new Class Numbers can be added to the Array, without disturbing the existing Class Numbers in any way. (P 99)

Expansive and Adaptive notation is requisite for new additional subjects. (P 45)

y Canon of Hospitality in Chain

The Class Numbers belonging to a Chain should be so constructed that any number of new Class Numbers can be added at the end of the Chain without disturbing the existing Class Numbers in any manner, to accommodate new sub-ordinate classes which can be formed on the basis of a single Train of Characteristics or two or more Trains of Characteristics. (P 106)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

x/y Canons for Hospitality

x Canon of Hospitality in Array and Chain

The notation symbols must be capable of expansion to mark the insertion [of any new class or part of a class] without dislocating the rest of the notation. (Sec 122.25)

Ranganathan: Prolegomena.
Ed 1. 1937

Bliss: Organization of knowledge in libraries and the subject approach to books. Ed 1. 1933

1 Canon of Mnemonics

The digit or digit group used to represent a specific concept in a Class Number should be the same in all class numbers having that concept represented by them, provided that insistence on such consistent representation does not violate more important requirements. (P 120)

1 Canon of Mnemonics

Systematic mnemonics are recurrent throughout the system more or less constantly. They should just fall into the system, fit there; they should not be forced into place. Mnemonics in library notation should not displace apt collocations nor sub-ordinations and co-ordinations. (P 60)

2 Canon of Length of Class Number

Expansion [of notation] should not exceed the limits of economy. (P 51)

3 *Canon of Faceted Class Number

The notation should be composite. (P 71)

Sayers: Manual of classification. Ed 3. 1955

Richardson: Classification, theoretical and practical. Ed 3. 1964

1 Canon of Mnemonics

The notation [should mark] any series of subjects or forms or aspects of subjects which recur in the scheme... by the number (Sec 122.26).

1 Canon of Mnemonics

In notation the mnemonics element is of prime importance. (P 38)

4/5 Canons for Principles of Helpful Sequence

4 *Canon of Historical Sequence

Arrange classes in historical sequence (P 7)

5 *Canon of Evolutionary Sequence

Arrange classes in Evolutionary sequence (P 7)

*This Canon does not belong to Descriptive Theory; it belongs to Dynamic Theory.

CHAPTER H

OBSERVATIONS ON THE TABLE OF CANONS IN CHAPTER G

a Explanation of the Sequence among the Headings of the Table

The table of Canons in Chap G mentions the *Prolegomena* in the first column, though it gives the latest of the four Theories. It arranges the other Theories in the inverse of chronological sequence. The reason for this is that the *Prolegomena*, being the latest, gives the largest number of Canons and Richardson's book, being the first, gives the least number. It is thus helpful to match the list of Canons of the other three Theories against the list in the *Prolegomena*.

b/e Relative Fullness

b Richardson

Column 4, listing the Canons of Richardson, is sparsely filled up. Indeed it mentions only 4 Canons. This is understandable as he was the first to distil a Theory of Library Classification from the practices of classificationists. Two of these four Canons — mentioned in Sec G4 and G5 — belong to the

Dynamic Theory of Library Classification, rather than to the Descriptive Theory.

c Sayers

Column 3, listing the Canons of Sayers, is fairly filled up. It mentions 11 Canons. This factor makes Sayers the first person to lead librarians to the recognition of the possibility of a Theory of Library Classification. His *Introduction* and *Manual* are said to have been based on his Lectures in the School of Librarianship of the University College, London. These books had popularised the Theory of Library Classification over more than two decades. In later years, Sayers had used the Schemes of Bliss and of Ranganathan also as the basis for the distillation of his Theory.

b Bliss

Column 2, listing the Canons of Bliss, is filled up much less than Column 3 (Sayers) but much more than Column 4 (Richardson). It mentions 8 Canons. Bliss was himself a classificationist. He had developed his Bibliographical Classification through several years, before he wrote his Theory. He based his Theory largely on D C, U D C, and the unpublished B C of his own.

e Ranganathan

Ranganathan's Theory mentions 21 Canons. There are, however, two of the Canons of Sayers and

one Canon of Bliss, missing in Ranganathan's list. Ranganathan himself is a classificationist; and his notation is a faceted one. It is surprising therefore how he missed to include the Canon of Faceted Notation in his list, though Bliss had included it.

f/j Canons for Terminology

f Descriptive *vs* Normative

Canons of Terminology are given only by Sayers and Ranganathan. But there is a good deal of difference between their respective Canons. Two of the Canons of Sayers (Sec Gu and Gv) have the flavour of normative principles and not that of descriptive ones. In this respect they differ from his other Canons which are largely descriptive. This might have been due to the adverse impact made in his mind by the terminology found in the earlier Schemes. But Ranganathan had the benefit of the terminology used in his C.C. Therefore his Canons have the flavour of normative principles.

g Canon of Currency

This Canon is fulfilled by all the Schemes. Therefore, it is only descriptive.

h Canon of Context

It is through this Canon that a classifier can understand the intention of the classificationist in regard to the denotation of the name of a subject or of an isolate mentioned by him in the schedule.

We shall illustrate this in respect of the term 'Accident'. For example,

hl In D C,

hl1 The term 'Accident' in the Schedule may stand for "Psychological influence of accident," and its D C Number will then be "155.936"; or

hl2 The term 'Accident' in the Schedule may stand for "Statistics of death caused by accidents," and its D C Number will then be "312.27"; or

hl3 The term 'Accident' in the Schedule may stand for "Statistics of accidents," and its D C Number will then be "312.4."

h2 In C C,

h21 The term 'Accident' in the Schedule may stand for "Accident in mining," and its C C number will then be "HX;44"; or

h22 The term 'Accident' in the Schedule may stand for "Accident insurance," and its C C Number will then be "X-8,44"; or

h23 The term 'Accident' in the Schedule may stand for "Social work in respect of accident," and its C C Number will then be "YX;44."

h3 In B C

h31 The term 'Accident' in the Schedule may stand for "Industrial accident," and its B C Number will then be "TGJ"; or

h32 The term 'Accident' in the Schedule may stand for "Railway accident," and its BC Number will then be "UHV"; or

h33 The term 'Accident' may stand for "Automobile accident," and its B C Number will then be "UPN,H."

j Canon of Enumeration

j1 In D C Ed 17 we have the following entry in the Schedule:

"621.133 Boilers, including auxiliary parts, fuel and fuel consumption, feed-water treatment." The words "including... treatment" are in small type face. This could have been avoided if these had been given as subdivisions of "621.133."

j2 In U D C (Abridged Ed 3) (1961) we have the following entries in the Schedule:

621.9 Tools. Machine tools. Machining

621.91 Roughing, Planing, Shaping, Slotting. Milling. Filing, Rasping. Broaching"

621.911 Planer tools. Chisels, scrapers, gouges

621.912 Planing and shaping
machines, tools

621.913 Slotting and mortising
machines, tools

621.914 Milling and hobbing
machines, tools

621.918 Filing and rasping
tools, machines

621.919 Broaching and broaches.

Obviously, if the Canon of Enumeration had been remembered by the classificationist, much

economy could have been effected in the above cited part of the Schedule, by the omission of the words appearing against the subdivisions of the Host Number "621.91."

j3 In C C full advantage of the Canon of Enumeration is taken, and economy is effected in the Schedule as illustrated below (taken from the Schedule of (1P2) isolates for "NA Architecture"):

7	Window	73	Rose
71	Compass	74	Venetian
72	Offertory		

In the above, the sub-divisions of window show the different kinds of windows included in the term 'window'.

k Canon of Reticence

In the earlier editions of DC the Schedule contained items such as,

- 133.7 Humbugs
- 821.79 Minor writers of Early Nineteenth Century English Poetry.

However, the terms used above express the opinion of the classificationist, and thus violate the Canon of Reticence. Such terms have been avoided in the later editions. Could this have been due to the impact of the Canon of Reticence formulated in the *Prolegomena*?

m/r Formulation of the Canons**m Ranganathan**

The formulation of the Canons in the *Prolegomena* has been very much improved between Ed 1 and Ed 3. Now it is very crisp and precise. This precision is of help in the evaluation of Schemes for Library Classification. A few librarians had "aired the view" that Ranganathan had adjusted his Theory to explain C C. Fortunately this wrong view is now dying out. Actually he is revising C C in the light of the Canons.

n Bliss

The formulation of the Canons of Bliss is verbose and discursive. They lack precision. Some of them are opinionative rather than objective. Some of the chapters in his book on Theory are turned on a violent criticism of D C.

p Sayers

The formulation of the Canons by Sayers often lacks precision. This can be seen from the adjoining table.

q Richardson

Richardson had hit upon his Canons in the course of his Lectures. In his Lectures the formulation does not stand out clearly. However, the formulation of the Canons, in a list in the Introductory Chapter of his book, is of help.

Sayers	Ranganathan
<p>a Canon of Likeness :</p> <p>Classification arranges things according to their degrees of likeness and separates them according to their degrees of unlikeness. The likeness chosen is called the characteristic of classification.</p>	<p>a Canon of Differentiation :</p> <p>A characteristic used as the basis for the classification of a universe should differentiate some of its entities — that is, it should give rise at least to two classes.</p>
<p>p Canon of Modulation :</p> <p>The process of [sub-division] must be gradual, each term following it, and the whole perfectly co-ordinated.</p>	<p>p Canon of Modulation :</p> <p>A chain of classes should comprise one class ... of each and every order that lies between the orders of first link and the last link of the chain.</p>

r The Word 'Canons'

The term 'Canons of Classification' was brought into vogue by Sayers. But, Bliss denotes them by the term 'Principles', and Richardson by the term 'Law or Principles'.

s Kinds of Normative Principles

To avoid homonyms Ranganathan uses different terms to denote the Normative Principles regarding the work at different levels in Library Science (31). For convenience this is reproduced here:

SN	Level	Name of Normative Principle
1	Basic process of thinking	Basic Laws
2	Library Science	Fundamental Laws
3	Library Classification	Canons
4	Helpful sequence in array and among facets	Principles
5	Work of designing a scheme for Library Classification and the work of classifying	Postulates

CHAPTER J

EVOLUTION OF THEORY OF LIBRARY

CLASSIFICATION: STAGE 2

DYNAMIC THEORY GUIDING DESIGN WORK

a Theory Distilled out of Practice

During the period when Theory is distilled out of Practice, it is mostly descriptive of the practices. It limps behind Practice. It has little power to direct or lead Practice. This period is usually long. During this long period improvement and refinement are generally few and far between. But, usually a time comes when there is need for more frequent improvement in practice found to be essential for efficiency and good productivity. When that time comes, theory develops ahead of practice. Instead of following practice, it leads practice. Indeed, theory gives up the descriptive role and changes over to the dynamic role of providing guiding principles for continued development in practice.

b Analogy of Super-Sonic Barrier

Before the super-sonic barrier is crossed the speed of the aeroplane lags behind the speed of sound; and after that barrier is crossed, speed of sound lags behind that of the plane. In this analogy

Practice corresponds to speed of sound, and Theory corresponds to speed of the aeroplane.

c The Universe of Subjects: Largely Unknown

A Scheme for Library Classification organises the subjects in the Universe of Subjects. At any time some of the subjects in this Universe are unknown and unknowable. But, sooner or later, some of them come to be known. These new subjects and the already known subjects should be properly fitted into the organisation provided by the Scheme for Library Classification. In other words, a Scheme has to face a largely unknown Universe. The Theory of Library Classification also has to face the same largely unknown Universe.

d Analogy 1 from the 'Ramayana'

We may represent the Universe of Subjects by an unknown terrain with all kinds of surprises at every turn. Here comes an analogy from Valmiki's *Ramayana* (46): The King Bhagiratha goes in advance in his chariot carving out a suitable course for the River Ganges; and the River is tamed and trained to follow that course; in this way the River Ganges is led to the unknown terrain which it benefits and enriches. Similar is the relation between the Universe of Subjects, a dynamic Theory of Library Classification, and a Scheme for Library Classification.

e Analogy 2 from the 'Ramayana'

In Indian tradition, any stupendously difficult task successfully completed is described as "Bhagiratha's success against great odds." The task attempted by a Dynamic Theory of Library Classification can be described similarly. For, it continuously develops a Scheme for Library Classification, so as to make it systematise the Universe of Subjects in such a way as to help readers — particularly specialist readers — to benefit by the already recorded results on diverse subjects and further cultivate the Universe. This is similar to the Ganges having benefited and enriched the unknown terrain. This is yet another aspect of the analogy.

f Dynamic Theory of Library Classification

A Theory of Library Classification capable of carving out a methodology for the design of a Scheme for Library Classification to follow, is a Dynamic Theory of Library Classification.

g Seed for a Dynamic Theory of Library Classification

On 25 June 1948, Dr Jean Anker, the Librarian of the National Science Library of Denmark, just promoting the Library Research Monographs Series, met Dr Ranganathan in Copenhagen. It was at that meeting that, consciously or unconsciously, the seed for a Dynamic Theory of Library Classification

tion was sown, as it were, into the mind of Ranganathan. The latter was asked to write a book on the Philosophy of Library Classification (29). This seed was manured by a resolution passed by a Conference convened by the Royal Society, later in the same year. It asked for a scientific investigation into Library Classification and the means of fitting it to keep pace with the development in the Universe of Subjects.

h The Sprouting of the Seed in India

Shortly after the seed was sown, a small informal Research Team of librarians of Delhi began to meet periodically in Ranganathan's house, from October 1948 onwards, to discuss the new problems faced in library classification. This helped the sprouting of a seedling from the seed sown while in Copenhagen.

j Stimulus from the Rockefeller Foundation

In 1950, Ranganathan spent about 8 months in USA as a guest of the Rockefeller Foundation. In a farewell lunch in September that year, some leading officers of the Foundation asked him to explore the possibility of developing the Colon Classification as an emotion-free language for communication between nations. According to them, most of the international ills of the world were traceable to the communication between nations failing on account

of their being soaked with emotion. This request acted as a stimulus to develop the seedling of a Dynamic Theory of Library Classification with added interest, though without faith in the possibility suggested by the Officers of the Foundation. The results of the investigation were published in *Classification and communication* (1951), forming Volume 3 of the Library Science Series of the Delhi University Publications (18). The lack of faith of the author in the proposal of the Officers of the Foundation was confirmed by his investigation. However, it gave an opportunity to develop the seedling of the Dynamic Theory of Library Classification to a more mature stage.

k Further Development of the Seedling

By 1949, Delhi became the focal centre of the activities of the Indian Library Association. This developed some enthusiasm among librarians. In its turn, it led in 1951 to the conversion of the informal Research Team started in 1948 into a formal organisation for research, called the Library Research Circle (Delhi) (16). Its results were communicated in two Symposia presented to the Indian Library Conferences—in 1951 in Indore (17) and in 1953 in Hyderabad (5). Apart from this, the *Annals* of the Indian Library Association, forming part of its *Abgila*, founded early in 1949, became the regular medium for publishing the results of research

in Library Science, including the Theory of Library Classification, conducted in India. Though this medium was discontinued from 1954, its work is being continued by other media; the last of this chain of the Research Periodicals in Library Science in India is the quarterly *Library science with a slant to documentation*, since 1963, sponsored jointly by the Sarada Ranganathan Endowment for Library Science and the Documentation Research and Training Centre, Bangalore. This quarterly taken along with the *Papers and proceedings* of the Annual Seminar of DRTC are carrying the Dynamic Theory of Library Classification to great depth. Indeed the seedling mentioned in Sec Jh has now developed into a tree rich in yielding fruit.

m The First Known Book in Dynamic Theory

The Dynamic Theory of Library Classification developed up to 1955 was expounded in a systematic way in Ed 2 of the *Prolegomena to library classification* (1957). This is perhaps the first known book on the subject. A more advanced version of this Theory was published in 1967 as Ed 3. A still more dynamic Theory is being developed by the DRTC Research Team.

n My Pre-Knowledge of the Latest Version of the Dynamic Theory

This course of Lectures were due to start on

15 December 1968. And Ed 3 of the *Prolegomena* did not come out even in July 1968. However, I spent the months of April, May, and June in 1968 in DRTC, Bangalore, to do my annual quota of teaching work. This gave me an opportunity to reside in DRTC and to spend many hours each day with Ranganathan and develop the text of my Sarada Ranganathan Lectures to be delivered in December that year. He had with him a complete set of the galley proofs of Ed 3 of the *Prolegomena*. I found this edition very much different from Ed 2. While going through the pages of the galley proofs, I felt as if I were passing through an old town being modernised. As I passed on from one Chapter to another in the galley proof, I was delighted to find in them a connected and more advanced account of many of the results obtained by the DRTC Research Team and published earlier in fragments, in the quarterly *Library science with a slant to documentation*, since 1963. This pre-knowledge of Ed 3 of the *Prolegomena* made me realise that the Theory of Library Classification had become truly dynamic. It had indeed reached its stage 2 in the evolution from descriptive to dynamic status.

p Edition 3 Already Out-of-Date

In my daily discussion with Ranganathan, on the development of the subject of my Lectures for December, he often said that some of the results

taken from Ed 3 and being put into my notes were out of date. He gave me the up-to-date results which would replace them. I was surprised at this.

q Publisher's Delay

It appears that the Press Copy of this edition had been completed before the middle of 1966. But the printing of the book had been delayed by the Publisher for two years. Two years had been too long a period for the DRTC Research Team to leave the new dynamic Theory static. It had to be developed further and it has been so developed. Thus Ed 3 of *Prolegomena* had become out of date on the very date of its release by the Publisher!

r Dynamism in Ranganathan's Thinking

But I was not surprised. For, since 1933 I had been closely studying all the new writings of Ranganathan, the moment they came out in print. In my race to keep abreast of Ranganathan's ideas, I often used to feel "breathless." Sometimes I used to ask him, "Why do you not delay the publication of your results until they become stable?" His reply was revealing: "Have you forgotten Law 5 of Library Science? Do you not remember that reaching stability or a static state means heading towards death? We keep growing or we die! So also a subject keeps racing forth or it petrifies. Further, our thought cannot grow unless we com-

mit it to writing at each stage of its development and thus provide an opportunity to discuss it with our compeers. Remember our old traditional saying, 'What is achieved is only a step towards further achievement which may even question the validity of the earlier achievement.' " This trait of dynamism in thinking, explained to me in the middle of 1968, made me feel that this should be known to our co-workers. I therefore sought his permission to add this section in my notes for the December Lectures. After some hesitation he said, "All right, Parkhi. I have become too old for anybody to attribute this permission, either to my desire to capitalise it in furthering my advancement or to my egotism and vanity!"

An account of the Dynamic Theory of Library Classification forming stage 2 in its evolution, will be given in the remaining sections of this chapter and in the succeeding chapters.

s Recognition and Separation of Three Planes of Work: First Step

A factor causing much difficulty in the design and application of a Scheme for Library Classification had been the absence of a conscious recognition of the fact that,

s1 The design and the application of a Scheme for Library Classification involves work in three

distinct Planes — Idea, Verbal, and Notational;

s2 The Work in the three Planes is separable and can be developed independently; though

s3 The Work in the Idea and in the Notational Planes may influence each other so as to advance the work in each of the planes.

A first step leading to the formulation of a Dynamic Theory of Library Classification was the recognition and separation of the work in these three Planes.

t Earliest Evidence of Implicit Recognition

The earliest recognition of the existence of three distinct planes of work is implied in the following passage of 1944 (25): "Once the name of the specific subject is settled by pouring the properly selected, prepared, and amplified words of ordinal language into the mould of Phase and Facet Analysis, the final step is a simple affair of substituting from dictionary (schedules) — occasionally with the aid of grammar (rules) — equivalent ordinal numbers for the selected words. It is here that real metapsychosis takes place — the same soul appears in a new body, the old one having been made of words and the new one being made of ordinal numbers." In this passage the term 'Idea Plane' is implied in the words "Phase and Facet Analysis." The con-

cepts "Verbal Plane" and "Notational Plane" are easily recognisable.

u Earliest Evidence of Explicit Recognition

An explicit recognition, in 1952, of the three planes of work is made in the following passage (28):

"We start with the following assumed terms. —

Plane	Technical Terminology
Idea	Class (used in the Idea Plane)
Verbal	Subject (used in the Verbal Plane)
Notational	Class Number (used in the Notational Plane)

Then, we have the relation

$$\text{Class} = \text{Subject} = \text{Class Number}''$$

Here the Symbol "=" (equal to) denotes having the same meaning, in the respective Planes — Idea, Verbal and Notational.

v First Step in the Evolution of Dynamic Theory of Library Classification

In Chap 33 of Ed 2 of the *Prolegomena* (1957), the three Planes of work are described at some length. In Ed 3 of the *Prolegomena* (1967), the whole of Part M, consisting of five chapters, is devoted to the elucidation of the nature of work

in the three Planes of work and to their mutual independence, without prejudice to their mutual influence. Further, the Normative Principles (See Sec H) — Laws, Postulates, Canons, and Principles — regulating the work of the classificationist in each of the three Planes are given in Parts D to J of the *Prolegomena*.

**w Two Sets of Laws of General Application
in Library Science**

The following two sets of Laws are of help in the work in every branch of Library Science:

- w1 Basic Laws; and
- w2 Laws of Library Science.

These two sets of Laws are given in the two succeeding sections:

x Basic Laws

The following are the Basic Laws which are of help in the process of thinking in general:

- x1 Laws of Interpretation
- x2 Law of Impartiality
- x3 Law of Symmetry
- x4 Law of Parsimony
- x5 Law of Local Variation
- x6 Law of Osmosis

y Laws of Library Science

The following are the Five Laws of Library

Science which are of help in the work in every branch of Library Science:

- y1 Books (Documents) are for use
- y2 Every reader his book (document)
- y3 Every book (document) its reader
- y4 Save the time of the reader
- y5 Library is a growing organism.

z Normative Principles Specific to Library Classification

The Postulates, the Canons, and the Principles which are of help in the work of library classification are given in the succeeding chapters. There are different sets of them pertaining to the different planes. Most of the issues arising in the Dynamic Theory of Library Classification are uniquely determined by these Normative Principles. Some of those that are not so determined by them are uniquely determined by the Laws of Library Science. The residual issues not determinable even by the Laws of Library Science, are uniquely determined by the Basic Laws.

CHAPTER K

IDEA PLANE

a Universe of Subjects

The Universe of Subjects is the field of work in Library Classification. A subject is an organised or systematised account of some idea or another. Thus the basic work of Library Classification will have to be done in the Idea Plane. The efficiency of a Scheme for Library Classification will depend upon the dynamic nature of the Theory of Library Classification pertaining to the Idea Plane. To develop the Theory in the Idea Plane, we should first examine the mode of development of the Universe of Subjects itself. The first attempt at this examination was made in 1944 (24). But adverse circumstances prevented the continuation of this attempt.

b Timely Service of Sir Maurice Gwyer

An opportunity to resume the work started in 1943 on the modes of formation of subjects came in the middle of 1947. At that time, Sir Maurice Gwyer, formerly Chief Justice of India, was the Vice-Chancellor of the University of Delhi. He had a great faith in the social value of Library Science

and of Library Service. He established a Department of Library Science in his University for teaching and research and invited Ranganathan to take charge of that Department and spend his whole time in teaching Library Science and doing research in that subject without any distraction by administrative work. Further, Sir Maurice had regulations passed for the institution of the first post-graduate degree in Library Science, now known as B Lib Sc, and for the post-B Lib Sc degree — M Lib Sc — thereafter.

c **Joint Exploration by the Teacher and Students**

This event created a splendid opportunity to resume the development of Library Science in general and a Dynamic Theory of Library Classification in particular. This was the first time that any advanced study and research in the Theory of Library Classification was taken up anywhere in the world. The teaching of "Advanced Library Classification" in the M Lib Sc class soon led to the discovery that the roots of the Theory of Library Classification had not been fully explored. While teaching the M Lib Sc students of the first two batches, the important features in the development and structure of the Universe of Subjects came to be realised with certitude. This was the result of the joint exploration by the teacher and the students of the M Lib Sc class.

d First Publication of the Preliminary Results

The provisional results obtained in the M Lib Sc classes were taken, from time to time, to the Library Research Circle (*See* Sec Jh). The discussion in the Circle led to some refinement of the results. These provisional results were published in the *Review of documentation* of 1947 (20) and in the *Journal of documentation* of 1949 (35).

e Shera's Evaluation

According to Dr Jesse H Shera, this probe into the roots of the Universe of Subjects "is an intellectual exercise and surely librarians need to have their intellects exercised... Look at these things as intellectual exercises for the light they can throw, the insight they can give us, into the problems" (43).

"[Ranganathan] asked himself first, 'How does knowledge arise?' He said, 'It arises in a variety of ways, by assembling, by co-ordinating, and so on.' This itself was something to which his contemporaries had not addressed themselves. He began to think in terms of facets. This was a tremendous step forward. He broke through, literally, the crust of taxonomic rigidity into which the classification had been poured and said, 'We want every little pigeon hole. We will have a fluid system to emphasise certain elements depending upon the type of curiosity'" (42).

f Neglect of the Idea Plane in USA

Dr Harold Wooster has stated that the Idea Plane gets missed in the conventional classification courses in USA, whereas in the method originated in the Universities of Madras and Delhi half of the time appears to be devoted to training the students in the work to be done in the Idea Plane (21). Actually it is not 50 per cent, but a much larger percentage of the time that is spent on the work in the Idea Plane. Some librarians of India, trained in USA, are allergic to Library Classification. Probably, one reason for this is the conventional classification courses in the United States, without even a reference to the work in the Idea Plane. But some of those who had taken the courses in Madras or Delhi, with full zeal, speak of many of the Schools in USA presenting Classification as looking up the index and hitting or missing. Or as Mr Fairthorne said, "Marking and Parking" (7).

g Absorption of Terminology into Postulates

When the investigation of a discipline is started in the Idea Plane, we cannot escape landing ourselves in the Verbal Plane. For, without the use of terms in a natural language we cannot communicate ideas either to others or even within ourselves. The Indian tradition with regard to this early stage is to start with some "Assumed Terms" (*Anirvachaniya*) and their respective denotations. This

necessity is made explicit by Korzybsky (9). Though we do not give a formal definition of the Assumed Terms, we are obliged, at least, to explain them. Some of the terms and the ideas denoted by them get explained together by their being used in a proposition or a statement. The *Prolegomena* has been following this method, and it begins with a section on Terminology. When I was reading the Chapter on Terminology in the proof of Ed 3 of the *Prolegomena*, Ranganathan told me that he was experimenting with the idea of putting some of the Assumed Terms and Defined terms and the ideas denoted by them in the form of Postulates. I have his permission to make use of these Postulates.

h Residual Assumed Terms

It is not possible to do away with all Assumed Terms. The following are the residual assumed terms; with some explanation of them:

h1 Idea. — The product of thinking, reflecting, imagining, etc got by the intellect by integrating with the aid of logic, a section from the apperception mass, and/or what is directly apprehended by intuition, and deposited in the memory.

h2 Subject. — An organised or systematised account of some idea or other whose extension and intension are likely to fall coherently within the field of interest and comfortably within the intellectual competence and the field of inevitable specialisation of a normal person.

h3 Isolate Idea. — Any idea or idea-complex fit to form a component of a subject, but not by itself fit to be deemed to be a subject.

h4 Non-Main Basic Subject. — A Main Subject taken along with any of its Basic Divisions.

h5 Facet. — A generic term used to denote any component — be it a Basic Subject or an Isolate — of a Compound Subject. Thus a Facet can be a Basic Facet or an Isolate Facet.

h6 Focus. — A generic term used to denote the Basic Subject Idea in the Basic Facet or the Isolate Idea in an Isolate Facet of a Subject, in the Idea Plane, and also the Number representing each of them in the Notational Plane, and the term representing each of them in the Verbal Plane.

j Work in the Idea Plane and Postulates

Most of the task in classifying a subject is done in the Idea Plane. This task is regulated largely by the Postulates for work in the Idea Plane. Therefore, the next chapter — Chap M — is devoted to an exposition of the Postulates. Chap N gives a demonstration of the Postulational Procedure (33) in organising the terms in the title of a subject to the point where the Verbal Plane and the Notational Plane can take over and complete the work of classifying. The remaining steps in classifying a subject will be taken up in Chap U; for

these fall in the Verbal and the Notational Planes.

k Canon Applicable to Work in the Idea Plane

In addition to the Postulates and the Canons given in Sec Ga to Gp in connection with the descriptive theory of Library Classification which are also to be observed in doing work in the Idea Plane, there are three Canons applicable only to the Dynamic Theory of Library Classification. These are given in Sec Pb to Pe.

m Paramountcy of Work in the Idea Plane

The work in the Idea Plane is Paramount in classifying a subject. The Notational Plane should implement the decisions made in the Idea Plane in classifying a subject. For this purpose, the Versatility of the Notational System should be made as rich as possible. In the past, in most of the Schemes, the Versatility of the Notational Plane has been very poor. It has been so to some extent in C C also. The inability of the Notational Plane to implement the findings in the Idea Plane has led to inhibition of the work in the Idea Plane. But, during the last few years, the work of the DRTC research team has enlarged the Versatility of the Notational System of C C to a considerable extent. This has enabled the Idea Plane to spread its wings fully, so to speak, and formulate its findings without any inhibition or reserve.

CHAPTER M

POSTULATES FOR WORK IN THE IDEA PLANE

a Status of a Postulate

The terms 'True' or 'False' are not applicable to a Postulate. Only the terms 'Helpful' or 'Unhelpful' are applicable.

b Postulates as Given in the Prolegomena

No Postulates pertaining to work in the Idea Plane in respect of the design of a Scheme for Library Classification is given in the *Classification, theoretical and practical*, or the *Manual* or the *Organisation of knowledge in libraries*. Indeed, these three are largely descriptive theories and are not dynamic ones. Postulates pertaining to work in the Idea Plane are given only in the *Prolegomena*. Those given in Ed 2 of this book do not differ in substance from those given in its Ed 3. Therefore, the version in Ed 3 is given in this Chapter. It also contains the new Postulates being experimented upon. Further, the definitions of some definable terms are also interpolated amidst the Postulates.

Note. — In the succeeding sections of this Chapter C C numbers are given for convenience.

c Postulate about the Contents of the Universe of Ideas

The Universe of Ideas consists of the following kinds of Ideas:

Note. — Under each kind of Idea the definitions of the terms arising out of it are given. These definitions are given serial numbers with Roman Caps as the first digits of the numbers.

c1 Main-Subject-Ideas (assumed term);

Definition A: A Main Subject is an organised or systematised account of one and only one Main Subject Idea (*See* Sec Kh4); Example "C Physics."

c2 Basic-Division-Ideas (assumed term), going with one or another of some Main-Subject-Ideas;

Definition B1: A Basic Subject Idea is either a Main Subject Idea taken by itself or a combination of a Main-Subject Idea and any one or more of its Basic-Division Ideas; Example, the ideas represented by the number and denoted by the terms in the following: "C Physics," "C-5 Physics — Radiation" (= Physics of Radiation).

Definition B2: The Basic Division of a Main Subject is the component of the Basic Subject got by excluding its Main Subject component; Example, in "C-5" "5 Radiation" is a Basic Division of the Main Subject "C Physics."

Definition B3: A Basic Subject is an organised or systematised account of one and only one Basic

Subject Idea (*See* Sec Kh6); Example "C Physics," "C - 5 Physics — Radiation."

c3 Isolate Ideas, each of which is fit to form a component of a subject idea but not by itself fit to be deemed to be a Subject Idea.

Definition C1: A Simple Subject Idea is a Basic Subject Idea taken by itself without any Isolate Idea as a component; Example, the ideas represented by the numbers and denoted by the terms in the following: "C Physics" "C - 5 Physics — Radiation."

Definition C2: A Simple Subject is an organised or systematised account of a Simple Subject Idea; Example, "C Physics" "C - 5 Physics — Radiation."

Definition D1: A Compound-Subject-Idea is a Subject-Idea with a Basic Subject Idea and one or more Isolate Ideas as components; Example, the idea represented by the number and denoted by the term in "C - 5,3 Physics — Radiation, X-ray" (= Physics of X-ray Radiation).

Definition D2: A Compound Subject is an organised or systematised account of a Compound-Subject-Idea; Example, "C — 5,3 Physics — Radiation, X-ray" (= Physics of X-ray radiation).

Definition E: An Isolate is a component of a Compound Subject, other than the Basic Subject (*See* Sec Kh3); Example, "3 X-ray" is an Isolate of the Compound Subject "C - 5,3 Physics — Radia-

tion, X-ray."

Definition F1: A Common Isolate Idea is an Isolate Idea which can be a component of any Compound-Subject-Idea going with any Basic-Subject-Idea. Example,

1 The Idea represented by the number "m" and denoted by the term "Periodical" in each of the following:

C"m Physics "Periodical (= Periodical in Physics).

C-5,3"m Physics — Radiation, X-ray"

Periodical (= Periodical in Physics of X-ray Radiation).

Here the Common Isolate Idea is an Anteriorising Common Isolate Idea.

2 The Idea represented by the number "cF" and denoted by the term 'Texture' in each of the following:—

J,371;77;cF Agriculture, Apple Crop; Apple fruit; Texture (= Texture of apple).

KX,311;713;cF Animal husbandry, Cow Butter; Texture (= Texture of Cow butter)

Here the Common Isolate Idea is a Common Property Isolate Idea.

3 The Idea represented by the number "44" and denoted by the term 'India' in each of the following:—

J.44 Agriculture. India (= Agriculture in India)

KX.44 Animal husbandry. India (= Animal husbandry in India).

Here the Common Isolate Idea is a Space Isolate Idea.

Definition F2: A Common Isolate is an Isolate which can be a component of any Compound Subject going with any Basic Subject; Examples are similar to those given above.

Definition G1: A Special Isolate Idea is an Isolate Idea which can be a component of a Compound Subject Idea going with a specific Basic-Subject-Idea, or with a few but not all, Basic-Subject-Ideas;

Definition G2: A Special Isolate is an Isolate which can be a component of a Compound Subject going with a specific Basic Subject, or with a few, but not all, Basic-Subjects.

Examples of Schedules of Special Isolates occur in C C, in the chapters devoted to the different Main Subjects.

Definition H1: A Complex-Subject Idea is a Subject-Idea which contains two or more Compound or Basic Subject Ideas.

Definition H2: A Complex-Subject is an organised account of a Complex Subject Idea.

Similarly we can have Complex Isolates and Complex Array Isolates.

For examples See Sec Mf.

d/h Postulates for Modes of Formation of Subjects and Isolates

Note.— The statement of each Postulate automatically contains also a definition of the kind of subject formed by the Mode Postulated.

d Postulate of Distillation

A Distilled Main Subject may be formed as a pure discipline by distillation from the experiences with its appearance-in-action in diverse Compound Subjects going with different Basic Subjects.

Note.— Distill = To get an extract.

Example, "8 Management Theory."

e Postulate of Fusion

A Fused Main Subject may be formed by the Fusion of two or more Main Subjects in such a way that each of them loses its individuality in respect of the schedules of special isolates for forming Compound Subjects going with it. But the Fused Main Subject may have its own distinct schedule of special isolates for forming Compound Subjects going with it. It may share some, but not all, of its special isolates with the Main Subject Fused together.

Note.— Fusion = Merging of diverse elements into a unified whole.

Examples,

- | | | |
|---|----|----------------------|
| 1 | EX | Chemical Engineering |
| 2 | GX | Biochemistry |

3 LYX Medical Jurisprudence.

f Postulate of Loose Assemblage

A Complex Main Subject (or a Complex Isolate or a Complex Array Isolate) may be formed by the loose assemblage of two or more subjects (Isolates or Array Isolates) whose mutual relation — such as Bias, Comparison, Difference, Application, and Influence — forms the subject of study.

Examples,

- 1 B&bX Mathematics for economists (Inter-Subject Bias)
- 2 L;4&r3 Influence of human physiology on disease (Intra-facet influence)
- 3 2,5N3&wM9 Difference between C C and D C (Intra-array difference).

g Postulate of Lamination

A Compound Subject may be formed by the Lamination of one or more Isolate Facets over a Basic Facet.

Note. — Lamination = Structure made by uniting superposed layers of one or more materials.

Examples,

- 1 T,4 University education (One Isolate Facet)
- 2 T,4;2 Curriculum for University education (Two Isolate Facets)
- 3 T,4;2.44'N7 Curriculum for university

education in India in the 1970s (Four Isolate Facets).

h Postulate of Fission

A fissioned isolate or a fissioned Basic Division of a Main Subject may be formed by Fission.

Note. — 1 Fission = The process of splitting or breaking up into parts.

2 The mode of formation of Fission had been denoted by the term 'Dissection' till now. Dissecting is the act of separating into parts, or cutting into pieces, and exposing the several parts and their locations and connections, especially with precision and skill, for scientific examination. This implies work by an outside agency. But a Fissioned Isolate or a Fissioned Basic Division is found formed without any outside agency. This is better denoted by the term 'Fission'.

Example,

6 Indian philosophy

61 Hindu philosophy

693 Jain philosophy,

among the Basic Divisions going with the Main Subject "R Philosophy."

3 Circulatory system

32 Heart

34 Aorta,

among the Schedule of (1P1) isolates going with the Main Subject "L Medicine."

- 2 Executive
- 21 First minister
- 22 Deputy minister,

among the Schedule of (1P2) isolates going with the Main Subject "V History."

j/z List of Postulates for Work in the Idea Plane

j/m Postulates for Facets

j Postulate of Fundamental Categories

There are five and only five Fundamental Categories — namely Time, Space, Energy, Matter, and Personality (PMEST).

j1 Some persons relate these Fundamental Categories to the Categories of Aristotle. But, there is no such relation.

j2 The Fundamental Categories (T) and (S) are self-explanatory.

j3 The Fundamental Category (E) denotes Action. In the earlier years it was also taken to denote certain Isolate Ideas, such as Morphology, Physiology, and Disease, wrongly listed as Energy Isolates. It has been later realised that these do not denote "Action." Therefore they are no longer taken to be manifestations of the Fundamental Category (E).

j4 The Fundamental Category (M) is now taken to comprehend,

j41 Property, represented by the abbreviation (MP);

j42 Method, represented by the abbreviation (MM); and

j43 Material, represented by the abbreviation (MMt).

The first two were formerly wrongly deemed to be manifestations of (E).

It is worth considering whether we may not regard each of Property, Method, and Material as a Fundamental Category on its own right, and thus bring the number of Fundamental Categories to seven.

j5 The Fundamental Category (P) is elusive and ineffable. One way of recognising (P) is that of the Method of Residues. Anything which is not a manifestation of (T), (S), (E), (MMt), (MM) or (MP) is taken to be a manifestation of (P). Generally speaking, any manifestation which has a distinctive character such as shape or specialised organs, is likely to be one of (P).

k Postulate of Officiation

One Fundamental Category may officiate for another. For example,

k1 In "History of India," "India" may be hastily taken to be a manifestation of (S). But, it is only "Officiating" for the (P) — the "Community living in India."

k2 In the Main Subject "O Literature," CC uses the year of birth of an author to represent him.

For example, "Shakespeare" is represented by "1564." The year "1564" may be hastily taken to be a manifestation of (T), but it is only officiating for the (P) — "Shakespeare."

k3 In the Basic Subject "C-5 Radiation," CC uses the form of Energy such as "X-ray" and "Gamma Ray" as determined by wavelength, to represent the manifestation of (P).

m Postulate of Isolate Facet

Each isolate facet of a Compound Subject can be deemed to be a manifestation of one and only one of the fundamental categories.

n/q Postulates for Rounds of Facets

n Postulate of Rounds for Energy

The fundamental category "Energy" may manifest itself in one and the same subject more than once. The first manifestation is taken to end Round 1 of the manifestation of the three fundamental categories "Personality," "Matter," and "Energy." The second manifestation is taken to end Round 2 and so on.

Example,

In "L;4:6,25;4:3 Medicine; Disease: Treatment, Radiation; Side effect: Diagnosis," the (E) isolate "6 Treatment" ends Round one; and the (E) isolate "3 Diagnosis" ends Round two.

p Postulate of Rounds for Personality and Matter

Each of the Fundamental Categories "Personality" and "Matter," may manifest itself in Round 1, Round 2, and so on.

Example,

In "L,32;4:6,25 Medicine, Heart; Disease: Treatment, Radiation," the (P) isolate "32 Heart" is manifestation of (P) in Round one; and the (P) isolate "25 Radiation" is manifestation of (P) in Round two.

In the example given in Sec Mn, the (MP) isolate "4 Disease" is manifestation of (MP) in Round one; and the (MP) isolate "4 Side effect" is manifestation of (MP) in Round two.

r Postulate of Level

Any of the Fundamental Categories "Personality" and "Matter" may manifest itself more than once in one and the same Round within a Subject. The first manifestation of a Fundamental Category within a Round will be said to be its Level 1 Facet in that Round. Its Second manifestation within that Round will be said to be its Level 2 Facet in that Round, and so on.

Example,

In "KX,311,32;4 Animal husbandry, Cow, Heart; Disease," the (P) isolate "311 Cow" is the manifestation of (P) in Level one; and the (P) isolate "32 Heart" is the manifestation of (P)

in Level two.

In "L,32;4;3 Medicine, Heart; Disease; Symptom," the (MP) isolate "4 Disease" is the manifestation of (MP) in Level one; and the (MP) isolate "3 Symptom" is the manifestation of (MP) in Level two.

s/z Postulates for Facet Sequence

s Postulate of Concreteness

The five Fundamental Categories fall into the following sequence when arranged according to their decreasing concreteness: P, M, E, S, T.

t Postulate of Facet Sequence Within a Round

In any Round of Facets of a Compound Subject in which each of any of the Fundamental Categories — Personality, Matter, and Energy — occurs only once, their sequence should be: Personality Facet, Matter Facet and Energy Facet.

u Postulate of Facet Sequence Within Last Round

In the last Round of Facets of a Compound Subject in which each of the Fundamental Categories other than Energy may occur and occurs only once, the sequence of the facets should be Personality Facet, Matter Facet, Space Facet, and Time Facet.

v/x Postulates for Level

v Postulate of Whole and Organ

The Organs of successive removes of the whole

are deemed to be Level 2, Level 3 etc, the whole itself forming Level 1. In a subject with a concrete correlate in the phenomenal world, Organs of successive removes are recognisable with the primary senses. In other subjects also, Organs can be recognised with the intellect.

w Postulate of Level Cluster

Facets of different levels of the same Fundamental Category within a Round of Facets in a Compound Subject should be kept together.

x Postulate for Sequence of Levels in a Round

The Levels in a Level Cluster should be arranged among themselves according to the removes of the Organs.

y/z Postulates for Basic Facet

y Postulate of Basic Facet

Every Compound Subject has a Basic Facet.

z Postulate of First Facet

In a Compound Subject, the Basic Facet should be the first facet.

CHAPTER N

POSTULATIONAL PROCEDURE IN CLASSIFYING: A DEMONSTRATION

a Systematisation of Classifying on the Basis of Postulates

After the formulation, in 1957, of the Postulates for work in the Idea Plane in a Dynamic Theory for Library Classification, these Postulates were used to systematise the detailed procedure involved in classifying a Subject. This has been called "Postulational Procedure in Classification" (32). A demonstration of this is given in the succeeding sections.

b Steps in the Postulational Procedure in Classifying

The Postulational Procedure in Classifying is in nine steps. The results at the end of each step are given below:

b0 Raw title. — The title found on the title page or the one provided by a classifier in the case of a fanciful title;

b1 Expressive title. — Title derived from the Raw title by:

b11 Filling up the ellipses, if any, in the Raw

title, be they names of isolates or of Basic Subjects; and

b12 Breaking composite terms, if any, into their fundamental constituent terms.

b2 Title in Kernel Terms. — Title derived from the Expressive Title by:

b21 Removing all the apparatus words, if any;

b22 Bringing each Kernel term (= remaining substantive term) to its nominative singular form; except that the qualifier terms, if any, may have to be kept in the adjectival form;

b23 Changing the first letter of the first word of each Kernel Term into a capital letter; and

b24 Putting a full stop after each Kernel term.

b3 Analysed Title. — The title derived from the Title in Kernel Terms by:

b31 Finding out the Fundamental Category of which the idea denoted by each Kernel term may be deemed to be a manifestation (*See Sec Mj*);

b32 Determining the Round to which each Kernel Term should be assigned (*See Sec Mn/q*);

b33 Determining the Level of each Kernel Term within each Round (*See Sec Mr*);

b34 Putting, after the Kernel Term denoting the Basic Subject, the symbol (BF) (*See Sec My*);

b35 Putting, after each of the other Kernel Terms, the symbol for the Fundamental Category

of which it is deemed to be a manifestation;

b36 Putting, before the digit of each Fundamental Category, the digit showing the round of the manifestation of the Fundamental Category; or

b37 Putting, after the digit of each Fundamental Category, the digit showing the Level of the Manifestation of the Fundamental Category;

b4 Transformed Title. — Title derived from the Analysed Title by:

b41 Rearranging the Kernel Terms along with their respective Symbols and Digits given after them within brackets, in accordance with their respective Fundamental Categories, Rounds, and Levels.

b5 Title in Standard Terms. — Title derived from the Transformed Title by:

b51 Replacing each of the Kernel Terms by its equivalent Standard Term, given, if any, in the schedule of the Scheme for Library Classification.

b6 Title in Focal Numbers. — Title derived from the Title in Standard Terms by:

b61 Replacing each Standard Term by its Basic Subject Number, or Isolate Number, as the case may be, as given in the Schedule of the Scheme for Library Classification.

b7 Class Number of the Subject. — Derived from the Title in Focal Numbers by:

b71 Replacing the symbol and the digit within brackets, by the Indicator Digit appropriate to the succeeding Focal Number, as prescribed by the Scheme for Library Classification.

b8 Verification. — Translating the Facet Numbers into Facet Terms, transforming the sequence of the Facet Terms according to the Syntax of the Natural Language and checking up if the result got is equivalent to the Title classified.

c Grouping of the Nine Steps of the Postulational Procedure

c1 Steps in the Idea Plane

Steps b0 to b3 belong to the Idea Plane. Steps b0 to b2 may appear to belong to the Verbal Plane. But it is not so in reality. A little thought will show this. The purpose of these steps is merely to lay bare the idea in the raw title in its pure form by removing all the verbal elements hiding it.

c2 Steps in the Verbal Plane

Steps b4 and b5 belong to the Verbal Plane. Step b4 is only changing over the sequence of the words in the natural language — that is, from the syntax of the natural language — to the sequence of the words as they should be in the classificatory language — that is, into the syntax of the classificatory language — even as it is done in translation from one natural language to another. Step b5 is

only changing over from the non-technical terms of the natural language into technical ones, so as to make translation into Focal Numbers easy and unerring.

c3 Steps in the Notational Plane

Steps b6 and b7 belong to the Notational Plane. In fact step b5 marks the entry into Notational Plane. Step b7 introduces the punctuation marks (Indicator Digits) necessary to make a Class Number meaningful. A Class Number in a classificatory language corresponds to a sentence in a natural language. A classificatory language is agglutinative; but natural language is not. In a classificatory language the syntax depends on the relative position of the facet numbers, which corresponds to words in a natural language; the Focal Numbers correspond to noun forms in nominative singular as they are given in the Title in Kernel Terms. The relative position of the Focal Numbers in the classificatory language is indicated by Indicator Digits. But in a natural language the syntax does not depend on the relative position of the words; but it depends on inflexional changes in the radicals used in the Kernel Term and/or the apparatus words.

c4 Step of Verification

Step b8 is only by way of abundant caution as is usually done when the translation is from one natural language to another.

d Long-Winded Nature of the Procedure

The several steps indicated in Sec Nb do imply the long-winded nature of the Postulational Procedure in Classifying. This slowing down of the process of classifying is necessary in drilling a beginner in the work of classifying. But a veteran will go through most of these steps in his mind almost in a few minutes, if not seconds. But without the drill in his early career, a classifier is likely to make mistakes in his work.

e Example 1 of Postulational Procedure in Classifying

Only the results in the successive steps 0 to 5 in the Procedure in classifying are given here. The results in steps 6 and 7 will be given in Chap W.

Step 0 Raw Title. — Essentials of Cardiology

Step 1 Expressive Title. — Disease of heart, in medicine

Step 2 Title in Kernel Terms. — Disease [1MP1]. Heart [1P1]. Medicine (BF).

Step 3 Analysed Title. — Disease [1MP1]. Heart [1P1]. Medicine (BF).

Step 4 Transformed Title. — Medicine (BF) Heart [1P1]. Disease [1P1].

Step 5 Title in Standard Terms. — Medicine (BF). Heart [1P1]. Disease [1MP1].

f Example 2 of Postulational Procedure in Classifying

In this example the results in Steps 0 and 5 only are given:

Step 0 Raw Title. — Cardiac diagnosis.

Step 5 Title in Standard Terms. — Medicine (BF). Heart [1P1]. Disease [1MP1]. Diagnosis [1E].

g Example 3 of Postulational Procedure in Classifying

Here also, the results in Steps 0 and 5 only are given:

Step 0 Raw Title. — Cardiac radiology.

Step 5 Title in Standard Terms. — Medicine (BF). Heart [1P1]. Disease [1MP1]. Diagnosis [1E]. Radiation [2P1].

h Example 4 of the Postulational Procedure for Classifying

Here, the results in Steps 0 and 5 only are given:

Step 0 Raw Title. — Diseases of the Chest.

Step 5 Title in Standard Terms. — Medicine (BF). Thorax [1P1]. Disease [1MP1].

**j Example 5 of the Postulational Procedure
in Classifying**

Here also, the results in Steps 0 and 5 are given:

Step 0 Raw Title. — Differential diagnosis of
chest disease

.. ..
Step 5 Title in Standard Terms. — Medicine
(BF). Thorax [1P1]. Disease [1MP1].
Diagnosis [1E].

**k Example 6 of the Postulational Procedure
for Classifying**

Here, the results in Steps 0 and 5 only are given:

Step 0 Raw Title. — X-ray diagnosis of chest
diseases.

.. ..
Step 5 Title in Standard Terms. — Medicine
(BF). Thorax [1P1]. Disease [1MP1].
Diagnosis (BF). X-ray radiation [2P1].

CHAPTER P

CANONS FOR WORK IN THE IDEA PLANE

a Canons for Descriptive Theory

All the Canons mentioned in Sec Ga to Gp in Column 1 of the Table in Chap G, for a descriptive theory of Library Classification, are all applicable to work in the Idea Plane, in the Dynamic Theory of Library Classification. For, these Canons are to be observed compulsorily in the design of a Scheme for Library Classification at any stage — pre-theory or post-theory. Three more Canons are required in a Dynamic Theory of Library Classification for work in the Idea Plane. These are given in the subsequent sections of this Chapter.

b/c Canons for Filiatory Sequence

b Canon of Subordinate Subjects

In a coalesced array, if A_1, A_2, A_3 , etc are subordinate subjects of any order whatever of subject A, originated in one or another of the chains originating from the subject A, the subjects A_1, A_2, A_3 , etc should immediately follow the Subject A in succession, without being separated from it or among themselves by any other subject. [For the significance of this new Canon see *Prolegomena* Ed 3, Sec EU1.]

c Canon of Coordinate Subjects

In a coalesced array, if Subject A and Subject B had originated in one and the same array and had been consecutive in it, they should not be separated from each other by any subject other than the subjects A_1 , A_2 , A_3 , etc, having A as their common immediate universe. [For the significance of this new Canon see *Prolegomena* Ed 3, Sec EU3].

d Concept of Level Cluster

The Dynamic Theory of Library Classification includes the concept of Levels of manifestation of one and the same Fundamental Category in one and the same Round (*See* Sec Mv)). Further, Sec Mw gives the Postulate of Level Cluster and Sec Mx gives the Postulate of Sequence of the Levels in a Level Cluster of one and the same Fundamental Category within one and the same Round. This last mentioned Postulate calls for a Canon in respect of Levels, similar to the Canon of Modulation for Chain (*See* Gp). The next section formulates the necessary new Canon for work in the Idea Plane.

e Canon of Modulation of Levels of Facets

A Level Cluster should comprise one Level, of each and every Remove lying between the Manifestation of the Whole and the last Level in the Level Cluster. [The significance of this new Canon is similar to that of the Canon of Modulation for Chain, given in *Prolegomena* Ed 3, in Sec ET2 to ET3.]

CHAPTER Q

PRINCIPLES FOR FACET SEQUENCE FOR WORK IN THE IDEA PLANE

a Ed 3 of Prolegomena Only Given

Ed 2 of the *Prolegomena* does not give any Principles for Facet Sequence. But, Ed 3 gives four Principles for Facet Sequence. These are given in the succeeding sections.

b/c Principles for Facet Sequence

b Wall-Picture Principle

If two facets A and B of a subject are such that the concept behind B will not be operative unless the concept behind A is conceded, even as a mural picture is not possible unless the wall exists to draw upon, then the facet A should precede the facet B.

For example, in "Prevention of Disease" the concept behind the term 'Prevention' is not operative unless the concept behind the term 'Disease' is conceded. Therefore the sequence of the two facets should be "Disease" and "Prevention."

The Wall-Picture Principle has proved to be the Master-Principle in determining the sequence of Facets.

The Postulate, prescribing the sequence of the manifestations of the five fundamental categories in

any Subject or in any Round to be PMEST (*See* Sec Ms), can be seen to be a corollary of the Wall-Picture Principle. If the Facets are arranged according to the Wall-Picture Principle, on applying the Principle of Inversion (8), on the shelf the documents will get arranged according to Increasing Concreteness.

c/e Corollaries of Wall-Picture Principle

c Whole Organ Principle

If, in a subject, facet "B" is an organ of facet "A," then A should precede B.

For example, in "Mouth of Cow," the facet "Mouth" is the organ of the facet "Cow." Therefore, the sequence of the two facets should be "Cow" and "Mouth."

d Cow-Calf Principle

If a facet A and another facet B belonging to the same subject are not to be separated though they are distinct from each other and thus separable, A and B should be kept together in the same Round, even as a milch cow and its unweaned calf are not separately sold out though they are distinct entities and thus separable, but are kept together in possession of the same owner.

For example, in "President of India," the facets "President" and "India" should not be separated and put into different Rounds, although they are

separable. Both of the facets should be kept together in one and the same Round. The determination of the sequence of these two facets will have to be done with the help of the Wall-Picture Principle; it will be "India" and "President."

e Commodity or Result-Actand-Action-Actor-Tool Principle

If in a subject, facet C denotes Action on facet B which is Actand by facet D as Actor with facet E as the tool, and facet A is the Commodity or Result of the Action, then the five facets should be arranged in the sequence A, B, C, D, and E

For example, in the "Spinning of Cotton with Charkha by Girls, thus producing the Commodity Yarn" the Action is "Spinning," the Actand is "Cotton," the Actor is "Girls," the Tool is "Charkha," and the Commodity or Result is "Yarn." Therefore, the sequence of the facets will be "Yarn," "Cotton," "Spinning," "Girls," and "Charkha."

This Principle also can be seen to be a corollary of the Wall-Picture Principle. For, unless the concept behind "Yarn" is conceded, the concept behind "Cotton" will not be operative. Again unless the concept behind "Cotton" is conceded, the concept behind "Spinning" will not be operative. Further, unless the concept behind "Spinning" is conceded, the concept behind "Girls" will not be operative. So also, unless the concept behind "Girls" is conceded, the concept behind "Charkha" will not be operative.

CHAPTER R

PRINCIPLES FOR HELPFUL SEQUENCE OF SUBJECTS AND ARRAY ISOLATES FOR WORK IN THE IDEA PLANE

a Relative Role of Postulates, Canons, and Principles

The Postulates lay down the large lines of work in the Idea Plane. The Canons lay down the rhythm of classification. The Principles deal with the details of the arrangement of the isolates in the schedules to be made in the Idea Plane.

b/c Principles for Chronology and Evolution b Principle of Later-in-Time

If the isolates in a schedule have originated in different times, they should be arranged in a parallel progressive time sequence, except when any other overwhelming consideration rules it out.

For example, in C C in the Schedule of Religions, the Religions are arranged in the sequence: Vedic, Post-Vedic, Jainism, Buddhism, Judaism, Christianity, and Islam. On the other hand the sequence given in D C and U D C is unhelpful, as the Principle of Later-in-Time is violated. They arrange the Religions in the sequence Christianity, Vedic, Post-Vedic, Buddhism, Jainism, Judaism, and Islam. Ob-

viously, Christianity and Jainism are in wrong places.

c Principle of Later-in-Evolution

If the isolates in a schedule belong to different stages of evolution, they should be arranged parallel to the evolutionary sequence, except when any other overwhelming consideration rules it out.

In Ed 17 of D C, the Phylums in Botany have been arranged in the sequence which is the reverse of Evolutionary sequence.

d/q Principles for Spatial Contiguity

d Principle of Spatial Contiguity

If the isolates in a schedule occur contiguously in space—roughly along a unidirectional line or a radial line, or a circle—they should be arranged in a parallel spatial sequence, except when any other overwhelming consideration rules it out.

e/f Principles Involving "Bottom" and "Top"

e Principle of Bottom-Upwards

If the isolates in a schedule can be conveniently taken to occur along a vertical line, they may be arranged from Bottom-upwards, if it is helpful. For example, the Organs of a Plant should be arranged in the sequence Root, Stem, Branch etc. C C and U D C give this sequence. Further, one set of the organs of a cycle will stand arranged in C C in the

sequence, Wheel, Driving mechanism, Frame, and Steering mechanism.

f Principle of Top-Downwards

If the isolates in a schedule can be conveniently taken to occur along a vertical line, they may be arranged from Top-downwards, if it is helpful.

For example, the helpful sequence of the sub-organs of the Root of a plant will be to start from Root-stem and follow its successive branchings.

g/h Principles Involving "Left" and "Right"

g Principle of Left-to-Right

If the isolates in a schedule can be conveniently taken to occur along a horizontal line, they may be arranged from Left-to-Right, if it is helpful (*See the example in the next Sec.*).

h Principle of Right-to-Left

If the isolates in a schedule can be conveniently taken to occur along a horizontal line, they may be arranged Right-to-Left, if it is helpful.

For example, the following is a helpful sequence of the lanes and other items on a highway: Crown, Motor cars way, Heavy motors vehicles way, Bicycle way, Cart way, Pedestrian way, and Kerb. Since the "Crown" is in the centre, if the sequence on one side of the Crown is taken to be from Left-to-Right, the sequence on the other side will have

to be taken to be from Right-to-Left. It is helpful to begin with the Crown of the road, because the lanes in the road stand arranged symmetrically on both sides of the Crown.

j/k Principles Involving "Front" and "Back"

j Principle of Front-to-Back

If the isolates in a schedule can be conveniently taken to occur from "Front" to "Back" they may be arranged Front-to-Back, if it is helpful.

For example, in a Railway train the helpful arrangement of its components will be, Locomotive, Parcel van, Passenger vans, and Guard van.

k Principle of Back to Front

If the isolates in a schedule can be conveniently taken to occur from "Back" to "Front," they may be arranged Back to Front, if it is helpful.

m/n Principles Involving "Clockwise Direction" and "Counter-Clockwise Direction"

m Principle of Clockwise Direction

If the isolates in a schedule can be conveniently taken to occur along a circular line, they may be arranged in the clockwise direction, if it is helpful.

For example,

1 In C C the Zodiacal divisions are arranged in the Clockwise direction.

2 In C C, the divisions of any Geographical Area, such as the countries in a Continent, the Political divisions of a Country, the Districts (Counties) in a political division etc, are arranged in the Clockwise direction wherever the area admits of it.

n Principle of Counter-clockwise Direction

If the isolates in a schedule can be conveniently taken to occur along a circular line, they may be arranged in the counter-clockwise direction, if it is helpful.

p/q Principles Involving "Periphery" and "Centre"

p Principle of Periphery-to-Centre

If the isolates in a schedule can be conveniently taken to occur along a radial line of a circle or a cylinder, they may be arranged from Periphery-to-Centre, if it is helpful.

For example, the helpful arrangement of the layers of the earth will be Lithosphere (Periphery) and Baryosphere (Centre).

q Principle of Centre-to-Periphery

If the isolates in a schedule can be conveniently taken to occur along a radial line they may be arranged from Centre-to-Periphery, if it is helpful.

For example, in C C, D C, and U D C the following sequence is used:

Bone (Centre), Muscle, Connective tissue, Skin, and Hair (Periphery).

r Principle of Away-from-Position

If the isolates in a schedule can be conveniently taken to start from a certain point and diverge away from it roughly along a line, they may be arranged from the starting point along the diverging line, if it is helpful.

For example, in CC, DC, and UDC the Planets are arranged in the sequence:

Mercury, Venus, Mars . . . , Neptune, and Pluto, in "Astronomy."

s/t Principles Involving "Quantity"

s Principle of Increasing Quantity

If the isolates in a schedule admit of quantitative distinction, they may be arranged according to their increasing quantity, if it is helpful.

For example, in CC, DC, and UDC the divisions of Geometry are arranged in the sequence:

One dimension, Two dimension, . . . n dimension.

t Principle of Decreasing Quantity

If the isolates in a schedule admit of quantitative distinction, they may be arranged according to their decreasing quantity, if it is helpful.

For example, in CC the kinds of libraries are arranged in the sequence:

World library, National library, Regional library, State library, District library, and City library. Here the quantity is the area or the size of population served.

u Principle of Increasing Complexity

If the isolates in a schedule show different degrees of complexity, they should be arranged parallel to the sequence of increasing complexity, except when any other overwhelming consideration rules it out.

For example, in C C the "Elements" in Linguistics are arranged in the sequence:

Isolated sound, Syllable, Word, Phrase, Clause, Sentence, and Piece of composition.

v Principle of Canonical Sequence

If the isolates in a schedule are traditionally referred to in a specific sequence, although no underlying principle is discoverable, it will be convenient to conform to this traditional sequence.

For example,

1 In C C the Basic Divisions of Mathematics are arranged in the sequence:

Arithmetic, Algebra, Analysis, Calculus, Trigonometry, Geometry, and Mechanics.

2 In D C the fruits in "Agriculture" are arranged in the sequence:

Pome fruits, Stone fruits, Citrus fruits, Minor

fruits, Nut fruits, Palmaceous fruits, and Small fruits.

w Principle of Literary Warrant

The isolates in a schedule may be arranged in the sequence of the decreasing quantity of the documents published or anticipated to be published on them, except when any other overwhelming consideration rules it out.

For example, C C arranges the agricultural crops in the sequence:

Rice, Wheat, Oat, Rye, Corn, Barley, and Millet.
D C and U D C have put "Rice" at the end.

x Principle of Alphabetical Sequence

When no other sequence of the isolates in a schedule is more helpful, they may be arranged alphabetically by their names current in international usage.

CHAPTER S

VERBAL PLANE

a Two Kinds of Work

Work in the Verbal Plane is of two kinds. They are in respect of,

- 1 The terminology used in the schedule for Library Classification; and

- 2 The terminology used in communication of thought in the field of Library Classification itself.

b Terminology Used in the Schedule for Library Classification

The name of each Main Subject, of each of the Basic Divisions of a Main Subject, and each of the Isolate Ideas in each of the schedules in the scheme for Library Classification should be denoted by the technical terms current among the specialists in the diverse subjects. The use of popular terms is likely to refract the judgement used by the classifier in determining the various basic divisions and the isolate ideas occurring in the subject classified.

c Province of Specialist in the Subject

The establishment of technical terminology for use in the schedules does not lie in the province of the profession of classificationists. For each subject, it lies in the province of the specialists in the sub-

ject concerned. For each of most subjects, there is an International Committee for Nomenclature. Such committees were first started in the field of biological sciences. In other subjects also similar committees have been or are being established. The classificationist should take the terms for his schedule from the glossary of technical terms established by the International Committee.

d Example

While working out a schedule for isolates for crop plants going with the Main Subject "Agriculture," Ranganathan first attempted to use the technical terms in Botany — such as Phylum, Class, Order, Family, Genus, Species, Variants, etc — and built up the isolate numbers for crop plants accordingly. But, it was difficult to find out a place in the Botanical Schedule for the different variants of a species and in some cases for even species. Further, the isolate number for a crop plant was too long. Fortunately, by 1951, when this difficulty became acute, the International Nomenclature Committee on Agriculture had introduced the technical term 'Cultivar' to denote the variant forms of a crop plant occurring in "Agriculture." The use of this technical term specific to agriculture removed the difficulties experienced (10).

e Technical vs Popular Term

There is a controversy whether technical termi-

nology can be used in the Alphabetical Index of the catalogue of a generalist library, though the controversy was not raised in the case of a specialist library. There is no doubt that there is some difficulty in settling this issue. If there is Long Range Reference Service, instead of merely Ready Reference Service, in the Library the Reference Librarian will be able to help the generalist reader to get over the difficulty of technical terminology. Otherwise, the solution would be to give Cross Reference Index Entries in the alphabetical part of the catalogue using the popular term as the Referred-From-Heading to the technical term. This will swell the number of Cross Reference Index Entries in the catalogue, almost to the point of inconvenience. To avoid this, some generalist libraries prefer to use only popular terms in spite of the risk involved. This is not a happy solution for the problem.

f Language of Technical Terminology vs Natural Language

The technical terminology of a discipline is homonym-free and synonym-free. Further, the terms in a technical terminology constitute a language of its own, which is different from the natural language in popular use. This fact is usually lost sight of because of the technical terms being taken from those in the natural language. It is not realised that a term in technical terminology is carefully defined

and care is taken to see that it is not changed except by common consent by the specialists in the subject concerned. When the specialists, that form a relatively small group, find it necessary to replace one technical term by another, they take care to see that no homonym or synonym is thereby introduced. But from time to time, the terms in popular usage undergo unconscious change in the mouth of the common man, so to speak. Therefore, they present many homonyms and synonyms. A look at the Webster's International Dictionary will show many a word having half a dozen different meanings. It will also show the number of synonyms given against many a word. This factor will cause refraction in the communication of an idea from one person to another. The communicator might be using a term in one sense; and the other person may take it in some other sense. This is the reason for the preference of technical terminology in a discipline.

g Library Profession Slow to Change Over to Technical Terminology

But, the Library Profession including the classificationists, is slow to realise the need for establishing and using a technical terminology. This is one cause for the delay in changing over from Descriptive Theory to Dynamic Theory in Library Classification. Here are some examples of homonyms used frequently:

g1 Order = Sequence, as well as the degree of remove of a sub-class from the class to which it belongs.

Ranganathan has for a long time been advocating the resolution of this homonym by using the term 'Order' only in the second sense and by using the term 'Sequence' to denote the first sense (26, 45). But, for those with English as mother tongue, it is not easy and it requires special effort to get accustomed to the above mentioned suggestion. For example, Sayers defines Scheme for Library Classification as "An assembly of classes in a systematic order" (38), using the term 'Order' in the sense of "Sequence."

On the other hand, in the following passage, he uses the term 'Order' in the second sense: "The notation of a scheme is a systematic and logically ordered series of short signs representing the class names in the classification" (39). Surely, a student in library classification — and even a veteran — is bound to have difficulty in interpreting the term 'Order' in these two definitions. To avoid this, he could have used the term 'Sequence' in the first definition.

g2 Term = Isolate Term or name of subject as well as Isolate Number or Class Number.

Ranganathan has for a long time been advocating the resolution of this homonym by using the

word 'Term' in sense one only, and using the terms 'Isolate Number' and 'Class Number' respectively when the second sense is intended (27).

h Use of a Synonym for a Standard Term

In the second passage of Sayers, given in Sec Sg1, the term 'Short Signs' as a Synonym for the Standard term 'Class Number'. Further the epithet "Short" can be justified only in the sense that the Class Number of a subject is shorter than its name in a natural language. But, the way in which the term is used in the passage implies that the Class Number should be short; this is not either true or necessary.

j Allergy Against Technical Terms

The English librarians often concede the advantage of using homonym-free terminology, though habit makes them introduce homonyms unconsciously. But some Indian librarians do not even concede the advantage of and necessity for using homonym-free synonym-free technical terminology. Some sarcastically refer to technical terms in classification as "Abracadabra." Some others ask, "Why this jargon? Why not use an easily understood word in common usage among people"?

k Scientific vs Flabby Style in Writing

Writings on the discipline of Library Classification should prefer scientific style to a flabby one.

The former is condensed; the latter is loose. The former has a great density of thought; the latter does not have it. The former does not admit of skipping through hastily; the latter does so. The former admits of no word that is not essential; the latter indulges in producing a cascade of unnecessary words. The former appeals to the intellect; the latter seeks to mesmerise. Therefore, a flabby style can have no place in developing any scientific discipline, including the discipline of Library Classification. But, those with a gift to spin out words *qua* words attract a crowd; but those weighing each word before including it in their exposition cannot do so. The former cannot raise classification scientists capable of carrying their discipline forward; but the latter alone can do so.

m Appeal for Change-over

One has to appeal to the members of the Library Profession to accustom themselves quickly to a change-over from Popular Terminology to Technical Terminology and from a Flabby Style of writing to a Scientific one in Library Classification in particular, and in Library Science in general. So long as there is delay in this change-over, there will be failure in correct communication to others and also within one's own mind. This will delay the development of a Dynamic Theory of Library Classification.

CHAPTER T

NOTATIONAL PLANE

a Neglect of Notational Plane

In the past, much attention was not paid to the work in the Notational Plane. There was even a resistance to any advancement in it.

b Example of Resistance

Some aired their view that the Colon Numbers were long. This view should have been created by the C C Ed 1 having more examples for subjects of greater intension than those of smaller intension and greater extension.

c Tactical Mistake

That was a tactical mistake. At the time D C was designed, using the hospitable Decimal fraction notation, its Author avoided such a tactical mistake. He recommended that a library need not go beyond three digits, if it felt so. This tactical step promoted, not only the acceptance of D C, but also the very idea of using hospitable Class Numbers, on the backs of books and in catalogues. It is true that the concession of confining to three digits is being followed by some librarians even today — after nearly a century of the design of the D C. However, the success of the acceptance of class

numbers was a great result.

d Fallacy About the Length of Class Numbers

The fallacy that the Class Numbers of C C are longer than those of D C had to be shown by the use of statistical calculus. It was shown, by statistically comparing the C C numbers and the D C Numbers of books in frequent use, that the average length of C C Numbers was shorter than that of D C Numbers (33, 44).

e Allergy to the Use of Mixed Notation

Many arm-chair librarians state, without any investigation, that a mixed notation would never be accepted either by librarians or by readers. Particular objection was to the use of punctuation marks. But, experience has shown that the fact is not so. Even attendants are able to arrange Colon Numbers in the correct sequence, after knowing the ordinal value of all the primary digits used in C C. They were able to know this almost within a month. When the attendants could accept the mixed notation and work with it, it is difficult to see why the librarians could not do so.

f Attitude of Readers

As regards readers, the mixed notation roused the curiosity of many of them—particularly the younger persons. They saw the helpful sequence secured by the mixed notation of C C, in the ar-

rangement of books in the stack room and of the cards in the classified part of the catalogue. After some time they were eager to know the digit by digit translation of a Colon Number into the English language. Though the staff told them that they have only to enjoy the benefit of the Class Numbers and that they need not know anything more about them, many of them replied, "We are intelligent persons. We have the curiosity to know the translation." After learning the translation and also verifying it in the gangway guides, bay guides, and shelf guides in the stack room — all of which gave the Class Number and its meaning — some of the readers began to speak with one another in Colon Numbers. For example, they would say that "X:76 of J, 3751 was going down."

It is however true that an old reader would only say, "I do not care to understand these hieroglyphics. As I walk to the stack room, the English words in the several guides easily take me to the particular spot where I can find my books." This was the experience till about 30 years ago. But by now, the younger people of those years have become old and they no longer speak of hieroglyphics.

g Error in Design

But unfortunately even now some librarians and some classificationists have not realised the wrong

done by the uncultivated Notational Plane to the helpfulness of a scheme for Library Classification. They have not yet realised the inhibition imposed on the Idea Plane by the Notational Plane. They have not realised that the findings of the Idea Plane are paramount, whatever be the Scheme for Library Classification. They do not realise that instead of pursuing the work of the Idea Plane into deeper level, they have to stop short at the level which alone is within the competence of the Notational Plane.

h Increasing the Versatility of the Notational Plane

They should have really turned their thought to the increasing of the versatility of the Notational Plane. This would have enabled it to implement all the findings in the Idea Plane. Then the Idea Plane could have spread its wings freely, as it were, to the extent needed by the new subjects emerging from time to time from the Universe of Subjects.

j No Distinction between One Scheme for Library Classification and Another in the Idea Plane

To be of real help to readers and also to librarians, a classificationist designing any Scheme for Library Classification should and can accept the findings in the Idea Plane. There can be no distinction between one Scheme and another in the work in the Idea Plane. This is because they are all de-

signed to organise in a helpful sequence the subjects found in the Universe of Subjects.

k Distinction Between Two Schemes only in the Notational Plane

One Scheme can differ from another only in the Notational Plane. It is up to each scheme to increase the versatility of its Notational System. To do this it will certainly be helpful to base its work in the Notational Plane on some definite Postulates and Canons. These should be such that the versatility of the Notational System can be increased progressively as and when the need is brought to its notice by the findings in the Idea Plane. Then only there will be a Dynamic Theory of Library Classification.

m Example of C C

The design of the Notational System of C C shows the possibility of increasing the versatility of its Notational System on the basis of certain Postulates and Canons (*See Chap Y*). The Postulates and Canons used by it are given in Chap U.

CHAPTER U

POSTULATES AND CANONS FOR WORK IN THE NOTATIONAL PLANE

a Postulates for Work in the Notational Plane

The *Prolegomena* has formulated the Postulates mentioned in Sec Ub to Ud in order to provide for interpolation of any number of Main Subjects between any two consecutive Main Subjects already in the schedule.

b Postulate of Empty Digits

Each of the digits z, 0, 9, and Z is postulated to be an Empty (Sectorising) Digit (34).

c Postulate of Emptying Digits

Each of the digits T, V, and X is postulated to be an Emptying Digit—that is, it empties the digits preceding it in the Main Class Number of its semantic value, but allows it to retain its ordinal value (22).

d Postulate of Empty-Emptying Digits

Each of the digits U, W, and Y is postulated to be an Empty-Emptying Digit—that is, it is semantically empty and at the same time it empties the digit preceding it in the Main Class Number of its semantic value, but allows it to retain its ordinal

value (23).

e Canons for Descriptive Theory

The four Canons mentioned in Sec Gw to Gl in Column 1 of the Table in Chap G, for a descriptive Theory of Library Classification are all applicable also for work in the Notational Plane, in the Dynamic Theory of Library Classification. For, these Canons are to be observed compulsorily in the design of a Scheme for Library Classification at any stage — pre-theory or post-theory. More Canons are required in a Dynamic Theory of Library Classification for work in the Notational Plane. These are given in the subsequent sections of this Chapter, which are taken from Part J of the *Prolegomena* Ed 3 (1967).

f/g Canons for Synonym and Homonym

f Canon of Synonym

In a Scheme for Library Classification, the class number of a subject, and the isolate number of an isolate idea in one and the same schedule of isolates, should each be unique.

f1 According to this Canon no subject should be represented by two or more class numbers. Similarly no isolate idea in one and the same schedule should be represented by two or more isolate numbers. This does not mean that the same Isolate Idea should be represented by the same Isolate Number in every Schedule; for, the full

meaning of an Isolate term appearing in two different schedules should be got by the application of the Canon of Context (*See Sec Gt*).

f2 A classificatory language — another term for a System of Class Numbers — is designed in order to replace a natural language just due to the Synonym-problem allowing one and the same subject to be represented by two or more class numbers. The admission of two or more class numbers for a subject will be fatal to the very purpose of Library Classification, which is to bring together all the documents on one and the same subject. If synonymous class numbers are allowed, a classifier may give on different occasions different class numbers to one and the same subject. Further, the chance for this will increase considerably as and when new classifiers come. This is almost certain to occur in the hands of the classifiers of different libraries. Merril wrote Ed 1 of his book *Code for classifier* in order to eliminate this danger.

f3 In U D C the provision of "Colonized Numbers" is a fertile source for Synonyms.

f4 In C C, the provision of separate numbers for "Mother country" and "Favoured country" which have different numbers in the rest of the schedule of Space Isolates, is not a case of Synonym. For, the option of bringing to use one of these numbers should be exercised by a library once for all,

at the very beginning of the classification work, and should not be changed later. Again, the provision of "Collection Number" is made for an individual library to bring together in one sequence books having class numbers which do not bring them together.

g Canon of Homonym

In a Scheme for Library Classification, the Subject represented by a Class Number, and the Isolate Idea represented by an Isolate Number in one and the same schedule of Isolates, should each be unique.

g1 According to this Canon no Class Number should represent more than one subject. Similarly no Isolate Number in one and the same schedule of Isolates should represent more than one Isolate Idea.

g2 If homonymous class numbers are allowed in a scheme for Library Classification, the classifier will have to make one and the same class number represent two or more subjects. This would lead to different subjects being huddled together under the same class number. So also with homonymous isolate numbers. If this be allowed the scheme for Library Classification fails in its purpose.

g3 D C appears to be in two minds with regard to the policy regarding homonym.

g31 In some cases, Ed 17 has resolved the homonym found in Ed 14. For example,

D C Ed 14 (1942)		D C Ed 17 (1965)	
CN	Subject	CN	Subject
294.4	Jainism. Sects of Jains	294.4	Jainism
		294.49	Sects of reform movement
		294.492	Svetambara
		294.493	Digambara

g32 In some other cases Ed 17 has created homonym. For example,

D C Ed 14 (1942)		D C Ed 17 (1965)	
CN	Subject	CN	Subject
611.13	Arteries	611.13	Arteries
611.131	Pulmonary artery		
.....	..		
611.131	External iliac artery		

g33 In the example given in Sec Ug31, D C Ed 17 has resolved the homonym by having recourse to seven digitated class numbers. But Ed 14 has not resolved the homonym. It could have resolved it by having recourse to seven digitated class numbers. On the other hand, in the example given in Sec Ug32, D C Ed 17 has created homonym by discarding the resolution of it in Ed 14 with the help of class numbers of seven digits. This shows that D C has not been influenced at all by the Canon of Bliss—

Canon of Length of Class Numbers (*See* Sec G2).

h Canon of Hierarchy

In a Class Number or in an Isolate Number, there should be a digit to represent each of the characteristics used in constructing the Class Number or the Isolate Number, as the case may be.

h1 This can easily be seen to be a corollary of the Canon of Relativity.

h2 In a Telescoped Array — that is, an Array in which the number of classes or isolates, as the case may be, is less than the number of places normally available in the Array — it may look as if this Canon has been violated. The appearance is only in the Notational Plane. But the appearance is not true when we look at the Array from the angle of the Idea Plane. For example, let us examine the table,

CC		DC Ed 17	
(IN)	Isolate term	(IN)	Isolate term
1	World	1	World
4	Asia	4	Europe
5	Europe	5	Asia
..

Here, obviously "Asia" and "Europe" belong to Array 2 whereas "World" belongs to Array 1, when viewed from the Idea Plane, though they all appear to belong to Array 1 when viewed from the Notational Plane.

j Canon of Mixed Base

The Base of the Notational System of a Scheme for Library Classification should be a Mixed one — using more than one species of digits.

j1 Let us consider the following table:

SN	Species of digits used	N of digits in the base	Number of subjects that can get unique class number
1	Indo-Arabic Numeral	9	9^n
2	Roman Smalls, excluding i, l, and o	23	23^n
3	Roman Caps, excluding I and O	24	24^n
4	All the three species mentioned above	56	56^n

In the above table " n " is the number of digits in a class number. The table shows that greater the number of species of digits used in the Base, the greater will be the number of subjects that can be given unique class number. Thus no scheme should prefer to follow the opposite Canon — the Canon of Pure Notation. This had been stated by E C Richardson even in the beginning of the present century.

k Canon of Faceted Notation

The Notational System of a scheme for Library Classification should be a faceted one.

k1 A faceted notation will require Indicator Digits, not representing any Subject or Isolate, to mark off the Facets.

m Canon of Coextensiveness

In a class number, digits should be added successively so as to represent the measure of incidence of even the very last characteristic in the succession of characteristics, admitted by the universe classified and relevant to the purpose of the classification.

m1 The term 'Co-extensive' is also denoted by the terms 'Close' or 'Minute'. The term 'Non-Co-extensive' is also denoted by the term 'Broad'. This itself shows that the ever growing nature of the Universe of Subjects will make a scheme for Library Classification follow the Canon of Co-extensiveness, instead of the opposite Canon of Non-Co-extensiveness.

n/q Canons for Mnemonics

n Canon of Alphabetical Mnemonics

Alphabetical mnemonics should be rejected without any hesitation if a sequence more helpful to readers or more filiatory than alphabetical sequence exists. Alphabetical mnemonics should be preferred if the alphabetical sequence is as helpful as any other sequence and if an international nomenclature exists in the field to which it is applied.

p Canon of Scheduled Mnemonics

A scheme for library classification should use one and the same digit or digit group, as the case may be, to represent an isolate idea or an array isolate idea, in whatever subject it may occur.

Obviously, this Canon will automatically secure conformity to the Canon of Consistent Sequence. It will also satisfy the Law of Parsimony in regard to the length of the schedules of classification. The work of the classificationist also will conform to the Law of Parsimony.

The three devices described in Chap V and the schedules of common isolates satisfy this Canon automatically. A Faceted Classification also satisfies it automatically in respect of the isolates in a facet of compound subject.

q Canon of Systematic Mnemonics

In a scheme for library classification, the digits used to represent the array isolate ideas in an array should run parallel to the sequence in which the Principles for Helpful Sequence would arrange the array isolate ideas.

Whether the array isolate number for the first array isolate idea should be the first digit in the sector — say 1 or A — depends on the context. If it is certain that there could be no array isolate idea preceding it, the first digit in the sector may be used.

Similarly, the array number for the last array

isolate idea should be the last digit in the sector — say 8, 98, or 998 . . . Y, ZY — depends on the context. If it is certain that there could be no array isolate idea succeeding it, the last digit in the sector may be used.

r Canon of Seminal Mnemonics

A scheme for library classification should use one and the same digit to denote seminally equivalent concepts in whatever subject they may occur.

In scheduled mnemonics, the same concept is denoted by the same term, and the same concept is represented by the same number, in all its places of occurrence. It is also possible to have the same concept denoted by the same number in all places of occurrence, but with different terms denoting it in the different places. The identity of the concept is cognizable at great depths, beyond the reach of natural language. As and when the concept comes up to the surface in particular contexts, a word in the natural language is coined to denote it in that context. At the unmanifest depth of identity, there has been no need to denote that seminal concept by a term in the natural language. In classificatory language, it is possible to denote it by a definite digit or digit-group. But, in the different schedules where that concept is denoted by that digit, the equivalent term current in the natural language has to be different in each schedule. There-

fore, it cannot be called a scheduled mnemonic.

s Use of Starved Digit in U D C

The U D C Committee of the F I D, has the policy of "Starving a digit" and of using a starved digit in an Array in the representation of a newly emerging idea. This policy is at once a negation, not only of all Canons for Mnemonics, but also of the Postulates for Helpful Sequence regulating the work in the Idea Plane. The F I D should give up this practice.

t The "Invisible Idea" Rules

In a Schedule it is only a Class Number or an Isolate Number, as the case may be, and its equivalent term in the natural language that is visible. The idea behind them is invisible. And yet it is the Idea Plane in which all the primary work in Library Classification is done and whose findings are paramount and regulate the work in the Notational Plane.

CHAPTER V

DEVICES

a Chronological Device

In the Idea Plane the Chronological Device (C D) is the device for Forming or Sharpening the Focal Ideas in a Schedule of Isolates or of System Basic Divisions, on the Basis of Chronological Characteristic, when their individualisation admits of being made to depend conveniently and helpfully on the respective epochs of origin, or birth, or first investigation, or discovery, or initiation, or occurrence, or any other epochs that may be definitely associated with it in any manner, or for any reason.

a1 In the Notational Plane the (C D) is the device of implementing the (C D) of the Idea Plane, by using a Chronological Number for forming or sharpening an Isolate Number or a System Basic Division.

a2 The epoch to be used to construct the Chronological Number will be that which is specified in the concerned Rules or Schedules, and, if it is not so specified, that which may be most appropriate.

a3 The Chronological Number should be worked out to the first, or the first two, or the first three digits of the year forming the epoch as speci-

fied in the respective Rules, and, if there are no specific rules on the point, according to the following convention:

a31 For the first isolate in an array, whose epoch falls within a century, the first digit alone should be used. It will be a Roman Capital.

a32 Among the other isolates calling for the same first digit, for the first isolate whose epoch falls within the same decade, the first two digits should be used. The second digit will be an Indo-Arabic numeral.

a33 Among the other isolates calling for the same first two digits, for the first isolate whose epoch falls within the same year, the first three digits should be used. The second and the third digits will be Indo-Arabic numerals.

a34 For each of the other isolates calling for the same first three digits, some vacant neighbour-year is to be used.

a35 If no neighbouring years are vacant to make the application of the above convenient, the digits 1, 2, etc respectively may be added after the three-digit number. These added digits should be read as integers and not as decimal fractions.

b Geographical Device

In the Idea Plane the Geographical Device (G D) is the device for Forming or Sharpening the Focal Ideas in any Schedule of Isolates on the basis

of the Geographical characteristic, when their individualisation admits of being made to depend conveniently and helpfully on their respective Geographical Areas of origin, or prevalence, or habitation, or any other places that may be definitely associated with them in any manner or for any reason.

b1 In the Notational Plane the (G D) is the device of implementing the (G D) of the Idea Plane, by using a Geographical Number as the Focal Number for forming or sharpening an Isolate Number.

c Subject Device

In the Idea Plane, the Subject Device (S D) is the device for Forming or Sharpening the Focal Ideas in a Schedule of isolates on the basis of Subject-Characteristic, when their individualisation admits of being made to depend conveniently and helpfully on a subject in any manner or for any reason.

c1 In the Notational Plane, the (S D) is the device of implementing the (S D) of the Idea Plane, by using a Number for forming or sharpening an Isolate Number. The Number so used should be enclosed in circular brackets; and it should be taken as fused and treated as if it were a single digit.

CHAPTER W

STRATEGY OF THE DYNAMIC THEORY OF LIBRARY CLASSIFICATION

a Class Numbers for the Six Examples Given in Chap N

We shall first give the results in Steps 6 and 7 of the Postulational Procedure in classifying for the six examples given in Chap N. In Step 7 class numbers are given both by C C and U D C.

b Example 1

Step 6 Title in Focal Numbers

(CC) L (BF). 32 [1P1]. 4 [1MP1]

(UDC) 61 (BF). 6 [1MP1]. 12 [1P1].

Step 7 Class Number

(CC) L,32;4

(UDC) 616.12.

c Example 2

Step 6 Title in Focal Numbers

(CC) L (BF). 32 [1P1]. 4 [1MP1]. 3 [1E]

(UDC) 61 (BF). 6 [1MP1]. 12 [1P1].
07 [1E]

Step 7 Class Number

(CC) L,32;4:3

(UDC) 616.12-07.

d Example 3

Step 6 Title in Focal Numbers

(CC) L (BF). 32 [1P1]. 4 [1MP1]. 3
[1E]. 25 [2P1]

(UDC) 61 (BF). 6 [1MP1]. 12 [1P1].
07 [1E]. 3 [2P1].

Step 7 Class Number

(CC) L,32;4:3,25

(UDC) 616.12-073.

e Example 4

Step 6 Title in Focal Numbers

(CC) L (BF). 15 [1P1]. 4 [1MP1]

(UDC) 61 (BF). 6 [1MP1]. 611.94 [1P1].

Step 7 Class Number

(CC) L,15;4

(UDC) 616:611.94

f Example 5

Step 6 Title in Focal Numbers

(CC) L (BF). 15 [1P1]. 4 [1MP1]. 3 [1E]

(UDC) 61 (BF). 6 [1MP1]. 07 [1E].
611.94 [1P1].

Step 7 Class Number

(CC) L,15;4:3

(UDC) 616-07:611.94.

g Example 6

Step 6 Title in Focal Numbers

(CC) L (BF). 15 [1P1]. 4 [1MP1].

3 [1E]. 24-3 [2P1].

(UDC) 61 (BF). 6 [1MP1]. 07 [1E].

3.75 [2P1]. 611.94 [1P1].

Step 7 Class Number

(CC) L,15;4:3,24-3

(UDC) 616-073.75:611.94.

h Observations on the C C and U D C Class Numbers

h1 C C Class Numbers follow the PMEST sequence given by the Idea Plane. Further, it may be said that it does so in respect of all the Basic Subjects.

h2 U D C puts (1MP1) first and then (1P1), violating the direction of the Idea Plane. It is obliged to do so because it has adopted for its Main Subjects the Compound Subjects of D C. But if it takes the liberty to adopt the D C core, only for the Main Subjects proper, it could have avoided this. Then the Number for example 6 would have been:

61.94:616-073.75.

h3 In most subjects U D C follows the PMEST sequence. But, in Medicine it puts (1MP1) before (1P1). This violation of the Canon could have been avoided by U D C if the classificationist of U D C had followed the guidance of the Idea Plane.

h4 The following will be the sequence of the six subjects when arranged by C C Numbers:

h41 Disease of the chest.

- h42 Differential diagnosis of chest diseases.
- h43 X-ray diagnosis of chest diseases.
- h44 Essentials of cardiology.
- h45 Cardiac diagnosis.
- h46 Cardiac radiology.

j/t Strategy of the Idea Plane

j Avoidance of Arrangement in Phenomenal Level

In arriving at the helpful sequence of the six subjects, these very subjects in the phenomenal level have not been considered. So also it will be in respect of millions of subjects in the phenomenal level. The direct arrangement of the millions of subjects in the phenomenal level will be a tantalising one, if not impracticable.

k Diving Deep to the Near-Seminal Level

The Postulates for work in the Idea Plane have made it possible to dive deep to the near-seminal level. At the near-seminal level of the various components, the various compound subjects are reduced to one and only one or other of the Five Fundamental Categories. Then, other postulates for work in the Idea Plane give the sequence of the components without any difficulty. The class numbers, based on the work in the near-seminal level, automatically arrange the Compound Subjects in the phenomenal level in a helpful sequence.

m Similarity of Pattern Within a Main Subject

In the sequence of the six examples, a similarity of pattern is automatically secured for the Compound Subjects going with the Main Subject "Medicine."

n Similarity of Pattern in all Compound Subjects

The Postulates for work in the Idea Plane ensure also the very same similarity of pattern in the sequence of the components of all the Compound Subjects, whatever be the Basic Subject with which they go.

p Similarity of Pattern Helpful to the Reader

This common similar pattern is a comfort to reader. The absence of this pattern among the Compound Subjects going with the Main Subject "Medicine" and in a few others in U D C, caused by violating the Postulate for the sequence of Fundamental Categories, will cause discomfort to readers.

q Intensity of Discomfort in Depth Classification

The intensity of discomfort in the depth classification of micro documents, such as articles in periodicals, will increase with the intension of the micro subject.

r Persistence of D C

No doubt the Editors of D C have not yet appeared to favour the implementation of the Postu-

lates of the Idea Plane in all the subjects. They persist to continue the original pattern of the sequence of the Facets, though they do not so persist, but make changes, in several other matters. They defend their persistence by declaring that D C is not intended for use in Depth Classification — that is in Bibliographical Classification, as they call it (4). This amounts to making the veteran D C to scuttle.

s Recommendation to U D C

However, U D C has the freedom to change the sequence of Facets in all subjects, so as to bring it in conformity with the Postulates provided by the Idea Plane. They have deviated from D C in several other respects. They may do so in this respect also.

t Wish of Donker Duyvis

The wish for conformity to the Postulates for work in the Idea Plane is implied, though not explicitly stated, in the following words of Donker Duyvis, for long time Secretary-General of the F I D: "I know that the task to bring together the two main universal multi-dimensional and dynamic classifications is almost superhuman and one I must confess to feel myself unable, even to fulfil in part. But, if we can see one in whom we have confidence he will make at least a serious attempt to unify, I think it is our *wise friend from the East*" (6). If this is done, U D C can have the full benefit of the strategy of the Idea Plane, as C C has.

CHAPTER X

FROM SUBORDINATION TO LEADERSHIP

Note. — The following abbreviations are used in this Chap: CFS = Canons for Filiatory Sequence, IP = Idea Plane, NP = Notational Plane.

a Violation of Canons for Filiatory Sequence (CFS)

The following is an extract from the Schedule of Main Subjects from the earlier editions of C C:

K	Zoology	M3	Domestic science
L	Medicine
M1	Book Production	MK	Animal husbandry and description

CFS. — You have disregarded me in the above schedule by separating "K Zoology" from "MK Animal husbandry" by inserting between them other Main Subjects, not filiatory to "K Zoology."

IP. — I did not separate them. But, the NP had to do so, because the base for the Array of Main Subjects had only 26 digits. Therefore, it had to make "M Useful arts" as a comprehensive Main Subject to include all the residual subjects, pure or applied, in the Natural Sciences that could not be accommodated within the range A to L.

NP. — It is true. But I have now gained more versatility than before by following the Postulate of Emptying Digits. Therefore I am now able to provide as follows:

K Zoology KX Animal husbandry

CFS and IP. — This is very good. We thank you for it.

NP. — In fact using both Emptying and Empty-Emptying Digits, I can interpolate any number of Main Subjects between the two already existing consecutive Main Subjects, if CFS and IP want it. This facility is in addition to what the Postulate of Sectorising Digits provides.

b Postulate of Anteriorising Digit

The digit (Asterisk) "*" added after any other digit makes the resulting number have an ordinal value just less than that of the digit-pair got after adding the digit "-". (Double inverted comma) to the same original digit.

NP. — By using this Postulate, the digit-pair "a*" has a smaller ordinal value than the digit "a." The digit-pair "a*" can be subdivided by the addition of any digit or digit-group used to represent the Main Subjects already in the Schedule. In this way we can extrapolate any number of Main Subjects before any Main Subject that may be represented by the digit "a."

IP. — I am extremely happy. Hereafter I need not hesitate to mark any newly emerging Main Subject for extrapolation before "a," if need arises for this.

NP. — Already I have provided for the extrapolation at the end of the schedule of the existing Main Subjects — that is after "Z Law." This I have done by inserting Emptying Digits after the digit "Z."

IP. — I know that. In this way you have already implemented three of my findings. You have extrapolated the following three Main Subjects after the Main Subject "Z Law":

"ZT International law at peace time,"

"ZV Law of War," and "ZX Jurisprudence."

Thus the IP need not feel that it should subordinate itself to the NP because of lack of versatility in the latter. On the hand it can exercise its legitimate leadership in Library Classification. This is indeed of vital importance in a Dynamic Theory of Library Classification.

CHAPTER Y

FROM NON-COOPERATION TO COOPERATION

Note. — The following abbreviations are used in this Chap:

CH = Canon of Homonym

IP = Idea Plane

LP = Law of Parsimony

NP = Notational Plane.

LP. — By developing faceted notation, even as early as 1933, you had satisfied me.

NP. — I got the idea of reducing the total length of the Schedules going with any Main Subject considerably by making use of the inequality,

$M + N + P + \dots$ is smaller than $MNP \dots$

LP. — It is indeed clever to use that inequality to make the non-mathematicians appreciate the extent to which you have satisfied me. I may give a particular enunciation of your inequality: By using three independent schedules of Isolates each having 10 isolates — that is, by making total schedule length 30, you have provided for a schedule of 1,000 isolates which would have been necessary if you had not provided faceted notation.

IP. — I agree that the faceted notation shortens

the length of the schedule to an enormous extent. But I have been put to a great strain.

LP. — How?

CH. — I can answer that question. For, NP was non-cooperating with me in the earlier years.

LP. — How?

CH. — Consider the Class Number "KX:4" as given by you in those years. It can be interpreted to mean any of the following subjects:

- 1 Disease of animals;
- 2 Respiratory system of animals; and
- 3 Traction animals

Thus, "KX:4" becomes a Homonym in the classificatory language.

LP. — How?

NP. — But I had satisfied you by resolving the homonym in "KX:4" in the following way:

- KX:::4 Disease of animals;
KX::4 Respiratory system or animals; and
KX:4 Traction animals.

LP. — I know that you had done so. I raise this question just to show your resourcefulness in satisfying others.

IP. — But you have not realised what NP had done to me in order to satisfy you. It had indeed robbed Peter to pay Paul, so to speak. It is a clever

way of "dividing and ruling us."

NP. — Why do you use a figure of speech? What have I done to make you speak like this?

IP. — You asked me to compel each Basic Subject accept a rigid facet formula to which all the Compound Subjects going with it should conform.

LP. — What was the inconvenience caused to you by this request?

IP. — I had to provide for the Basic Subject "KX Animal husbandry," the facet formula "KX: Animal: Organ: Problem."

NP. — What was the difficulty in this?

IP. — When I have to deal with the depth classification of micro subjects, as I have to do nowadays in Documentation work, how is it possible for me to anticipate all the possible facets of a compound micro subject likely to go with a particular Basic Subject, of very great intension, and to arrange the facets in a helpful sequence to construct the Facet Formula for the Basic Subject.

NP. — Even then I had noted your difficulty; I was compelling you improperly to do something beyond your power, in order to hide my lack of versatility.

IP. — I remember that you did so. I also remember that you have already retrieved yourself from that improper position.

LP.— Do you mean to say that NP did not force you to allow it to put a series of consecutive colons in a Class Number, while using your rigid facet formula? I am also interested in it, because it would mean a smaller number of digits in a Class Number.

IP.— NP formulated for its guidance the Postulate of connecting digits. According to this the nature of each facet — whether it is P, M, E, S, or T — which I had myself postulated, would be indicated by a distinctive punctuation mark of its own. It implemented this idea in Ed 4 (1952) of C C.

NP.— Here I should express my gratefulness to IP. It realised that I had only a small number of punctuation marks at my disposal. My puzzle was how I could give a distinct indicator digit for each facet if the number of facets in a compound subject exceeded the number of punctuation marks available.

CH.— How did you, IP, give relief to NP?

IP.— My Postulates for Rounds and Levels avoided the need for more punctuation marks than five, for use as Indicator Digits for PMEST.

LP.— But, what would have happened if several Levels of one and the same Fundamental Category occurred within one and the same Round?

CH.— This would have meant either creating homonyms in classificatory language, flouting me, or

flouting the LP by having a number of consecutive indicator digits of the same kind.

NP. — I got over it by increasing my versatility still further. I increased the capacity of an Array to 1,166 digits — either a singlet, or a doublet, or a triplet — falling into 66 sectors. The last two were postulated to be equivalent to a single digit.

LP. — How did you manage it?

NP. — By using all the 66 Sectors in an Array.

LP. — It looks like taking the risk of hanging oneself by too many ropes!

IP. — No. NP did it very cleverly. It used different initial digits for the isolate numbers of different Levels.

LP. — Oh yes. I do remember it. NP cleverly telescoped the schedules for all the Levels into a single one, and headed each of the telescoped schedules by a descriptive name such as "Level of Remove 1," "Level of Remove 2" etc.

NP. — I am sure that LP will be glad that I have effected further economy in the number of isolates in collaboration with IP. IP said that I might arrange the isolates in a schedule in the reverse sequence of Wall-Picture Principle.

IP. — I suggested to NP that it can provide for a Compound Isolate, having a later isolate in the schedule as the first component and any relevant

earlier one as the second component. It can also have further components in this way.

NP. — This idea was an excellent help given to me by IP. All that I had to do was merely to postulate the digit “-” (Hyphen) as the indicator digit for the second and later components in a Compound Isolate.

CH. — What about its ordinal value?

NP. — I made it greater than that of the digit “,” (Comma), the indicator digit for (P).

LP. — Incidentally, this idea of Compound Isolate gives me as much satisfaction as that of faceted notation. I suppose that NP had increased its versatility to a great extent.

NP. — I don't think so. For, I do not know what new situation IP will produce overpowering my present versatility, however great it may be now. For, IP is paramount; I must carry out all its orders by further increasing my versatility, if necessary.

LP. — How can you increase it further?

NP. — I cannot guess it now. All that I know is that I must cooperate with the IP and never non-cooperate with it.

IP. — I thank you for this decision of yours.

NP. — I assert that I can cooperate even in all new situations without exception, because I have faith in the adage “Necessity is the Mother of Invention.”

CHAPTER Z

EVALUATION OF INDIA'S CONTRIBUTION TO A DYNAMIC THEORY OF LIBRARY CLASSIFICATION

a/c Evaluation, Within India, of the Dynamic Theory of Library Classification

a Early Years: 1948-1953

When work on a Dynamic Theory of Library Classification was started in 1948, the members of the Library Research Circle (Delhi) participated in the work with enthusiasm. They realised that the Dynamic Theory would have a considerable value in the development of the existing schemes for Library Classification and in the design of the future schemes for Library Classification. From distant Poona I had been following the advances being made by the Library Research Circle and communicated in the *Abgila*. I also had a direct personal feel of this Theory in the discussions during the Indian Library Conferences in Nagpur (1949), Indore (1951), and Hyderabad (1953).

b Middle Years: 1954-1961

Shortly after the Hyderabad Library Conference, Ranganathan migrated to Zurich, where he lived from 1953 to 1956. There he was developing the

Theory with the help of a few British librarians, either in Zurich or in London. These British co-workers sensed the potential value of the Dynamic Theory being developed. They gave him facilities to use their libraries as laboratories for his pilot project. During the years 1957 to 1961 he lived in Madras and in Bangalore successively. He had to spend his time virtually in solitude, as no librarian was willing to take the trouble of working with him on the wave front of our subject.

c The Years 1962 Onwards: Contribution of DRTC

In 1962, the benumbing solitude of 1957 to 1961 gave place to a continuous furtherance of the Dynamic Theory of Library Classification. This was made possible by the establishment of the Documentation Research and Training Centre (DRTC) in Bangalore. The small band of research workers in the Centre, a few librarians in Bangalore, and the students and the alumni of the Centre are engaging themselves in the furtherance of the Dynamic Theory with the full faith that it will be of real value in practical classification and in the development of any Scheme for Library Classification. The number of new results added to the Theory for work in the Idea Plane is small. But a considerable advance is being made in the Theory for work in the Notational Plane. As it has been already stated in Sec Tj, there is not much scope for different

Schemes to have different Theories for work in the Idea Plane. On the other hand they differ only in their Notational System. U D C and C C alone have a Notational System capable of improvement in the light of the Theory. Of these two, U D C has lost much of its capability by its starting with a long schedule of Compound Subjects scheduled in D C. Moreover, the non-librarians, dominating the F I D and in its U D C Committee, cannot be expected to approach the subject of Library Classification via a Dynamic Theory. But, the DRTC Research Team is devoting itself to the formulation of the Theory for work in the Notational Plane, in the light of the experience gained in making the Notational System of C C capable of implementing all the findings in the Idea Plane. Now and then it throws out suggestions to U D C to reorganise its Notational System in the light of the Dynamic Theory for work in the Notational Plane in order that it may implement the findings in the Idea Plane.

d The Year 1962 Onwards: Scepticism and Sarcasm

As if to balance the active work of DRTC on the advance of the Dynamic Theory of Library Classification, a small group of librarians—at the tail end of their professional life—has been looking with scepticism on the development of the Dynamic Theory. A number of them have become too rigid to take in new ideas. Naturally, they look

for the line of Least Action. They find that line to be in believing and propagating the notion that everything worth doing in Library Classification had already been done and completed in USA some decades earlier. This line of Least Action has, of late, made these elderly members of the profession to speak of Library Science or of Science-based Theory of Library Classification with an air of sarcasm. This is done by the few Indian librarians not only within India, but also in foreign countries, and in International Conferences, without any sense of decency or of respect to their country. "Why Five Laws?" "Why Five Fundamental Categories?" "Why Rounds and Levels?" "Why the Expressive Class Numbers?" are some of the sarcastic remarks of the Indian librarians soaked in scepticism. Some of them have even gone to the extent of using the authority of the senior position reached by them by efflux of time, and creating difficulties for the young librarians, working with faith in the value of basing Library Classification on a Dynamic Theory.

e Recent Assertion by Young Librarians

Against the absence of faith in a Dynamic Theory of Library Classification referred to in Sec Yd, in very recent years, a number of young librarians have come into the field with faith in the Dynamic Theory, with due respect for what is being done in India, and resonating with the work being done in

DRTC. Ranganathan has shown me a number of letters that he has been receiving during the last one year from brand new young librarians asking for the elucidation of some difficult points in the Dynamic Theory, communicating some forward steps taken by them in advancing the Theory, and asking for an evaluation of their new results. This is indeed a sign of the new librarians of India, being sons of renascent India, and having begun to act with their faith in the value of a Dynamic Theory of Library Classification.

f/u Evaluation, Outside India, of the Dynamic Theory of Library Classification

f Some Evidence

Some extracts are given in the succeeding sections, of the evaluation of the Dynamic Theory, from librarians of some foreign countries.

g/h International

g International Conference, Brussels, 1955

The Plenary Session of the International Conference of Libraries and Documentation Centres, held in Brussels in 1955, passed the resolution, "The FID recommends that a deeper and more extensive study should be made of the general Theory of [Library] Classification, including Facet Analysis, and also of their application in the documentation of specific subject" (36).

**h International Conference on Classification,
Dorking, 1956**

In its letter of 20 December 1956, the Organising Committee of the International Conference on Classification, held in Dorking in 1956, wrote to Insdoc, India's representative on F I D, "This Conference will be a development of all Dr Ranganathan's work in the last twenty years, and it will no doubt be a means of spreading interest in his work and appreciation of it." Further, in its Concluding Session the Conference resolved that, "There is a general agreement that the most helpful form of classification scheme for information retrieval is one which groups terms [isolate ideas] into well defined categories which can be used independently to form compounds and within which the terms [isolate ideas] can be arranged in hierarchies" (3).

j/q United Kingdom

j Bernard I Palmer, in 1944

According to Palmer, Education Officer of the British Library Association, "Ranganathan has systematised the study of classification into principles, rules, and canons, which have worked a revolution in our subject and changed it from a dull theory with apparently little relevance to practice into an incisive intellectual tool which could be used to analyse existing schemes or to help in the construction of new ones" (14).

k W C Berwick Sayers, in 1955

According to Sayers, the author of several books on the descriptive Theory of Library Classification, and Lecturer in Classification in the School of Librarianship of the University of London, "The analytic and synthetic methods associated with (C C) have influenced recent classification study greatly, even to fascination . . . have introduced ideas of value; one of them, the Octave Device, adopted by the International Federation for Documentation in 1948 for use with U D C, is probably important" (40).

m Classification Research Group, London, in 1957

The Classification Research Group of London (CRG) has stated, "The enumerative schedules . . . fail to display correct relations between terms [subjects] . . . A type of schedule is needed which allows a genus to be subdivided in more than one way, to give several sets of sub-classes, each of which is a homogeneous group of collateral species. Such a schedule is in fact a faceted classification" (2).

Some years ago Ranganathan told me that the seed for the CRG was sown in 1948 in an all-day Sunday Meeting in the Chaucer House. Bernard I Palmer, A Jack Wells, and Douglas J Foskett arranged this meeting with Ranganathan. An immediate fruit was the design of a faceted scheme for

the classification of "Making of Clothes."

n Derek W Langridge, in 1967

According to Langridge, Principal Lecturer of the School of Librarianship of the North Western Polytechnic (London), "Ranganathan's classification theory and practice have influenced workers in Great Britain and in America. I believe that in the long term his own work will have greater importance...because of its coherence" (12).

p B C Vickery, in 1967

According to B C Vickery of Aslib, "The whole *Prolegomena* is a search for and statement of meaningful subject sequences, and their embodiment in the symbolism of notation" (47).

q Jack Mills, in 1970

According to Mills, Reader in the School of Librarianship of the North Western Polytechnic (London), "Ranganathan has pioneered faceted classification and faceted notation, conscious and consistent citation order, schedule of inversion, valuable postulates such as the "Five fundamental categories" (Personality, Matter, Energy, Space, and Time)" (13).

r/t United States of America

r Harold Lancour, in 1964

According to Harold Lancour, Dean of the

Graduate Library School of the University of Pittsburgh, "His (Ranganathan's) exploration in the organisation of knowledge have led to the creation of a new approach to classification based on Facet and Phase Analysis. Indeed, upon his creative enquiry into the nature of documentation, rests the structure of modern library classification" (11).

s Pauline Atherton, in 1965

According to Mrs Atherton, Associate Professor in Library Science of the Syracuse University (New York), "Like Euclid in Mathematics, and Rameau in Music, Ranganathan's work must be recognised as the basis for an understanding of the theories, techniques, and procedures in library classification. In his many writings on the subject, he has presented the theory which must underlie a classification scheme if it is to provide all the detail, variety, flexibility, and simplicity required for modern information indexing" (1).

t Jesse H Shera, in 1965

According to Dr Shera, Dean of the School of Library Science of the Case Western Research University, "The great contribution of Ranganathan . . . is that . . . he talked about most favoured categories, and the like; and he determined his famous facet formula: Personality, Matter, Energy, Space, and Time" (42).

u USSR: E I Shamurin, in 1959

According to Shamurin, author of a famous Russian encyclopaedic book on Library Science, "Ranganathan aims to uncover the internal structure of the principles of the development of scientific library and bibliographic classification, providing ... a correct deeply thought out organisation of recorded knowledge in all its divisions and sub-divisions.... Bypassing it and ignoring it, while developing new current scientific library classification, is impossible" (41).

v Hope for the Future of the Dynamic Theory of Library Classification

The facts mentioned in the earlier sections of this Chapter — particularly about the newly emerging librarians of India and about the DRTC Research Team and its devotion to research in Library Science in general and the Dynamic Theory for Library Classification in particular — fills me with the hope that the future librarians in India and in other countries will carry forward to an advanced level the Dynamic Theory of Library Classification started by my Professor about 20 years ago. My own faith in Library Science, in Library Service, and in Library Classification was formed in 1933, when I attended the classes of Dr Ranganathan in the School of Library Science of the University of Madras. His own earnestness and faith was "infect-

tious," if I can use that ugly term in this context. I have been keeping in touch with him during the last 35 years. I have been reading his books with great care and thereby benefiting myself. After 1949, when he started the first Library Science periodical of an advanced kind, and its two successors, I had been closely studying his contributions to the Dynamic Theory of Library Classification. There cannot be a better opportunity for me to collect together and expound many of the points developed in his Dynamic Theory of Library Classification, than the one given to me to deliver this year's Lectures named after Mrs Ranganathan. I am grateful to the Trustees of the Sarada Ranganathan Endowment for Library Science for having given me this opportunity.

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Note.—1 Col 1 gives the serial number of the Bibliographical reference.

2 Col 2 gives the section number of the text, where the reference is made.

3 Col 3 gives the bibliographical reference.

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INDEX

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Note.—1 The index number in each entry is the number of the Chapter or Section in which the item occurs in the book.

2 The first letter — that is the Roman Cap — in the index number denotes the Chapter.

3 The Roman small, in some cases followed by an Indo-Arabic numeral, following the first letter denotes the Section.

Example: Zs — Section s in Chapter Z.

Contractions used: *def* = defined at

irt = in relation to

qirt = quoted in relation to

r by = referred by

virt = referred in relation to

<i>Abgila</i> Jk	sequence, Principle of <i>See</i>
Aeroplane Jb	Principle of alphabetical
Agriculture Sd	sequence
All India Library Conf Bk	Ampere's philosophical system
Allergy to	of sub Eq
library classification Kf	Analysed title Nb3
mixed notation Te	Analytic
technical term Sj	divisions Fd3
Alphabetical	method Zk
index to catalogue Se	Analytico synthetic Sch Fd6
mnemonics, Canon of <i>See</i>	Ancient
Canon of alphabetical	European philosophical sys-
mnemonics	tem of sub Eg

LIBRARY CLASSIFICATION

- Indian philosophical system B Lib Sc Kb
 - of sub Ee
- Animal husbandry Xa
- Anir-vachaniya* Kg
- Anker Jg
- Annals* Jk
- Anteriorising digit Xb
- Application relation Mf
- Aristotle's
 - categories Mj1
 - system Eg
- Array
 - Canons for *See* Canons for array
 - Capacity of Y
- Artha* Ee2
- Ascertainability, Canon of
 - See* Canon of ascertainability
- Asiatic Society Library Bj
- Assumed term Kg
 - Residual Kf
- Asterisk Xb
- Atherton Zs
- Attendant Te
- Attitude of reader Tf
- Author, Parkhi's service as
 - Dd
- Away from position, Principle of
 - See* Principle of away from position
- B C Fd7
 - irt*
 - Canon of context Hh3
 - Canons of Bliss Hd
- Back to front, Principle of *See* Principle of back to front
- Bacon Ej
- Basic
 - division
 - idea Mc2
 - of a main subject Mc2. B2
 - facet, Postulate of *See* Postulate of basic facet
 - laws Jx
 - irt* Levels of normative principles Hs
 - subject
 - def* Kh6
 - def irt* Universe of subjects Mc2. B3
 - idea Mc2. B1
- Bhagavad-gita* Ee
- Bhagiratha *irt*
 - Dynamic theory Je
 - Universe of subjects Jd
- Bias relation Mf
- Bibliographical classification
 - irt* D C Wr
- Bliss Fd7
 - irt*
 - Canons Hd
 - in descriptive theory G
 - of Ranganathan He
 - irt*
 - Canons of Sayers Hc
 - Length of class number Ug33
- Bliss's theory Fm

INDEX

- Bottom upwards, Principle of
 - See* Principle of bottom upwards
- British librarians Zb
- Brown Fd5
- Brown's theory Fg
- Brussels Conference Zg
- C C Fd6
 - irt*
 - Canon of
 - context Hh2
 - enumeration Hj3
 - synonym Uf4
 - Versatility of notational plane Km
 - notational system Zc
 - number
 - irt* Length Td
 - Observation on Wh
 - irt* Ranganathan's canons for terminology Hf
- C R G Zm
- Canon of
 - alphabetical mnemonics Un
 - ascertainability Gd
 - coextensiveness Un
 - irt* Canon of relativity Uh1
 - concomitance Gb
 - consistency Gg
 - irt* Sayers Gv
 - consistent
 - sequence Gm
 - succession Gg
 - context Gt
 - irt* Canon of synonym Uf1
 - Observations on Hh
 - currency Gq
 - irt* Descriptive Canon Hg
 - Observations on Hg
 - decreasing extension Gn
 - differentiation Ga
 - enumeration Gs
 - Observations on Hj
 - evolutionary sequence G5
 - exclusiveness Gj
 - exhaustiveness Gh
 - expressiveness Gu
 - faceted
 - class number G3
 - notation Um
 - helpful sequence Gk
 - hierarchy Uj
 - historical sequence Gh
 - homonym Ug
 - hospitality in
 - array Gx
 - chain Gy
 - intention Gn
 - and extension Gn
 - length of class number G2
 - irt* Canon of relativity Uh1
 - likeness Ga
 - mixed base Uk
 - mnemonics G1
 - modulation
 - in chain Gp
 - of levels of facets in a level cluster Pe
 - permanence Ge

LIBRARY CLASSIFICATION

- pure notation Uk
- relativity *irt*
 - Canon of hierarchy Uj
 - descriptive theory Gw
- relevance Gc
- relevant succession Gf
- reticence Gr
 - Impact of Hk
 - Observation on Hk
- scheduled mnemonics Uq
- seminal mnemonics Us
- subordinate subjects Pb
- synonym Uf
- systematic mnemonics Ur
- uniformity *irt* Canon of rela-
tivity Uhl
- Canonical sequence
 - Principle of *See* Principle
of canonical sequence Rv
- Canons
 - for
 - array Gh/Gm
 - chain Gm/Gp
 - characteristics Ga/Ge
 - descriptive theory *irt*
 - Dynamic theory Pa
 - filiatory sequence Pb/Pc
 - Violation of Xa
 - helpful sequence G4/G5
 - hospitality Gx/Gy
 - mnemonics Un/Ur
 - notational plane Gw/G3
 - succession of characteristics
Gf/Gg
 - terminology Gq/Gt
 - Observation on Gf/Gj
 - work in the idea plane P
- Formulation of *irt*
 - Bliss Hn
 - Ranganathan Hm
 - Richardson Hq
 - Sayers Hp
- in descriptive theory G
 - irt* Kinds of normative prin-
ciples Hs
 - of classification Hr
 - Role of Ra
- Capacity of an array Y
- Categorical table Fd5
- Categories of Aristotle Mjl
- Central library, Bombay Bj
- Centre to periphery, Principle
of *See* Principle of Centre-
to-periphery
- Chain, Canons for *See*
 - Canons for chain
- Characteristics, Canons for
See Canons for character-
istics
- Chaucer house Zm
- Chronological device Va
- Chronology and evolution,
 - Principles for *See* Princi-
ples for chronology and
evolution
- Class number
 - irt*
 - Canon of
 - homonym Ugl
 - synonym Sh
 - of subject Nb7
 - with consecutive colons Y

INDEX

- Classification
 - and communication* Jj
 - International conference on Zh
 - research group Zm
 - Uses of the term Ea
- Classificationist
 - irt*
 - Canon of context Hh
 - Technical terminology Sg
 - U D C Wh3
 - not guided by theory Fc
 - Opinion of Hk
- Classificatory
 - language *irt*
 - Canon of
 - homonym Uf2
 - seminal mnemonics Ur
 - sense Ec
- Classifier *irt*
 - Canon of
 - context Hh
 - synonym Uf2
- Classifying
 - Systematisation of Na
 - Postulational procedure of N
- Clockwise direction, Principle of *See* Principle of clockwise direction
- Coalesced array *irt*
 - Canon of
 - coordinate subjects Pc
 - subordinate subjects Pb
- Coherent existence Ef
- Colon
 - classification
 - and decimal classification in perspective* Bh
 - irt* Rockefeller Foundation Jj
 - Seminar on Bh
 - number *irt*
 - Curiosity of reader Tf
 - Length Tb
- Coloned numbers of U D C Uf3
- Colons in class number Y
- Commodity or result-actand-action-actor-tool principle
 - See* Principle of Commodity or result-actand-action-actor-tool principle
- Common isolate Mc3. F2
 - idea Mc3. F1
- Communication Jj
- Comparison relation Mf
- Complex
 - main subject Mf
 - subject Mc3. H2
 - idea Mc3. H1
- Compound
 - isolate Y
 - subject Mc3. D2
 - idea Mc3. D1
 - irt* Postulate of Lamination Mg
 - Similarity of pattern of Wn
- Comte's philosophical serial system Ep
- Concomitance, Canon of *See* Canon of concomitance

LIBRARY CLASSIFICATION

- Concreteness, Postulate of *See* Cultivar Sd
- Postulate of concreteness Currency, Canon of
- Connecting digit Y *See* Canon of currency
- Consecutive colons Y Gq
- Consistency, Canon of *See* Cutter Fd2
- Canon of consistency
- Consistent D C Fd1
- succession, Canon of core Wh2
- See* Canon of consistent succession *irt*
- sequence Canon of
- Canon of *See* Canon of context Hh1
- consistent sequence enumeration Hj1
- irt* Canon of scheduled homonym Ug3
- mnemonics Up length of class number Tc
- reticence Hk
- Context, Canon of *See* Canon main subjects Ej
- of context number Td
- Contents of the universe of Persistence of Wr
- subjects, Postulate about *irt* Canons of Bliss Hd
- Mc
- Contribution of DRTC DRTC
- Cooperation from non-cooperation Contribution of Zc
- ration Y *irt*
- Coordinate subjects, Canon of Preparation for the lecture Jn
- See* Canon of coordinate subjects Research
- jects in notational plane Km
- Corollaries of wall-picture periodicals in India Jk
- principle Qc/Qe research team *irt*
- Counter-clockwise direction, Development of dynamic theory Jm
- Principle of *See* Principle of Dynamic theory to static theory Jq
- counter-clockwise direction Future of dynamic theory
- tion Zv
- Cow calf principle Qd New results in theory Jn
- Creative work Ef visiting professor Bj
- Cross reference index entry
- Se

INDEX

- Decreasing
 - extension, Canon of *See* Diligence of Parkhi Db
 - Canon of decreasing extension Dissection Mh
 - quantity, Principle of *See* Distillation
 - Principle of decreasing quantity of theory Fe
- Defined term Kg
- Delay of publisher Jq
- Delhi
 - research team Jh
 - university Kb
- Department of library science of the
 - Poona University Bn
 - University of Delhi Kb
- Depth classification *irt*
- D C Wr
- Discomfort to reader Wq
- Descriptive theory F
 - Canons for G
 - irt* Notational plane Ue
- irt*
 - Change-over to dynamic theory Ja
 - Richardson Hb
 - Technical terminology Sg
- Design of scheme Ue
- Device V
- Dewey Fd1
 - professor of Lib Sc Bh
- Dharma* Ee1
- Dichotomic philosophical system Ek
- Difference relation Mf
- Differentiation, Canon of *See* Canon of differentiation
- Distillation
 - of theory Fe
 - Postulate of *See* Postulate of distillation
- Distilled main subject Md
- Diving to near-seminal level Wk
- Documentation
 - research and Training Centre *See* DRTC
 - work Y
- Dorking conference Zh
- Dravid High School Bb
- Duyvis Wt
- Dynamic theory
 - Evolution of Jv
 - First Jm
 - guiding design work J
- irt*
 - Canons for idea plane Na
 - Leadership of notational plane Xb
 - Planes of work Js
 - Preparation for the lecture Jn
 - Relation with uni of sub Jd
 - Richardson Hb
 - Rockefeller Foundation Jj
 - Teaching in University of Delhi Jc
 - Technical terminology Sm
- of lib classi *def* Jf

LIBRARY CLASSIFICATION

- Pre-knowledge of Jn
- Seed for Jg
- Strategy of W
- Dynamism in Ranganathan's thinking Jr
- E C Fd2
- Editors of D C Wr
- Empty
 - digits, Postulate of *See* Postulate of empty digit
 - emptying digit
 - irt* Interpolation Xa
 - Postulate of *See* Postulate of empty-emptying digits
- Emptying digit
 - irt* Number for animal husbandry Xa
 - Postulate of *See* Postulate of emptying digits
- Enumeration, Canon of *See* Canon of enumeration
- Enumerative
 - schedule Zm
 - scheme Fd6
- Euclid Zs
- European philosophical system
 - Ancient Eg
 - Medieval Eh
 - Modern Ej
- Evaluation of India's contrib in India Za/Ze
 - outside India Zf/Zu
- Evolution of dynamic theory Jv
- Evolutionary sequence, Canon of *See* Canon of evolutionary sequence
- Exclusiveness, Canon of *See* Canon of exclusiveness
- Exhaustiveness, Canon of *See* Canon of exhaustiveness
- Expressive title Nb1
- Expressiveness, Canon of *See* Canon of expressiveness
- Extrapolation Xb
- F I D
 - irt*
 - Dynamic theory Zc
 - Starving digit Us
 - U D C Fd3
 - qirt* Octave device Zk
- Facet
 - analysis Jt
 - r by*
 - Brussels Conference Zg
 - Lancour Zr
 - def* Kh7
 - formula Y
 - r by* Shera Zt
- sequence
 - Postulates for *See* Postulates for facet sequence
 - Principles for *See* Principles for facet sequence
 - within a round, Postulate of *See* Postulate of facet sequence within a round

INDEX

- within last round, Postulate of *See* Postulate of facet sequence within last round
- Faceted
 - class number, Canon of *See* Canon of faceted class number
 - classification
 - irt* Scheduled mnemonics
 - Up
 - r by* CRG Zm
 - notation
 - Canon of *See* Canon of faceted notation
 - irt* C C notation Y
 - Canons of Rangana-
than He
 - scheme for classif Zm
- Facets, Postulates for *See* Postulates for facets
- Fairthorne Kf
- Family of librarians Bm
- Fanciful title Nb0
- Favoured
 - categories Zt
 - country Uf4
- Fergusson College
 - irt*
 - Open access Bd
 - Parkhi's career Bc
 - library Dc
 - r by* Tukol Be
- Filiatory sequence, Canons for *See* Canons for filiatory sequence
- First facet, Postulate of *See* Postulate of first facet
- Fission, Postulate of *See* Postulate of fission
- Five laws of lib sc Jy
- Flabby style in writing Sk
- Focal numbers, Title in Nb6
- Focus *def* Kh8
- Fontaine Ed3
- Foskett Zm
- Freely faceted version of C C Fd6
- Front to back, Principle of *See* Principle of front to back Rj
- Fundamental
 - categories
 - irt* Near-seminal level Wk
 - Postulate of Mj
 - law Hs
- Fused main subject Mc
- Fusion, Postulate of *See* Postulate of fusion
- Gadgil Bj
- Galley proof Bq
- Ganges *irt*
 - Dynamic theory Je
 - Universe of subjects Jd
- Generalist library Se
- Geographical device Vb
- Gesner Eh
- Glossary of technical terms Sc
- Gokhale Institute of Politics and Economics Bj
- Gopinath Bg

LIBRARY CLASSIFICATION

- Grouping of subjects Ea4
- Gwyer Kb
- Hegel's trichotomic philosophical system Em
- Helpful sequence
 - Canons for *See* Canons for helpful sequence
 - Principles for *See* Principles for helpful sequence
- Hierarchy, Canon of *See* Canon of hierarchy
- Hieroglyphics Tf
- Historical Sequence, Canon of *See* Canon of historical sequence
- Hobbes's new philosoph sys En
- Homonym
 - Canon of *See* Canon of homonym
 - free terminology Sj
 - irt* Technical terminology Sf
- Homonymous class number Ug2
- Hospitality, Canons for *See* Canons for hospitality
- Hulme's theory Fj
- Hyderabad lib conference Zb
- Idea
 - def* Kh1
 - plane K
 - irt*
 - Animal husbandry Xa
 - Contribution of DRTC Zc
- Distinction between two schemes Tj
- Inhibition by notational plane Tg
- Neglect in USA Kf
- Paramountcy of work in Km
- Postulates for M
- Steps in Ncl
- Strategy of Wj/Wt
- Impartiality, Law of *See* Law of impartiality
- Inaugural function D
- Increasing
 - complexity, Principle of *See* Principle of increasing complexity
 - concreteness Qb
 - quantity, Principle of *See* Principle of increasing quantity
- India, Sprouting of the seed in Jh
- India's contribution to dynamic theory Z
- Indian
 - library
 - association Jk
 - conference Jk
 - irt* Dynamic theory Za
 - philosophical System Ee
- Indicator digit *irt*
 - Canon of faceted notation Uk
 - Compound isolate Y
 - PMEST·Y

INDEX

- Industry of Parkhi Db
- Inequality Y
- Influence relation Mf
- Insdoc Zh
- Intellectual exercise Ke
- Intension
 - and extension, Canon of *See*
 - Canon of intension and extension
 - Canon of *See* Canon of intension
- Interpolation of main sub Ua
- International
 - committee for nomenclature Sc
 - conference Zd
 - Brussels Zg
 - on classification Zh
 - nomenclature committee on agriculture Sd
- Interpretation, Laws of *See* Laws of interpretation
- Inversion, Principle of *See* Principle of inversion Qb
- Invisible idea Ut
- Isolate
 - def* Mc3. E
 - facet, Postulate of *See* Postulate of isolate facet
 - idea
 - def* Kh3
 - irt*
 - Canon of
 - homonym Ug1
 - synonym Uf1
- number
 - irt*
 - Canon of
 - homonym Ug1
 - synonym Uf1
 - Itself an education* Ec
- Jaipur University Library Bj
- Judge of high court Be
- Kama* Ec3
- Kant Ek
- Karve Institute of Social Service Library Bj
- Kernel terms, Title in Nb2
- Korzybski Kg
- L C Fd4
- Lamination, Postulate of *See* Postulate of lamination
- Lancour Zr
- Language of technical terminology Sf
- Langridge Zn
- Later-in
 - evolution, Principle of *See* Principle of later-in-evolution
 - time, Principle of *See* Principle of later-in-time
- Law of
 - impartiality Jx2
 - local variation Jx5
 - osmosis Jx6
 - parsimony Jx4
 - irt* Canon of scheduled

LIBRARY CLASSIFICATION

- mnemonics Up
- symmetry Jx3
- Law 5 of library science Jr
- Laws of
 - general application Jw
 - interpretation Jx1
 - library science Jy
- Leadership from subordina-
tion X
- Least action Zd
- Left to right, Principle of *See*
Principle of left to right
- Length of class number Ug33
 - Canon of G2
 - Fallacy about Td
- Level
 - cluster
 - Concept of Pd
 - Modulation of levels of
facets in Pe
 - Postulate of *See* Postu-
late of level cluster
 - Postulate of *See* Postulate
of level
 - Postulates for *See* Postulates
for level
- Libraries and documentation
centres, Conference on Zg
- Library
 - career of Parkhi Bd
 - classification
 - Allergy to Kf
 - Grammar of Ff
 - in-action Fe
 - irt*
 - Idea plane Ka
 - Parkhi's
 - research Bg
 - teaching Bj
 - Philosophical system Fa
 - Universe of subjects Jc
 - Normative principles for
Jz
 - Practice of Fb
 - Terminology used in Sb
- conference Bk
- education of Parkhi Bc
- of Congress *See* L C
- of the Maharaja of Bhore Bj
- profession
 - Appeal to Sm
 - irt* Terminology Sg
- research circle Jk
 - irt*
 - Development of dyna-
mic theory Za
 - Refinement of theory
Kd
- research monograph series
Jg
- science
 - irt* Faith of Gwyer Kb
 - Laws of Jy
 - Normative principles for
Hs
 - Post-grad degree in Kb
 - series of the Delhi Uni
publications Jj
 - with a slant to documen-
tation irt*
 - Dynamic theory Jk
 - Parkhi Bf

INDEX

- Likeness, Canon of *See*
- Canon of likeness
- Literary
- style Hp
- warrant, Principle of *See*
- Principle of literary war-
- rant
- Local Variation, Law of *See*
- Law of local variation
- Long range reference service
- Sc
- Loose assemblage, Postulate
- of *See* Postulate of loose
- assemblage
- M Lib Sc Kb
- Madras University Library
- Bc
- Magnanimity of Parkhi Bn
- Maharaja of Bhore Bb
- Maharashtra
- granthalaya sangha Bk
- state bibliography Dc
- Main
- subject *def* Kh4
- idea Mcl
- subjects of U D C Wh2
- Making of clothes Zm
- Marking and parking Kf
- Master principle Qb
- Medieval
- European philosophical sys-
- tem Eh
- Indian philosophical system
- Ee
- Merrill Uf2
- Metapsychosis Jt
- Mills Zg
- Mixed
- base, Canon of *See* Canon
- of mixed base
- notation
- Allergy to Te
- irt Reader Tf
- Mnemonics
- Canon of *See* Canon of
- mnemonics
- Canons for *See* Canons for
- mnemonics
- Modulation
- in chain, Canon of *See*
- Canon of modulation in
- chain
- of levels of facets in a level
- cluster Pc
- Modern philosophical sys Ej
- Moksha* Ee4
- Mother country Uf4
- National
- science library (Denmark) Jg
- Natural language irt
- Canon of seminal mnemo-
- nics Ur
- Steps in
- notational plane Nc3
- verbal plane Nc2
- Technical terminology Sf
- Naval Library of Bombay Bj
- Near-seminal level Wk
- Necessity is the mother of
- invention Y

LIBRARY CLASSIFICATION

- Negative model Fd4
- New philosophical system En
- Nomenclature, International Committee on Sc
- Non-
 - attachment to money Bn
 - cooperation to cooperation Y
 - main basic subject Kh5
- Normative principles
 - for lib classif Jz
 - irt*
 - Canons for terminology Hf
- Kinds of Hs
- Notational plane T
 - Canons for Gw/G3 *irt*
 - Animal husbandry Xa
 - Contribution of DRTC Zc
 - Distinction between two schemes Tk
 - Inhibition of idea plane Tg
 - Paramountcy of work in the idea plane Km
 - Neglect of Na
 - Steps in Nc3
 - Versatility of Km
- Notational System of
 - C C Fd6
 - L C Fd4
- Observations on class number Wh
- Octave device Zk
- Officiation, Postulate of *See* Postulate of officiation
- Open access Bd
- Order Sg1
- Ordinal value *irt*
 - Empty-emptying digit Ud
 - Emptying digit Uc
- Osmosis, Law of *See* Law of osmosis
- Otlet Fd3
- Outdatedness Jp
- P M E S T sequence *irt*
 - C C number Wh1
 - U D C number Wh3
- Palmer
 - irt* India's contribution Zj
 - rirt*
 - Classificatory sense Ec
 - Foundation of CRG Zm
- Paramountcy of work in the idea plane Km
- Paranjape Bc
- Parkhi B
 - bibliography C (G R) Bg
 - r by* Tukol Be
- Parkhi's
 - last days Ba
 - service Dd
- Parsimony, Law of *See* Law of parsimony
- Pearson Es
- Periphery to centre, Principle of *See* Principle of periphery to centre

INDEX

- Permanence, Canon of *See*
- Canon of permanence
- Persistence of D C Wr
- Phase analysis Jt
- irt* -India's contribution Zr
- Phenomenal level Wj
- Philosophers Ed
- Philosophical system of subjects Ed
- and library classification
- Difference between Fa
- Philosophy of lib classif Jg
- Planes of work Js
- Plato Eg
- Poona
- Agricultural college library
- Bj
- University Bn
- Popular term
- irt* Technical term Sb
- vs* Technical term Se
- Post-graduate degree in lib science Kb
- Postulate
- about the contents of the uni of sub Mc
- irt* Levels of normative principles Hs
- Postulate of
- anteriorising digit Xb
- basic facet My
- concreteness Ms
- distillation Md
- empty
- digits Ub
- emptying digits Ud
- emptying digits Uc
- facet sequence within
- a round Mt
- last round Mu
- first facet Mz
- fission Mh
- fundamental categories M
- fusion Mc
- isolate facet Mm
- lamination Mg
- level Mr
- cluster Mw
- loose assemblage Mf
- officiation Mk
- rounds for
- energy Mn
- personality and matter
- Mp
- sequence of levels in a round Mx
- whole and organ Mv
- Postulate, Status of Ma
- Postulates
- Absorption of terminology into Kg
- Postulates for
- basic facet My/Mz
- facet sequence Ms/Mz
- facets Mj/Mm
- level Mv/Mx
- modes of formation
- Md/Mh
- rounds of facets Mn/Mq
- work in the idea plane M
- irt* Donker Duyvis Wt
- Postulates, Role of Ra

LIBRARY CLASSIFICATION

- Postulational procedure N
- Practice
- before science E
 - of lib classif *irt*
 - Beginning Eb
 - Number of schemes Fb
- Principle
- irt* Kinds of normative principles Hs
 - of
 - alphabetical sequence Rx
 - away from position Rr
 - back to front Rk
 - bottom upwards Re
 - canonical sequence Rv
 - centre to periphery Rq
 - clockwise direction Rm
 - commodity or result-actand-action-actor-tool Qe
 - counter-clockwise direction Rn
 - cow calf Qd
 - decreasing quantity Rt
 - front to back Rj
 - increasing
 - complexity Rt
 - quantity Rs - inversion Qb
 - later in
 - evolution Rc
 - time Rb - left to right Rg
 - literary warrant Rw
 - periphery to centre Rp
 - right to left Rh
 - spatial contiguity Rd
 - top downwards Rf
 - wall-picture Qb
 - whole organ Qc
- Principles for
- chronology and evolution Rb/Rc
 - facet sequence Q
 - irt* Kinds of normative principles Hs
 - helpful sequence R
 - spatial contiguity Rd/Rq
- Principles, Role of Ra
- Publisher's delay Jq
- Punctuation mark
- Allergy to Tc
 - irt* U D C Fd3
- Puranas* Ec
- Puranik Kd
- Pure notation, Canon of
- See* Canon of pure notation
- Quadrivium Eh
- Ramayana*
- irt*
 - Dynamic theory Jc
 - Relation with universe of subjects Jd
- Rameau Zr
- Ranganathan
- irt*
 - Absorption of terminology into postulates Kg
 - C C Fd6

INDEX

- Canons He
 - for terminology Hf
 - in descriptive theory G
- Foundation of the Endowment A
- Migration to Zurich Zb
- Rockefeller Foundation Jj
- Seed for dynamic theory Jg
- Technical terminology Sd
- University of Delhi Kb
- r by*
 - Atherton Zs
 - Langridge Zn
 - Mills Zq
 - Palmer Zj
 - Shamurin Zu
 - Shera Zt
 - Tukol Bc
- ript*
 - Canons of Sayers Hc
 - Classes in lib classif Zv
 - Foundation of CRG Zm
 - Homonym Sg
 - Outdatedness of *Prolegomena* Ed 3 Jp
 - Parkhi's
 - death Da
 - education Db
 - Preparation for the Lecture Jn
- Ranganathan's
 - house Jh
 - theory Fn
 - thinking Jr
 - work Zh
- Raw title Nb0
- Reader
 - Attitude of Tf
 - Similarity of pattern helpful to Wp
- Ready reference service Se
- Recognition of three planes of work Js
- Recommendation to UDC Ws
- Reference service Se
- Relative role of postulates, canons and principles Ra
- Relativity, Canon of *See* Canon of relativity
- Relevance, Canon of *See* Canon of relevance
- Relevant succession, Canon of *See* Canon of relevant succession
- Reputation of Parkhi abroad Bh
- Research
 - team of
 - DRTC Bq
 - Delhi Jh
 - workers of DRTC Zc
- Residual assumed term Kh
- Resolving of homonym by U D C Ug33
- Reticence, Canon of *See* Canon of reticence
- Richardson
 - irt*
 - Canons Hb
 - in descriptive theory G

LIBRARY CLASSIFICATION

- virt*
 - Mixed base Uj
 - Practice of lib classif Fb
- Richardson's theory Fh
- Right to left, Principle of *See*
 - Principle of right to left Rh
- Rigid facet formula Y
- Rigidly faceted version of CC Fd6
- Rockefeller Foundation Jj
- Rounds
 - for
 - Energy, Postulate of *See*
 - Postulate for rounds for energy
 - matter, Postulate for *See*
 - Postulate for rounds for matter
 - personality, Postulate for
 - See* Postulate for rounds for personality
 - of facets, Postulates for
 - See* Postulates for rounds of facets Mn/Mq
- Royal Society Jg
- Rutgers University Bh
- S C Fd5
- Sad duty Bq
- Sarada Ranganathan
 - endowment A
 - irt*
 - Opportunity for the lecture Zv
 - Research periodicals Jk
- irt* Foundation of the endowment A
- lecture
 - irt* Parkhi Ba
 - virt* Tukul Be
- Sarcasm Zd
- Saraswati Mandir Bc
- Sayers
 - irt*
 - Canons Hc
 - for terminology Hf
 - in descriptive theory G
 - India's contribution Zk
 - qirt* Use of term 'Order' Sgl
 - virt*
 - Canon of
 - currency Hg
 - Ranganathan He
 - Use of synonym Sh
- Sayers' theory Fk
- Scepticism Zd
- Scheduled mnemonics, Canon of *See* Canon of scheduled mnemonics
- Scheme for lib classif Je
- Schemes for lib classif
 - Distinction between Tj
 - No distinction between Tk
- Scholastic system Eh
- School career of Parkhi Bb
- Scientific style Hp
 - in writing Sk
- Sectorising digit Ub
 - irt* Interpolation Xa
- Sectors in an array Y
- Seed for dynamic theory Jg

INDEX

- Seedling
 - Development of Jk
 - Sprouting of Jh
- Semantic value *irt*
 - Empty-emptying digit Uc
 - Emptying digit Ud
- Seminal mnemonics, Canon
 - of *See* Canon of seminal mnemonics
- Separation of three planes of work Js
- Sequence
 - irt* Technical term Sg1
 - of levels in a round, Postulate of *See* Postulate of
 - seq of levels in a round
- Serial system of subjects
 - Ampere's Eq
 - Comte's Ep
 - Spencer's Er
- Seven liberal arts Eh
- Shamurin Zu
- Shera
 - Evaluation of theory by Ke
 - irt* India's contribution to theory Zt
- Short sight Sh
- Similarity of pattern
 - helpful to reader Wp
 - in all compound subjects Wn
 - within a main subject Wm
- Simple subject Mc3. C2
 - idea Mc3. C1
- Society of Visiting Scientists Fd6
- Sound, Speed of Jb
- Space isolate Uf4
- Spatial contiguity
 - Principle of *See* Principle of spatial contiguity
 - Principles for *See* Principles for spatial contiguity
- Special isolate Mc3. G2
 - idea Mc3. G1
- Specialist library Se
- Species of digits Uj
- Speed of aeroplane Jb
- Spencer Er
- Sprouting of the seed in India Jh
- Standard
 - term Sh
 - terms, Title in Nb5
- Starved digit in U D C Us
- Statistical calculus Td
- Status of postulate Ma
- Steps in
 - idea plane Nc1
 - notational plane Nc3
 - postulational procedure Nb
 - verbal plane Nc2
- Strategy of
 - dynamic theory W
 - idea plane Wj/Wt
- Subject
 - def* Kh2
 - device Vc
- Subordinate subjects, Canon
 - of *See* Canon of subordinate subjects
- Subordination to leadership X

LIBRARY CLASSIFICATION

- Succession of characteristics, Terminology
 Canons for *See* Canons for
 succession of characteristics
 Supersonic barrier Jb
 Swastik Rubber Products
 library Bj
 Symmetry, Law of *See* Law
 of symmetry
 Synonym
 Canon of *See* Canon of
 synonym
 for standard term Sh
 free terminology Sj
irt Technical terminology Sf
 Synthetic method Zk
 System basic division Va
 Systematic mnemonics, Canon
 of *See* Canon of systematic
 mnemonics
 Systematisation of classif Na

 Tactical mistake Tc
 Tantras Ee
 Tauber Bh
 Taxonomic rigidity Ke
 Teacher, Parkhi's service as
 Dd
 Technical terminology
 Allergy to Sj
irt
 Agriculture Sd
 Popular term Sb
 Province of specialist Sc
 Slow change-over to Sg
 vs Popular terminology Se
 Telescoped array Uj2

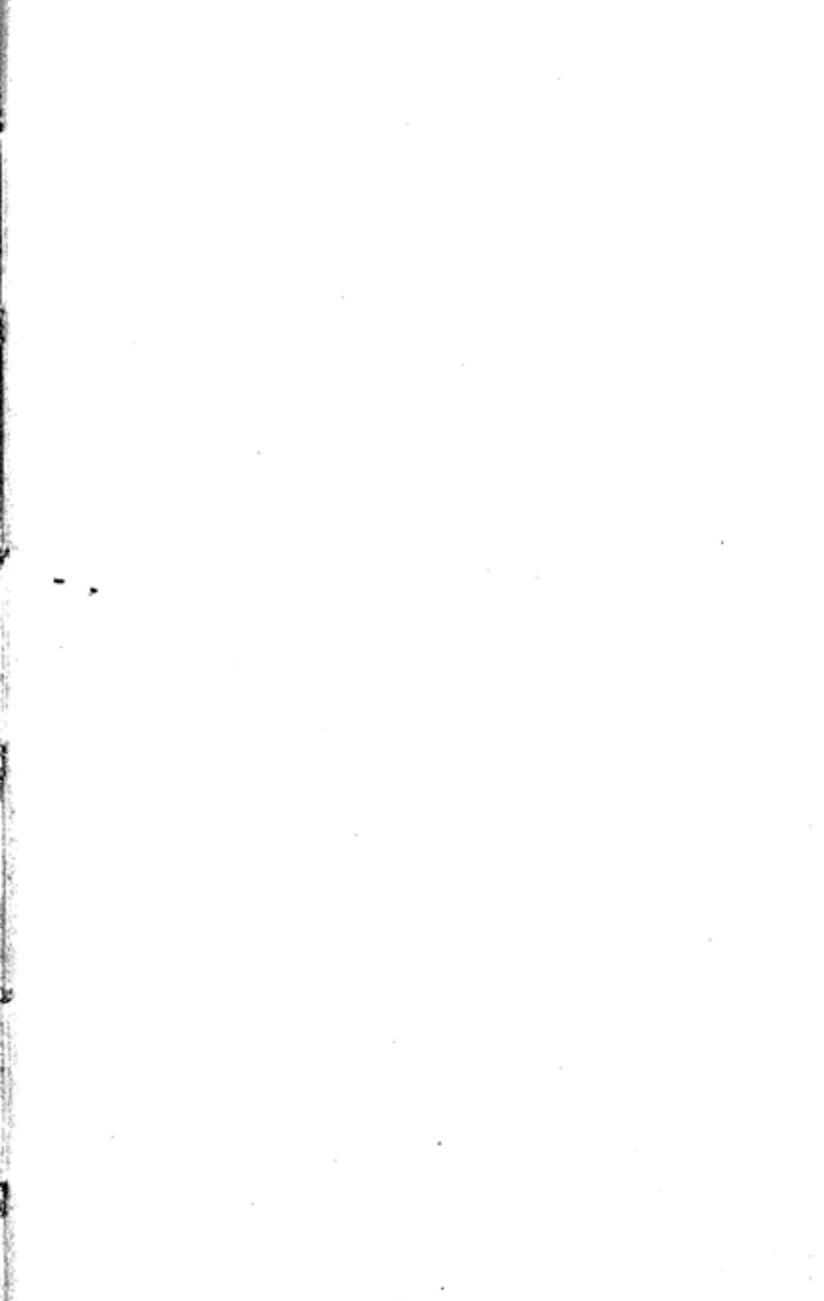
 Terminology
 Canons for *See* Canons for
 terminology
 Homonym-free Sj
 into postulates, Absorption
 of Kg
 Latest Bq
 Synonym-free Sj
 used in lib classif Sb
 Theory
 distilled out of practice Ja
 not guiding classificationist
 Fc
 of lib classif
 Evolution of *irt*
 descriptive theory F
 dynamic theory J
irt
 Idea plane Ka
 Ranganathan Hc
 Richardson Hb
 Sayers Hc
 Teaching in Delhi Uni-
 versity Jc
 Universe of subjects Jc
 of
 Bliss Fm
 Brown Fg
 Hulme Fj
 Ranganathan Fn
 Richardson Fb
 Sayers Fk
 Three planes of work Js
 Earliest
 explicit recognition of Ju
 implicit recognition of Jt

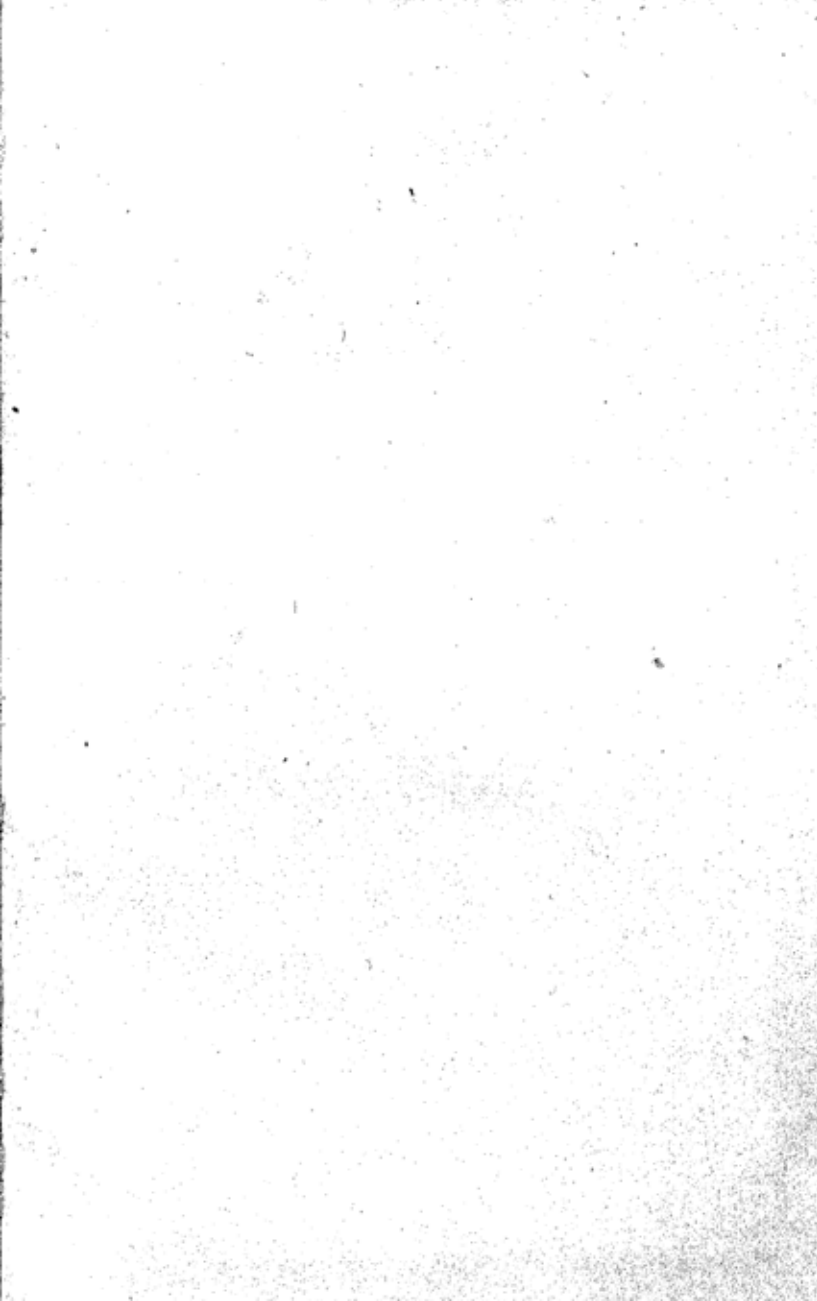
INDEX

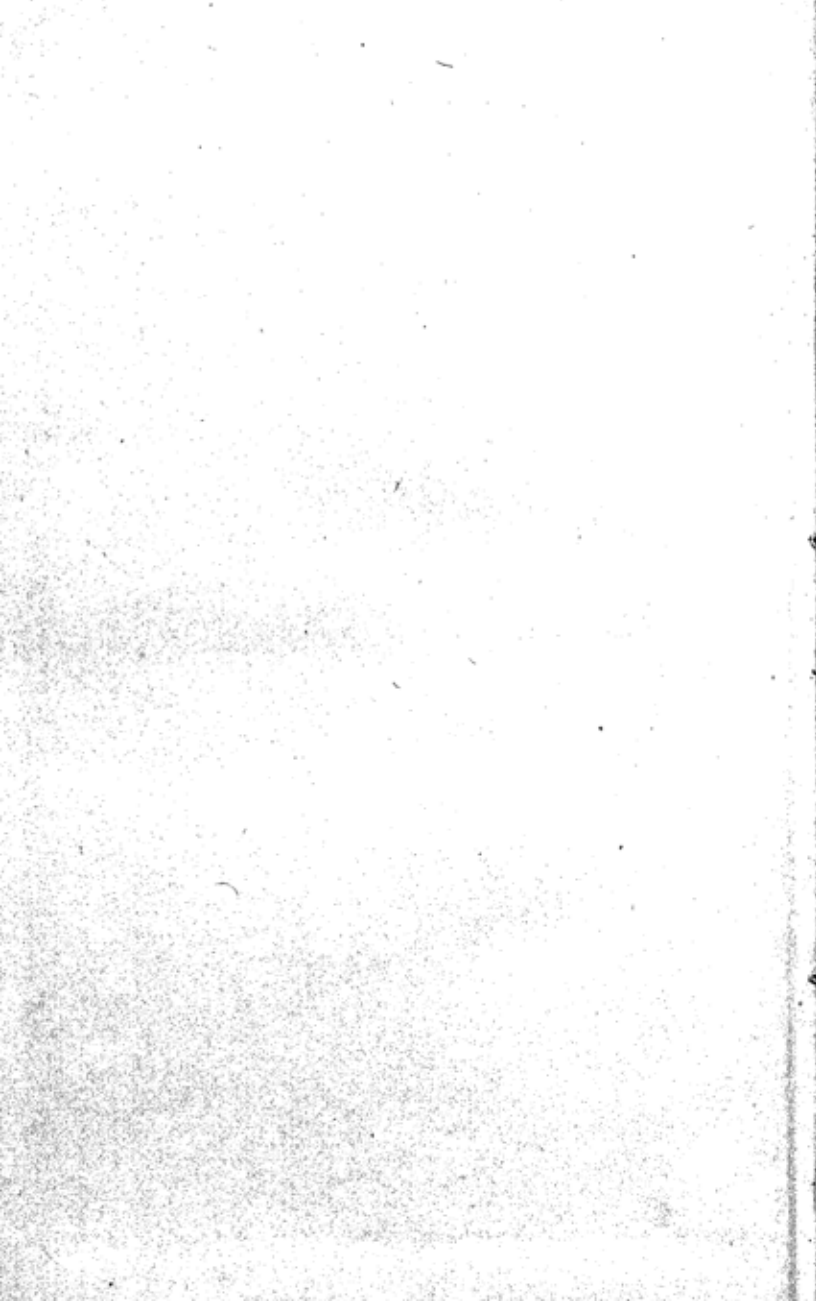
- Title in
 - focal numbers Nb6
 - kernel terms Nb2
 - standard terms Nb5
- Token function Da
- Top downwards, Principle of
 - See* Principle of top downwards
- Town Hall Lib (Bombay) Dc
- Transformed title Nb4
- Translation of colon number Tf
- Trichotomic philosophical system Em
- Trivium Eh
- Tukol Bc
- U D C Fd3
 - irt*
 - Canon of enumeration Hj2
 - Coloned number Uf3
 - Deviation from D C Ws
 - Donker Duyvis' wish Wt
 - Starved digit Ut
 - main subjects Ej
 - notational system Zc
 - number, Observations on Wh
 - qirt*
 - Adoption of octave device Zk
 - rint*
 - Canons of Bliss Hd
- U S A *irt*
 - Evaluation of India's theory Zr/Zt
- Library classif Zd
- Neglect of idea plane Kf
- United Kingdom, Evaluation of India's theory in Zj/Zq
- United States of America
 - See* USA
- Universal bibliography
 - Arrangement in Eh
- Universal Decimal Classification *See* U D C
- Universe of
 - ideas, Postulate about Mc
 - subjects Jc
- irt*
 - Capacity of notational system Th
 - Dynamic theory Je
 - Idea plane Ka
 - Mixed base Uk
 - Relation with theory Jd
 - Teaching in Delhi University Jc
 - Mode of development Ka
- University of
 - Bombay Bj
 - Madras *rint*
 - Classes in lib class Av
 - Work in idea plane Kf
- Upanishads* Ec
- Valmiki Jd
- Variants of crop Sd
- Vedas* Ec
- Vedic philosophical system of subjects Ef

LIBRARY CLASSIFICATION

Verbal plane S	Visiting Professor of DRTC
Steps in Nc2	Bj
Verification Nb8	Wall-picture principle Qb
Step of Nc4	Corollaries of Qc/Qe
Versatility of notational plane	<i>irt</i> Arrangement of isolates
Y	Y
Increasing Th	Welcome address D
<i>irt</i> Paramountcy of	Wells <i>rint</i>
idea plane Km	'Analytico-Synthetic' scheme
Vice	Fd6
chancellor of the Bangalore	Foundation of C R G
university Bc	Zm
president of the	Whole-organ principle Qc
Indian Library Assoc Bk	Wooster Kf
Maharashtra Granthalaya	Writing, Style of Sk
Sangha Bk	
Vickery Zp	Young librarians Ze
Vikram University Library Dc	
Violation of canons for	Zoology in earlier
filiatory sequence Xa	editions of CC Xa







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