CHAPTER - 4

ANALYSIS OF THE STRUCTURE OF SOCIAL SCIENCE SUBJECTS:
CASE STUDIES WITH LABOUR RELATIONS AND
INTERNATIONAL RELATIONS

The emergence of "Social Sciences" as a subject is traced with the aid of two standard dictionaries (New English Dictionary, Vol.9, 1919 and Webster's New International Dictionary), a few standard schemes for library classification, two standard encyclopaedias (Encyclopaedia Britannica and Social Sciences), and a standard documentation serial. The extract of dictionaries meanings show that the terms 'Sociology' and 'Social Sciences' have been used as near-synonyms in the past; the concept 'Social Science' was brought into use by Comte in 1837; the term 'Social Science' appears to have been first used in English about 1874, it appears to have come into general use only very much later; but it is not having an entry in the supplement to the New English Dictionary published in 1933 perhaps because it is a two-worded term; however the appearance of the term 'Social Sciences' in the 1913 edition of Webster should be taken to be significant.
Generally speaking, a scheme for Library classification does not give a formal definition of a subject, but it follows the Canon of Enumeration. That is, under any subject, it successively enumerates its divisions, if any. Thus a schedule of subdivisions in a scheme for classification amounts to definition by enumeration. From Ed.1 onwards DC of Melvil Dewey has been using the term 'Sociology' in the place of 'Social Sciences'. It was only in Ed. 13 (1932) that the term 'Social Sciences' replaced the term 'Sociology' for denoting its Main class "3". This was evidently done to respect the Canon of Currency. In DDC (1965).

30. Social Sciences
31. Statistical Method and Statistics
32. Political Science
33. Economics
34. Law
35. Public Administration
36. Welfare and Associations
37. Education
38. Commerce
39. Customs and Folklore

"Statistical method" is itself a main subject. In CC, it is given as "BT Statistical Calculus", the term being according to the Canon of Currency. It is made adjunct of "B Mathematics", as it branched off from Mathematics, during recent years. "Statistics" is only a common subdivision.
applicable to any subject. The divisions of "35 Public administration" appear to be more suited to form divisions of "32 political science" so far as the theoretical part goes, and to "93 to 99 History of different countries", so far as the actualities in different countries go. The divisions of "36 welfare and associations" are heterogeneous. "361 organisation of social welfare", "362 welfare services to special groups", and "363 other services", can appropriately be regarded as applied subjects - Applied Sociology. Though these are not pure Social Sciences, it is proper to put them collectively as an Adjunct Main Subject after the pure main subject "Sociology". It is so done in CC by putting "yx social work" as an adjunct main subject to "Y Sociology." But DDC, has not enumerated Sociology as a distinct Science under "3 Social Sciences". "364 Criminology", "365 Penology", "366 Association", "367 Social ethics", "369 other kinds of associations" and "39 customs and folklore" are fit to be brought together under the main subject Sociology.

In (2) Expansive classification of C.A. Cutter (1891-93) mentioned the class "H Social Sciences"
In the inclusion of "Statistics Calculus" and the exclusion of "Geography" and "History", EC had been perhaps influenced by DDC. "Geography" and "History", the auxiliary subjects, are not included in "Social Sciences". In (3) Universal Decimal Classification (UDC) it had followed the example of DDC. In (4) Library of Congress Classification of USA (LC) (1959) it has a Volume entitled "H Social Sciences". This may be due to the influence of EC, as it is known that it more or less followed the literal notation of EC and the Main Classes enumerated in it.

The divisions "HA1" to "HA48" together form "Statistical Calculus", and therefore they do not belong to the class, H Social Sciences. The divisions "HA155" to "HA4010" comprehend general statistical data. Thus they are out of place in
the Main Subject "H Social Sciences". As a matter of fact, the statistical data pertaining to a particular subject are given among its subdivisions. Ex:-

HE 8727 Telephone Statistics
LB 2846 Educational Statistics
SF 235 Dairying Statistics

The under-mentioned subjects are not shown as subjects in the group of "H Social Sciences". They are not even enumerated consecutively:

C to F History
GA to GC Geography
GF to GT Anthropology
Z665 to Z 997 Library Science

J Political Science
K Law
L Education

These subjects also should be taken within the group of Social Sciences. This is an unhelpful scattering of the well organised divisions of social sciences. In the inclusion of "Statistical Calculus" and the exclusion of "Geography" and History, LC had been perhaps influenced by EC.
In (5) subject classification of J.D. Brown from its Ed. 1 (1906), Sc has "L Social and Political Science" and is used against the number "L000", by applying the Canon of Enumeration and it appears to have been used in the sense of "Sociology" and "Social Work". The term "Sociology" does not occur at all. In subject classification (1914).

L Social and Political Science
L000 Social Science L 200 Political Science
L100 Economics L 400 to L 700 Law

It is not known how "Political Science" and "Social Science" are clubbed together and denoted by the digit "L". The Social Sciences - "Education" and the auxiliaries "Geography" and "History" - are not brought within the range of Social Sciences.

In (6) Colon Classification (CC) Ed 1 (1933) included in its Main subjects "Y Miscellaneous Social Science including Sociology". The first rule in Chap Y of its Part 1 reads as follows: "the subject divisions "S" to "X" and "Z" represent the major "Social Sciences". To make the divisions of Social Sciences totally exhaustive, the subject Division "Y Miscellaneous Social Sciences" is introduced. Ed 4 (1952) introduced the generic Class "E Social Sciences", and
it was placed between "S Psychology" and "T Education". Thus at the head of the list of individual Social Sciences, but the number is being changed into "SZ" in Ed. 7. Further, in Ed. 7 the schedule of Main Subjects will group them under the four headings.

1. Distilled Main subjects, many of which belong to social sciences;
2. Natural Sciences, and their applications;
3. Humanities and their auxiliaries, and
4. Social Sciences and their auxiliaries and applications

Consecutive Main Subjects.

* SZ Social Sciences
* T Education
* V History
TYT Educametry
TZ Geography and History
* U Geography
UZ History, Political Science and Economics
* W Political Science
* X Economics
V National Economics
XX Industrial Economics
XYT Econometrics
XYV Economic - Cybernetics
UZZ History and Economics
VX Historical Source (as a pure discipline)
The main subject "U Geography" is a background subject to the succeeding main subjects; and the main subject "V History" may be taken as Applied Political Science - that is Political Science - in action. Therefore, they are included among the social sciences, even as similar subjects in the region of natural sciences.

The following main subjects belong to social sciences, though they stand scattered outside the range mentioned above.

- 2 Library Science 9P Conference Methodology
- 2T Library Service 9S Seminar Methodology
- 2YT Librametry 9t Commission Methodology
- 8 Management Science 9p Communication Theory
- 9b Career 9q Symbolism
"2 Library Science is as much a 'social science' as "T Education" is, though it gives education only informally. But under the pressure of the DDC tradition of taking away "02 Library Science" from among the Social Sciences and including it among the Generalised Subjects, CC has also taken away "2 Library Science" from among the Social Sciences. "2T Library Service" is Library Science-in-action. Therefore, it is also included within Social Sciences. The other subjects are described in CC as "Distilled Main Subjects". The significance of this term is, by way of illustration, explained in respect of "8 Management". The pure theory of Management has begun to attract literary warrant only in recent years. This theory has been distilled out, so to speak out of the application of Management-Management-in-action in several subjects. Though most of those subjects belong to the social sciences some lie outside them, for example, Hospital Management. Therefore, it has not been possible to make an individual distinction among the main subjects of the Social Sciences and make Management Theory an Adjunct Main Subject of it. If this be done the law of Impartiality would be violated.
The Ten Main subjects marked, with asterisks mentioned above had been enumerated even in Ed 6 of CC as Social Sciences. The Notational system of CC is versatile enough to accommodate any newly merging main subject in Social Sciences, as in any other part of the schedule of main subjects, in their respective filiary positions as determined by the Idea Plane, either among the a) range or consecutive main subjects; or b) among the other main subjects, as warranted by its nature.

The encyclopaedias would include Psychology among Social Sciences. Ed.1 (1933) to Ed. 4(1952) of CC also did so. This should have been largely due to the traditional inclusion of "Social Psychology" as a subdivision of Psychology. In the tradition, this term included both the Psychology of a social group and the Psychology of a Person living within his own group or any other group. But the former should go with the main subject "Sociology" connoting the study of social groups. And the latter should go with the main subject "Psychology" connoting the Psychology of individuals. The other schemes for Library Classification; also respect this view.
In (7) bibliographic classification of H.E. Bliss (1953) it appears to use the term "Social Sciences" and the term 'Sociology' as equivalents.

1. Summary of Main Classes - "K Social Sciences".

2. Schedule.

   2.1 Special Title Page - "K Sociology"

   2.2 Synopsis - "K Sociology" (With reference to History, Religion and Applied Social Sciences)

   (Classes L-T, where

   L Histriology
   Mtoo History   R Political Science
   P Religion     S Jurisprudence and Law
   Q Social Welfare T Economics)

The reference implies that the main classes mentioned under it are, so to speak, "near relatives" to social sciences, though not essential divisions of the same of the near relatives "P Religion", is perhaps a "relative" of the farthest remove, in the light of what the other schemes enumerate under the generic name "Social Sciences". The subject "J Education" is not mentioned even as a "near relative" of social sciences, though DC, UDC and CC include it as a division of social sciences.
The subjects "DQ to DT Geography" and "ZG Bibliography" to "ZY Libraries" are not mentioned even as "near relatives" of social sciences, but CC includes them.

In (8) International Classification (1961)

J Social Sciences

The divisions of "J Social Sciences" are mostly those mentioned by other schemes, except the following:

"JB" to "JC" representing "Statistical Calculus" and "Statistical Data". These do not belong to Social Sciences. This has been perhaps due to the influence of DC. The following subjects are not shown as subjects within social sciences:

AG to AJ  Library Science and Library
D to F  History
G to I  Geography
K  Law
L  Economics
M  Political Science
NA to NN  Education
OA to OM  Business (= Management)

This is at variance with what most other schemes do.
As against definition by enumeration found in schemes for library classification, that in the encyclopaedias given a formal definition of the scope of "Social Sciences". According to Encyclopaedia Britannica (1965) - Social Sciences are concerned with the orderly investigation of the behaviour of man in society with the aim of cumulating a body of relevant theory. Theories concerning group behaviour, whether economic, political or social. They are implicit in men's action, transmitted in customary beliefs and elaborated in literature. The distinctive quality of social science is that it attempts to formulate such theories unambiguously and in a way which permits the testing of theory against fact. Sociology is one to the several specialised social sciences.

According to Seligman, the editor of Ed.1 of Encyclopaedia of Social Sciences "those mental or cultural sciences that deal with activities of individual as a member of a group". All but one of the articles in this encyclopaedia are germane to "Social Sciences". But the one on "Statistics" is an exception. It is not really on statistical calculus, and therefore is not a division of social sciences. However, articles on apparently foreign subjects, such as Mathematics,
Linguistics and Religion, deal only with their sociological aspects. Therefore their inclusion is justified.

The Documentation Serial "Social Science Abstracts" started in New York in 1929, appears to be the first publication of that kind to carry the term 'social science' in its Title.

4.1 Social Sciences and Modes of Formation of Subjects

Before going to discuss the modes of formation of subjects in social sciences it is better to understand the term "Sciences" in the term "social sciences". The practitioners of the Natural Sciences had monopolised the term "Science" for a long time. According to them science should be restricted to a) subjects dealing with the physical world or its phenomena; or b) subjects dealing with the world of living bodies and their phenomena. According to Karl Pearson's view - "The material of science is unlimited - every group of natural phenomena, every phase of social life, every stage of past or present development is material for science) ... The material of science is coextensive with the whole life". The approach to the definition of the term "Science" through the subject of study or the methods of study has given only negative results. A positive help can
be got by an examination of the mode of development of a subject in the universe of subjects. In this approach the term "Science" is the name given to a domain of subjects whose development is characterized by a method called "scientific method". Therefore it would be appropriate to begin with a description of Scientific Method (2,3). In the description of scientific method, a few of the technical terms used - idea, knowledge, subject - Basic, Compound and Complex - universe of ideas, Universe of Subjects, etc.

An idea is a product of thinking, reflecting, imagining, etc., got by the intellect, by integrating with the aid of logic, a selection from the apperception mass and/or what is directly apprehended by intuition, and deposited in the memory. The concept of knowledge has occupied the minds of philosophers throughout the history of the discipline. Knowledge is the totality of the ideas conserved by human civilization. Ranganathan explained the formation of ideas in the diagram called "Brain Chamber".
4.1.1 **Concept of Subject**

A subject is an organized or systematized body of ideas, whose extension and intention are likely to fall coherently within the field of interest and comfortably within the intellectual competence and the field of inevitable specialization of a normal person.

The exposition of a subject may be embodied in several volumes at one extreme, or just an article in a periodical or a section in a book or even in a single word, at the other extreme. Library service is, in essence, the retrieval and dissemination of embodied knowledge to individual members and groups in a community. Therefore, two essential parameters—the universe of readers and the universe of subjects will effect the value of library service. Efficiency of service to readers is to be achieved by the adoption and development of such tools and techniques that would facilitate the classification of subjects embodied in documents, so as to help their retrieval and service to the satisfaction of the laws of Library Science. To continue to be a useful service, library science must keep developing itself to meet the changes in the value of each of the parameters mentioned above. To satisfy Law 1 of Library Science, i.e. "Books are
for use", the arrangement of documents and the main entries for them should be primarily based on the characteristics of subjects embodied in documents. The study of these characteristics is, therefore, essential for the efficient classification, search and retrieval of subjects and service to readers.

A subject may satisfy the inner urge or emotional feelings of an individual or a group of individuals; it may concern itself with the observation or method of observation of a phenomenon; it may deal with the methods of producing a commodity or a service or with their use, or it may describe a situation in society. Therefore, it may be helpful to examine the differences, if any, with characteristics of the subjects satisfying the respective purposes. Certain affinities and dissimilarities among the subjects will then be recognised.

Subjects used for different purposes show similarities and differences in respect of their emergence and method of cultivation. The use of the spiral of scientific method has been found helpful in the studies on the mode of development of subjects, grouping of subjects in the spiral of completed one or more cycles i.e., all the four quadrants are Physics, Chemistry, Biology, Psychology, Education, History, Political
Science, Law, Quadrants 1, 2 and 4 completed and the cycle likely to be completed in due course are Applied Sciences such as Engineering, Chemical technology, Animal husbandry, Pharma-cognosy, Sociology. Quadrants 3 and 4 alone are pure mathematics, quadrants 4 and 1 alone speculative disciplines such as Religion and Metaphysics, and quadrant 3 along Mysticism, Fine arts and literature proper. Any discipline may adopt the scientific method in its development. There is delay in the recognition of social sciences. In the social sciences, unfavorable factors prevail in quadrants 1, 3 and 4. The period for experiment with humans has to be very long. Humane considerations prevent experimenting with the human species and the delayed emergence of statistical aids. Statistical calculus, Operational Research and other tools are being sharpened only today to a degree sufficient to make allowance for the vitiations, incidental to man and his society being the subject of study. The development of many disciplines in the social sciences is becoming progressively amenable to scientific method. As a result of this, many social sciences have completed at least one cycle in the spiral of scientific method.
FIG. 2 SPIRAL OF SCIENTIFIC METHOD IN CLASSIFICATION
In the schedules for "T Education" and "X Economics", CC mentions different systems of developing the subjects. These give the successive sets of Normative Principles evolved in the formation of different cycles in the spiral of scientific method.

In "Z Law" there are different systems of Jurisprudence with their corresponding cycles in the spiral of scientific method.

In "W Political Science" has experienced three cycles in the spiral of scientific method with the successive formulation of the Normative Principles.

1) "The King can make no mistakes", valid in monarchy;

2) "The Judiciary can make no mistake", valid in a Republic; and

3) "The legislature can make no mistake", postulated in legislative-action, a few years ago, in South Africa, when the Judiciary struck down some of the enactments involving discrimination against coloured people.

4) "Z Library Science" entered the spiral of scientific methods into formulation in 1928 and the publication in 1931 of the Normative Principles known as the Five Laws of Library Science.
"Y Sociology" has only reached the stage of empirical laws; in due course it may complete the first cycle in the spiral of scientific method. "X Social Work" is an applied adjunct to "Y Sociology". Therefore, it should go with Sociology. Consequently, it should also be included in the group of social sciences.

In the other scattered subjects included in social sciences (mentioned, previously i.e. "Z Library Science - 9Q Symbolism (10 main subjects), the spiral of scientific method has not yet started. They are too recent for its start.

"U Geography" is only a background subject and "V History" is applied political science - that is, political Science-in-action. Therefore, it is doubtful whether the spiral of scientific method is applicable to them; but they have to be given a place among the Social Sciences because of their being auxiliaries to them. Certain specific attributes of the different subjects become clear. This is of help to the librarian in learning about certain affinity among large regions of knowledge such as those comprehended by each basic subject, Comprehensive subject, etc. This, in turn, helps in placing these subjects in a helpful position in the universe of subjects. For example, in CC, in the field of
Humanities and Social Sciences. On the other hand, the main classes are arranged in the sequence of increasing artificiality, with mysticism and spiritual experience at one end and the Law at the other. Different models of the development of subjects may be formulated, to help the prediction of likely developments in each of the subjects of groups of them.

The Second Law of Library Science: "Every reader his book" implies that the classification and arrangement of the documents and/or the main entries for them should bring together at every point of approach, and also arrange them on either side in the decreasing degree of affinity. An 'APUPA Pattern' of arrangement - (A-P-U-P-A = Alien - Penumbral - Umbrel - Penumbral Alien) - of the documents and of the main entries is desirable. An attribute of the universe of subjects is that it is manifold multi-dimensional. A clearer definition of this attribute has helped to avoid the confusion caused by designating schemes for classification as uni-dimensional and multi-dimensional schemes. A reliable basis to draw inferences about the qualities of the universe of subjects may be obtained by extensive statistical investigations on an adequate random sample of macro and micro subjects going with different Basic subjects. The
investigation may cover 1) The number of facets incident in each of the subjects at different periods i.e., to say, by a generation, (b) the frequency of incidence of different kinds of facets.

The third Law of Library Science: "Every book its reader" implies that at the time of retrieval no document relevant to the interest of the reader at that moment should be missed, irrespective of this approach. Again, a study of the structure and development of the universe of subjects indicates that no single tool of Library Science can fully satisfy this Law.

The Fourth Law of Library Science: "Save the time of the reader and of the library staff" implies that the retrieval and service should be done in the most economic manner. To satisfy Law 4 requires:

1) Analysis of the universe of subjects to recognise each of its constituents and their relevant characteristics; and,

2) Formulation of a methodology for the design and development of a document retrieval system which can implement the findings of the study. These fundamental studies are again based on and pertain to the structures of the universe of the subjects.
The Fifth Law of Library Science: 'The Library is a growing organism', implies that the universe of subjects is ever growing, the interests of the readers is ever growing and therefore, Library Science is ever-growing.

From the above discussion it is evident that a study of the formation, structure, cultivation and development of the universe of subjects should be an essential equipment of the designer of a document retrieval system. In studying the content and structure of the universe of subjects it has been found helpful to learn in general about the sequence of events involving the formation of percepts, their association in various ways to form concepts, the association of the latter in various ways to form the 'apperceptions mass' and further 'polymerisation' through fresh association of concepts to produce subjects; the role of sensory data, intellecion, intuitive experience and memory in these events; and the kinds of knowledge resulting from each of the kinds of experiences. As a subject develops there may be an increasing degree of interaction - both in intension and in extension - between it and other subjects. There is continuous development of the universe of subjects making it tend to become infinite. The extension of the entity may be of a tiny isolate or it may be as large as that of a main
Each entity will require to be placed in a filiatory position in the universe of subjects already known. It is obvious then, that a study of the structure and development of the universe of subjects, including the modes of generation of subjects, is a pre-requisite for the design and development of document finding systems (4).

A system is a set of inter-related elements each of which is related directly or indirectly to every other element, and no subject of which is unrelated to any other subject. A purposeful system has a goal or objective expresses in terms of the definition of a system, a subject can be redefined, as a set of interrelated component ideas, each component ideas being related directly or indirectly to vary other component ideas of the subject. Considered as a purposeful system the objective of organising a body of ideas—that is the process of building up as subject—is to facilitate communication and understanding or grasping the meaning and message conveyed by the set of ideas. A system has an environment—that is, a set of elements and their relevant properties, which elements are not part of the system, but a change in any of which can cause a change in the state of the system. For a given subject, the environment consists of all the subjects of the universe of subjects excepting itself.
Thus, the changes in the universe of ideas effect the attributes of the universe of subjects. And the changes in the universe of subjects effect the attributes of any one subject forming a subject of the universe of subjects (5). Therefore, one can consider the attributes of a system in studying the attributes of subjects. Further the techniques of system analysis and other methodologies developed for the study of the attributes of different kinds of system can be considered for use in the study of the attributes of subjects. Therefore, the application of some of the approaches of 'General Systems Theory' used in the study of attributes of systems, to the study of the attributes of subjects.

4.1.2 General Systems Theory

According to Bertalanffy, Lazlo (6,7) and others, the General Systems Theory is concerned with the study of properties and principles of systems (or wholes) in general, irrespective of the nature of particular system or its components. The models and principles formulated from such a study are intended to be applicable to different systems occurring in various disciplines. One of the techniques of GST according to Kenneth Boulding (8), is to examine the
"empirical universe and to pick out certain general phenomena which are found in many different disciplines, and to seek to build up general theoretical models relevant to these phenomena". Rapport (9) points out that GST is primarily concerned with the structure of systems as defined by the inter-relation among the components of the system, the dynamic behaviour of the system in its different states as determined by the inter-relation among the components, and with the development of the system as a result of the interactions between subject and its environment. Implied in this definition is that the formulation of a GST requires:

1. Recognition of the types of components of different systems;
2. Determination of the degree of inter-relation among the sets of components of different systems; and
3. Study of the modes of development of systems, so as to formulate a generalised models of systems

Facet analysis is a generalized technique for the recognition of the components of a system and for studying their inter-relation with reference to the overall objective of the system. The components can be re-combined in different ways establishing different relations between them and studying the efficiency of the system in achieving its objective.
The components can also be presented as a matrix of ideas, so as to indicate the gaps and unexplored areas in the universe of ideas. Thus, facet analysis, as a method of structuring ideas into patterns, is a helpful tool in system analysis and in the design and development of systems.

In the above association among the constituents of the universe of subjects has been mentioned. The study of the modes of such associations helps to grasp the essence of the bond among the constituents. It has been found convenient to make such studies at the near-seminal level avoiding the confusing phenomenal level of innumerable entities claiming immediate-neighbourhood relations with each other.

4.1.3 Modes of Formation of Subjects

The modes of formation of subjects that have been recognised are dissection, denudation, lamination, quasi-lamination (= super imposition), loose assemblage, partial comprehension and subject bundle.
Ranganathan identified three modes of formation in his writings in 1940's. These modes were:

1. Denudation;
2. Lamination; and
3. Loose assemblage.

In *Prolegomena to Library Classification* Ed. 3, Ranganathan recognised five preliminary modes of formation of subjects. They are:

1. Dissection;
2. Lamination;
3. Denudation;
4. Loose Assemblage; and
5. Superimposition.

It is apparent that two new modes could be avoided during the periods from 1940s to 1967. However, Ranganathan had been recommended twelve modes of formation of subjects in his article on *Colon Classification* (Edition 7): A Preview. They are:

1. Lamination 1;
2. Lamination 2;
3. Loose Assemblage 1;
4. Loose Assemblage 2;
5. Loose Assemblage 3;
6. Fission;
7. Dissection;
8. Denudation;
9. Fusion;
10. Distillation;
11. Partial Comprehension; and
12. Subject Bundle.

Prof. Nselameghan while working on modes of formation of Basic subjects in 1973 (10-17), introduced new terminology for some of the modes. The new terms are:

1. Clustering for subject Bundle
2. Agglomeration for partial comprehension

The study of the modes of formation subjects helps the classificationist to build into the design methodology and the necessary capability to accommodate each of such formation of subjects. It will also be helpful to examine the frequency of incidence of the different modes of formation of subjects at intervals of say, a) generation, during the last 150 years or so. It will help to recognize the trends into modes of formation of subjects in
different subject - fields at different times; b) recognise the new modes of formation of subjects; and c) evaluate the efficiency of document retrieval system in relation to their capability to conveniently accommodate to different modes of formation of subjects. A study of this kind (18) was done in a limited way some years ago. A more detailed study has been planned in DRTC. An enumerative scheme for classification (19) generally considers the universe of subjects as manifold, multidimensional. It admits of the use of an infinity of characteristics are after the other in the classification of typical entity in the universe of subjects. On the other hand, a freely faceted scheme for classification (20) guided by postulates and principles for the three planes of work - Idea Plane, Verbal Plane and Notational Plane - admit of the use of an infinity of characteristics one after another according to the manifold multidimensional, quality of the universe of subjects recognised in the idea plane. This facilitates building into the scheme for classification a considerable amount of resistance, consistency and self-perpetuating quality in this species of classification (21).

Innumerable ideas are being created every minute. Some of them may get embodied in documents. But a study of the history of the development of ideas in different subject -
fields could indicate that the degree of impact of a new idea on the universe of subjects is not of the same order in all cases. There is seminal contribution, probably intuitively grasped, which makes a powerful, deep and extensive impact, and even turns the course of development of several subjects. It may contribute to a considerable disturbance in the pattern of schedule building for these subjects. Then there is the large quantity of near-seminal contribution of intellectuals. Many of these may be based on the few seminal contributions. These near-seminal contributions perhaps constitute the flesh and blood of the schemes for classification. In a study of the mode of development of the universe of subjects it will be helpful to examine the frequency of incidence of the seminal contributions and of the near-seminal and perhaps and even of the pedestrian contributions, during the last two or three centuries. Works such as those by Price and Halton (22) will be helpful in this connection. A specialist in a subject may also be concerned in one way or the other with the structure and development of the subject or group of subjects. But the universe of the subjects as a whole is not the subject of study in such a case. It may only be a part of it. To specialist is more concerned with the creation of new
subjects -- through new combinations and correlation of the constituents or through presenting a known subject in a new setting or perspective, or through an evolution of it, and thereby cultivate and develop the universe of subjects. For the purpose of learning or to effect new combinations he may study about the constituents of a subject and the manner of its development. But his purpose is to facilitate further development of the universe of subjects. On the other hand, the classificationist is concerned with the recognition of the new combinations and correlations of constituents leading to new subjects. He does this by a study of the subjects created by the specialist and through his close association with the specialists themselves.

4.1.3.A Universe of Subjects as a Field of Study:

The principal disciplines in which the universe of subjects as a whole may be the subject of study are: Logic, Metaphysics, Epistemology, Psychology and Education.

**Logic**: It is the systematic study of the general conditions of valid inference. It is the science of reasoning used in the process of building up the universe of subjects. Therefore, logic does not deal with the structure and development of universe of subjects.
Metaphysics: It is the systematic study of the fundamental problems relating to the ultimate nature of the reality of human knowledge and with the existence of ultimate entities. It includes the analysis and synthesis of the experiences of all the fields in the universe of subjects. Therefore, Metaphysics does not deal with the structure and development of the universe of subjects.

Epistemology: It is the division of philosophy whose subject matter is the study of the methods, the grounds or source, and the validity including the limits of the universe of subjects. Epistemology is an aid in the search for knowledge and to understand the nature of knowledge. It does not deal with the structure and development of the universe of subjects.

Psychology: Psychology examines the subjective aspect of knowledge, the activity of knowing, as a condition of the individual mind, as so much matter of fact that can be inspected and analysed with manner in which every other matter of fact can be and with respect to which these may be discovered, uniformities of structure and of succession, uniformities which may be designated as natural laws. As a study of the consequences, and behaviour of man, in respect
of the universe of subjects, Psychology analyses the question "what is that in man which makes him build up the universe of subjects?" Psychology does not therefore deal with the structure and development of the universe of subjects.

**Education**

Education in its broad sense, concerns itself with the development of the capacity in man to build the universe of subjects. It includes all the ways in which one person or group of persons may deliberately influence the behaviour of another person. Behaviour may include knowledge, skill, habit, value attitude and education. Therefore, it does not deal with the structure and development of the universe of subjects.

From the above discussion, it is evident that the various disciplines do not deal with the structure and development of the universe of subjects as would be required by the documentalists. They deal with the knowledge of subjects from different angles. However, librarian may find some of the findings in those disciplines helpful in his study of the structure and development of the universe of subjects.

4.1.4 **Importance of Structure in the Universe of Subjects**

Now looking into structure identified at various stages with growth of the universe of subjects, Arthur D. Little Inc. Study (23) reveals three different structures corresponding
to three eras in the growth of knowledge. They are: discipline oriented era, problem oriented era and mission oriented era.

Foskett (24) distinguished one more era preceding the discipline oriented era and named it the polymath era.

In Polymath era, the extension of knowledge was so small that a person would comprehend it all. There were few subjects within the range of the universe of subjects. Knowledge was considered a unity. The nature of scholarship was that of an encyclopaedia.

Discipline oriented era, which lasted from the development of printing till 1930s, represented the structure of fragmentation of old disciplines into new subjects. The structure of this era was characterized by the division of universe of subjects into newer and newer disciplines or subjects. The mode was splitting up or fission.

Problem oriented era started after the second world war. The structure of universe of subjects underwent a change from fragmentation to close relationship among the subjects needed to solve particular problems. The era can be said to be characteristic of interaction among subjects and utilization purposes.
Mission oriented era starting from sixth decade of the twentieth century presents a structure of the universe of subjects where barriers between disciplines are disappearing fast. The structure is showing interaction among a whole range of disciplines.

Ranganathan (25) identified the following structure at different stages in the growth of the universe of subjects.

1) **Dichotomy**: It means division into two. In the first stage in dichotomy two divisions are found. In the second stage and so on (26) two divisions of each of these divisions are found. Schematic representations of dichotomy is called the "Tree of Porphyry". Immanuel Kant who attempted for the first time a dichotomic picture of the universe of subjects. Dichotomic structure of the universe of subjects served well to purpose of the early men.

2) **Decotomy**: It means division into Ten. Melvil Dewey introduced this structure.

3) **Polydotomy**: It means division into many. It was introduced by C.A. Cutter and refined by Ranganathan. These structures served well up to the middle of the
twentieth century, when universe of subjects was growing mainly by the process of the fragmentation. After the second world war, when the era of problem-oriented research started, a new phenomenon of interaction among subjects and their constituents was observed. This led Ranganathan to recognize a new structure. It was named 'Proliferation'.

Proliferation means - various ways in which the universe of subjects going with a Basic subject may get proliferated, in that universe may be formed by attaching some other Basic subjects as a phase. And a compound subject may be framed by attaching one or more isolate ideas to the Basic subject. And various are the ways in which such isolate ideas can themselves proliferate. Factors responsible for this proliferation are:

1. Availability of a number of first characteristics of different specified the formation of isolate ideas of order one forming an Array of Order one;

2. Possibility of attaching to the Basic subject some other Basic subject as a facet;

3. Availability of a second characteristics for use after a first characteristic for formation of isolate ideas of order two forming an Array of Order two.
4. Availability of a third characteristic for use after a second characteristic for the formation of isolate ideas of order of three; and so on, with succession of characteristics; and

5. Possibility of combining isolate idea of an array of any order with any isolate idea of any other array of any order (27).

4.1.4.1 Development of the Universe of Subjects

In the past when population pressure and social pressure were low, there was no incentive for organised or cooperative development of the universe of subjects (28). Creation of new subjects was due mostly to the irrepressible inner urge to create, found in a few men of genius appearing here and there occasionally. It was a casual affair. There was seldom cooperation among the scattered men of genius. Many a person did his work without informing himself of what had been done or was being done in other parts of the world. Further, there was considerable secrecy and even antagonism among their respective 'disciplines'. Consequently, the research potential was often wasted by the same results being reached at different places and by different persons. The result was slowness in the development of the universe of subjects. Again in the past, sparseness of population and low social pressure were not able to create the incentive for the quick exploitation, for social use of new developments in
the fundamental subjects. Thus the development of the applied subjects was also slow and a casual affair.

On the other hand, at the present time, when the essential needs have been shot up to a high level by population pressure and even the just-desirable needs are lifted up by the spread of democracy to the level of essential needs, social pressure is leading to conscious, organised, and even state planned development of the universe of subjects - fundamental as well as applied. As a result the involuntary work of the stray genius is supplemented by the work of a hierarchy of persons of successive removes in the intellectual scale. Further, wastage incidental to research by the isolated individuals is sought to be eliminated by organizing Relay - Research. Nuclear physics and atomic fuel are being brought into this category of subjects. During the last few decades relay - research has been planned and arranged more consciously and thoroughly. As a result, the research potential of the world is less exposed to wastage. Time-lap is reduced considerably in the application of new discoveries and inventions to beneficial social use. Social pressure is causing the establishment, both at national and international levels, of a mixed agency for the
promotion of relay-research financed and sponsored jointly by state and private enterprises. The result of such an organisation of relay-research's a considerable increase in the formation of new subjects. Relay-research organised on a national and international basis is leading to a spiral movement of short period in the development of new subjects.

The Vedic seers emphasised the inherent, though hidden, unity of the phenomenal world. In the intellectual universe of subjects, this phenomenon of inextricable interrelation is denoted by the term 'Ekavakyata'. That is, the universe of subjects at bottom is a continuum. In the past, at long intervals, the universe of subjects were mostly static. But, at present, organised relay research is producing a continuous cascade of new micro subjects, each stimulating another in succession in every area of subjects. This cascade makes the universe of subjects a growing and deepening continuum. Depth classification of micro subjects functions as a link in the chain of communication needed to prevent the revision of relay-research into research by isolated individuals. This will be developed in the companion volume 'Depth classification and its design'. 
Fig 3 Spiral of Development of Subjects
4.1.5 Subjects in the Universe of Subjects

The universe of subjects (29) considered to consist of the following kinds of subjects:

1) Basic subjects/simple subjects;
2) Compound Subjects and
3) Complex Subjects.

Before going to discuss the above it is better to know the definitions of the terms. Idea and subject were discussed previously. Now isolate idea, basic subject, compound subject and complex subject are discussed below;

Isolate idea: Any idea or idea complex, fit to form a component of a subject, but not by itself fit to be or deemed to be a subject. Example: Rural Sociology - Hero 'Sociology' is a basic subject, 'rural' is an isolate idea.

1. Simple subject: A basic subject is said to be a simple subject.

2. Basic subject: A subject without any isolate as a component (Ranganathan) Example: Psychology, Education, Economics, Political Science, History.

3. Compound subject: A basic subject with one or more isolate ideas as components. Example: Rural alcoholism in India.
Primary basic subject is not figuring in this example. There are 3 isolates - rural; alcoholism and India. The primary basic subject is 'sociology' and in the example - 'Rural Sociology' - primary subject is 'Sociology' such of these titles are called "Elliptical titles".

Order of Compound Class: A basic subject with one isolate is said to be of the order 1; one with 2 isolate is said to be of the order 2; and so on.

4. Complex Subject: A complex subject is a subject in which two or more basic subjects or compound subject are brought into relation or complex subject is a two phased class (30).

Phase I: The constituent of a complex subject i.e., a basic subject or a compound subject.

First Phase: The primary constituent of a complex subject.

Second Phase: The primary constituent of a complex subject which merely affects the exposition of the First phase. The class number of a complex subject is to be got by using '&' (ampersand) as the (new) connecting symbol between the first and second. Phase followed by an appropriate digit to represent the kinds of phase relation. The different kinds
of phase relation - Intra-subject, Intra Facet and Intra Array and the different kinds of relations in each of the phase relations - general; Bias; Comparison; difference; (Tool, CC, Ed.7) and influence with digits to be used in Class number to represent the different kinds of relation are given below:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Kinds of relation</th>
<th>Intra subject</th>
<th>Intra Facet</th>
<th>Intra Array</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>General</td>
<td>a</td>
<td>j</td>
<td>t</td>
</tr>
<tr>
<td>2.</td>
<td>Bias</td>
<td>b</td>
<td>k</td>
<td>u</td>
</tr>
<tr>
<td>3.</td>
<td>Companion</td>
<td>c</td>
<td>m</td>
<td>v</td>
</tr>
<tr>
<td>4.</td>
<td>Difference</td>
<td>d</td>
<td>n</td>
<td>w</td>
</tr>
<tr>
<td>5.</td>
<td>Tool</td>
<td>e</td>
<td>p</td>
<td>x</td>
</tr>
<tr>
<td>6.</td>
<td>Influence</td>
<td>g</td>
<td>r</td>
<td>y</td>
</tr>
</tbody>
</table>

General relation phase denotes a wide variety of relations other than those listed here under. In other words, it is an all comprehensive relationship. Composite documents of two discrete subjects come under this category.

The subject having the smaller ordinal value should be the first phase. This prescription is to avoid synonyms and to secure consistency. The second phase is called the 'Relation phase'.
**Bias Phase**: This denotes leaning of one subject towards the other. In other words, the first phase is biased towards the second phase.

**Comparison Phase**: This denotes comparison of one subject with the other. The subject having the smaller ordinal value should be the first phase. This prescription is to avoid synonyms and to secure consistency. The second phase is called 'comparison phase'.

**Difference Phase**: This denotes the difference between one subject and the other. The subject having the smaller ordinal value should be the first phase. This prescription is to avoid synonyms and to secure consistency. The second phase is called 'Difference phase'.

**Tool Phase**: This denotes the relation in which the concepts in a host subject are expounded with the aid of concepts developed the tool subjects. The host subject should be the first phase. The tool subject should be the second phase. The second phase is called the 'Tool phase'.

**Influencing Phase**: This denotes the influence of one subject over the other i.e., the first phase is influenced by the second phase. The influenced phase should be the first phase and the influencing phase should be the second phase.
Examples: Philosophy (General)

1. Relationship between Religion and Philosophy.
2. Relationship between Economics and Mathematics.
4. Economics compared with Mathematics.
5. Comparison between Sociology and Political Science.
7. Difference between Psychology and Education.
8. Application of Mathematics to Economics.
10 Influence of Mathematics on Economics.
11. Influence of Biological Sciences and Social Sciences.

4.1.5.1 Basic Subject

There is no clear cut definition so as to distinguish between a Basic subject and an isolate idea. The Basic subjects are generally postulated and enumerated in a scheme for classification. Initially a Basic subject was equated with the main subject. At a later stage, the Basic subjects were categorized into two types:

1. Main Basic subject
2. Non-Main Basic subject.
4.1.5.1.1 **Main Basic Subject** The main subjects are described as the first order array of subjects which are mutually exclusive and totally exhaustive of the whole field of knowledge. Main subjects have been further identified as of following types:

1.1 **Traditional Main Subject**: These are main subjects that have been traditionally taken for granted as the first order divisions of the universe of subjects. They are postulated. Physics, Chemistry, Engineering, History, Political Science, Economics Sociology are the examples of traditional Main subjects (MS).

1.2 **Distilled Main Subject**: It denotes a (MS) formed, as a pure discipline out of the experience in its appearance in action by distillation. Examples are Management Sciences, Research methodology etc.

1.3 **Fused Main Subject**: It denotes a (MS) formed by the fusion of two main subjects like Geopolitics, Educametry, Educational Psychology etc.
1.4 Main Subject by Clustering. It denotes focusing on a phenomenon or an entity, formed by clustering of subjects drawn from different disciplines. Examples are Area study, Generalis Person study, Entity phenomenon study.

4.1.5+2. Non-main Basic Subject. These subjects denote a subject having as its constituents a main subject - host main subject and one or the other of the following four kinds:

1. Canonical Basic Subject
2. Special Basic Subject
3. Environmental Basic Subject
4. Systems Basic Subject

1. Canonical Basic Subject. A traditional division of a (MS). This traditional division is denoted by the term 'Canonical Constituent' of the (MS). The (CN) for a canonical (BS) is got by (ED).

Example: Hinduism
Jainism
Buddhism
2. **Special Basic Subject:**

It denotes a division of a (MS) in which the subject of study is restricted in some special manners, not amounting to any of the anteriorising common isolates or any other isolate ideas. The special division is denoted by the term 'special constituent' of the (MS). Generally, the (CN) for a special (BS) is got by (ED).

Examples: Child Medicine
Female Medicine
Public Enterprise
Private Enterprise

3. **Environmental Basic Subject:** It denotes a division of a (MS) in which the core entity of a (MS) studied in some extra-normal environment. This environment division is denoted by the term 'Environment Constituent' of the (MS). The (CN) for an environmental (BS) is got by adding to the (MS) the digit or digit group representing the environment, taken from Chapter DD of Colon Classification (7) preceded by the digit "9".

Examples: D - 9Uk2 Desert Engineering
D - 9V War Engineering
4. **Systems Basic Subject:** It denotes a division of a (MS) or a non-main basic subject expounded according to a specific system - school of thought - other than what is currently popular.

Examples: Experimental Psychology,
Gestalt Psychology
Behaviouristic Psychology
Field Psychology.

Non-main subjects are formed by two kinds of modes:

1. Fission and
2. Lamination of Kind 2.

**Non-Main Basic subjects by Fission:**

Non-Main Basic subjects are formed by Fission of a Main Subject. The division is based on the practice of the specialists going with the Main subject concerned.

As the universe of subjects develop, the number and variety of subjects going with a particular main subject may be found to be too many and non-homogeneous to form a convenient field of specialization. At this stage, it is found helpful to future divide the main subject concerned away to scholars /specialists. In this process of division, the mode of
Fission is applied. Each resulting division is known as non-
Main Basic subject.

When a Main Subject is fissioned into non-Main Basic subjects
without explicitly using any characteristic for the division,
it gives rise to canonical divisions or canonical basic
subjects.

Example:
1. Main subject = "Philosophy" fissioned into canonical Basic
subjects.

   Logic
   Epistemology
   Metaphysics
   Ethics
   Aesthetics

2. Main Subject = "Economics" fissioned according to CC,
Edition 7

   X = Economics
   X1 = Consumption
   X2 = Production
   X3 = Distribution
   X4 = Value
   X5 = Trade
   X6 = Private Finance
   X7 = Public Finance
   X8 = Social Finance
   X9V = War economics
   X9A = System (Illustrative)
   XM = Cooperation.
It does not mean that only canonical Basic subjects are got by Fission. On the other hand, all those non-main Basic subjects can be said to be formed by Fission where one can not find any explicit mention of characteristic for division.

Examples:

**Distilled Main Subject:** Research Methodology

**Non-Main Basic Subjects by Fission**

- Survey methodology
- Observation
- Experimental methodology
- Data collection and analysis
- Discussion methodology
- Postulation
- Abstract model formulation
- Planning methodology

**Fused Main Subject:** Biochemistry

**Non-Main Subjects by Fission**

- General biochemistry
- Physical biochemistry
- Analytical biochemistry
Main subject by clustering: Study of entity of phenomenon from several angles with input mainly from Natural Sciences.

Non-Main Basic subjects by Fission.

Environmental Sciences
Surface Sciences
Soil Sciences
Materials Sciences
Hydro Sciences
Ocean Sciences
Atmosphere Sciences
Space Sciences
Defence Sciences.

Main Subject: Geography

Non-Main Basic Subjects by Fission

Mathematical Geography
Physical Geography
Bio-Geography
Anthropo - Geography
Political Geography
Economic Geography
Non-Main Basic Subjects by Lamination of Kind 2

When the ideas derived on the basis of a characteristic are used to qualify or speciate the totality of the subjects going with a main subject concerned, a variety of non-main basic subjects are formed. In such cases, each of the ideas derived on the basis of a characteristic is called 'speciator'. The attachment of a speciator to the main subject to be qualified is called compound Basic Subjects by lamination of kind 2. So far the following types of compound Basic subjects by laminate 2 have been recognised.

1. Canonical constituent
2. Speciates constituent
3. Environmental Constituent and
4. System constituent

4.1.6. Derivation of Basic Subjects by Modes of Formation

In one of his papers Dr. Ranganathan indicated the use of chain procedure in understanding the concept of Basic Subjects[31]. In deciding a Basic subject, he states: "Look up for the upper most link in chain of subjects, which has to be used in a class index or subject. Heading in order to
remove homonym. The subject represented by the link may be taken to be the Basic Subject.

Example:

MA  Home Science
MA(44)  Indian Style, Home Science
MA-(44 N)  Modern, Indian Style, Home Science

Here, the uppermost link, Home Science can be deemed as a Basic subject according to the criterion given by Dr. Rangarathnam.

According to V.V. Parthesarathy, the essential mode of formation of new Basic subject as suggested by the above criterion, appears to be the fusing of isolates derived on the basis of a characteristic or a succession of characteristics to an existing Basic subject. Further, the above criterion requires that the sequence of the characteristics, the isolate based on which are to be fused into a Basic subject should parallel the sequence of characteristics decided for the subjects going with that Basic Subject. Example is English Literature.
This can be deemed as a Basic Subject in the light of the above criterion. Thus, the concept of Basic subject has drastically changed.

At a later stage, Prof. Neelameghan (32) studied the derivation of Basic Subjects by modes of formation of subjects. The results of his study were presented in a series of papers in Lib. Sc. V.10, 1973, papers F to M.

According to Prof. Neelameghan the Basic subjects can be categorized into the broad groups:

1. Primary Basic subjects and
2. Non-primary Basic subjects

<table>
<thead>
<tr>
<th>Existing name</th>
<th>Proposed name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Basic subject or Main subject</td>
<td>Primary Basic subject</td>
</tr>
<tr>
<td>Non-Main Basic subject or Basic subject</td>
<td>Non-primary Basic subject</td>
</tr>
<tr>
<td>Canonical Basic subject</td>
<td>Secondary Basic subject</td>
</tr>
<tr>
<td>Compound Basic subject</td>
<td>Compound Basic subject</td>
</tr>
<tr>
<td>Partial comprehension</td>
<td>Agglomerate Basic subject</td>
</tr>
<tr>
<td>Subject Bundle</td>
<td>Clustering</td>
</tr>
</tbody>
</table>
A 'Subject Bundle' has to be either a primary Basic subject or a secondary Basic subject. The mode of formation involved in a subject Bundle is proposed to be named 'clustering'. The use of the term 'Subject Bundle' will be discontinued. A subject bundle (33) comprehends subjects drawn from different disciplines pursued by different specialists. Now-a-days such specialists find it useful to work as a group at certain times and get help from one another.

The Co, ed 7 lists the following subjects under the category.

AC Surface Science
AD Soil Science
AE Material Science
AN Earth Science
AN Hydro Science
AP Ocean Science
AP4 Deep sea Science
AR Atmosphere Science
AS Space Science
AV Defence Science
UNIVERSE OF SUBJECTS

CONSISTS OF

Simple Subjects
Compound Subjects
Complex Subjects

BASIC SUBJECTS

Primary Basic Subjects  Non-Primary Basic Subjects

NON-PRIMARY BASIC SUBJECTS

Secondary Basic Subject  Compound Basic Subject  Agglomerate Basic Subject

Fig. 4.A: UNIVERSE OF SUBJECTS
Fig. 4.B. CHART OF MODES OF FORMATION OF BASIC SUBJECT
4.1.6.1. **Primary Basic Subjects** There were earlier described as 'Main Basic Subjects' or simply 'Main Subjects'. These can broadly be categorized into two kinds:

1. Traditional Primary Basic Subjects; and
2. New Primary Basic subjects

4.1.6.1.1. **(Traditional) Primary Basic Subjects**

A subject included in the schedule of primary basic subjects.

**Fission of the original universe:**

The division by fission of the universe of subjects produces a fewer number of major groups of subjects, which when arranged in a helpful order are termed as Primary Basic subjects.

A. **Fission**

The division by fission of the universe of subjects produces a fewer number of major groups of subjects which when arranged in a helpful order are termed as primary basic subjects. 'Fission' is one of the various modes of formation of subjects. It is a process of division or splitting or breaking up into parts. Earlier, this process was described as 'Dissection'. Dissection involves an 'outside agency'
whereas, fission represents an 'internal processes' of
division without the involvement of an outside agency.

The order of Primary Basic Subject in Colon Classification
(CC) is based on convention (34). The purpose of library
classification is to arrange various subjects in a sequence
helpful to majority of the readers. The readers refer to
books in terms of subjects known and established by
tradition. This may be the reason why all the
classificationists divided knowledge by conventions
established by scientists and educators. This Bliss referred
to as 'Scientific and educational consensus'. Ranganathan's
concept of Primary Basic Subjects is also very closely
related to Bliss's consensus.

The Primary Basic subjects can broadly be grouped into two
distinct groups. The first group constitutes 'Sciences'
where there is progression from the abstract discipline of E-
Mathematics to the concrete one ending with the subject that
deals with the living body of man. The culmination is in the
discipline of spiritual experience and mysticism which
comprehends knowledge of intuitive and trans-intellectual
origin. This discipline forms, as it were a peak. As one
moves down from that discipline to the discipline Law, there
is a recession from naturalness to artificiality. The disciplines on the other side of the peak constitutes the Humanities and Social Sciences. Ranganathan had already explained in detail the gradation of subjects in CC(35).

Prof. Neelameghan mentioned that the "the sequence of Natural Science, Humanities and Social Sciences is in general conformity with the principle of Decreasing Predictability and Increasing Richness of contents" as described by Mr. OL Reiser. For example, the subjects in the field of Mathematical Sciences with relatively the highest predictive quality but with little "content" are placed at one end of the spectrum; while the subjects in the field of social sciences with relatively poor predictive quality but with rich "content" are placed at the other end of the spectrum. The Humanities have an intermediate degree of predictive quality and richness of content.

Social Science is regarded as a partial comprehension of some of the main subjects enumerated in most schemes of classification. These form one of the groups in the universe of subjects. Others are Natural Sciences and Humanities and listed in the following table gives the sequence of the Main subjects fissioned out of social sciences (34a)
<table>
<thead>
<tr>
<th>S.No.</th>
<th>CC No.</th>
<th>Main Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>SZ</td>
<td>Social Sciences <em>(Partial comprehension)</em></td>
</tr>
<tr>
<td>2.</td>
<td>T</td>
<td>Education</td>
</tr>
<tr>
<td>3.</td>
<td>TT</td>
<td>Educametry</td>
</tr>
<tr>
<td>4.</td>
<td>TX</td>
<td>Education Psychology</td>
</tr>
<tr>
<td>5.</td>
<td>TZ</td>
<td>Geography and History <em>(partial comprehension)</em></td>
</tr>
<tr>
<td>6.</td>
<td>U</td>
<td>Geography</td>
</tr>
<tr>
<td>7.</td>
<td>UZ</td>
<td>History, Political Sciences and Economics <em>(partial comprehension)</em></td>
</tr>
<tr>
<td>8.</td>
<td>UZZ</td>
<td>History and Economics <em>(partial comprehension)</em></td>
</tr>
<tr>
<td>9.</td>
<td>V</td>
<td>History</td>
</tr>
<tr>
<td>10.</td>
<td>UX</td>
<td>Historical sources <em>(Theory and method)</em></td>
</tr>
<tr>
<td>11.</td>
<td>W</td>
<td>Political Science</td>
</tr>
<tr>
<td>12.</td>
<td>WX</td>
<td>Geopolitics</td>
</tr>
<tr>
<td>13.</td>
<td>X</td>
<td>Economics</td>
</tr>
<tr>
<td>14.</td>
<td>XT</td>
<td>Econometry</td>
</tr>
<tr>
<td>15.</td>
<td>XV</td>
<td>Economics - Cybernetics</td>
</tr>
<tr>
<td>16.</td>
<td>XX</td>
<td>Industrial Economics</td>
</tr>
<tr>
<td>17.</td>
<td>Y</td>
<td>Sociology</td>
</tr>
<tr>
<td>18.</td>
<td>YT</td>
<td>Sociometry</td>
</tr>
<tr>
<td>19.</td>
<td>YV</td>
<td>Socio-cybernetics</td>
</tr>
<tr>
<td>20.</td>
<td>YX</td>
<td>Social work</td>
</tr>
<tr>
<td>21.</td>
<td>Z</td>
<td>Law</td>
</tr>
</tbody>
</table>
Among the traditional primary Basic Subjects, it is found that 'pure disciplines' are followed by 'applied disciplines'.

Examples:

1. Physics followed by Engineering
2. Chemistry followed by Chemical Technology
3. Botany followed by Agriculture
4. Zoology followed by Animal Husbandry
5. Economics followed by Industrial Economics
6. Sociology followed by Social Work

4.1.6.1.2. New Primary Basic Subject

Apart from the Traditional Primary Basic Subjects, there are some new primary Basic Subjects added from time to time. These are mainly formed by the following 3 modes of formation:

1. Distillation
2. Fusion and
3. Clustering

4. Distillation:

In this mode a pure discipline is evolved as a Basic subject out of its appearance as an isolate idea in action in diverse compound subjects, going with diverse host Basic Subjects or
occasionally even with one particular basic subject only. Thus, there are two kinds of new primary basic subjects formed by Distillation mode. These are: Distillation 1; and Distillation 2:

**Distillation 1:** A distilled primary basic subject of kind 1 is a pure discipline evolved out of its appearance as an isolate idea denoting a practice in action in diverse subjects. The subjects going with such primary basic subjects are usually found to deal with either a "service" or a 'methodology'.

Example: Management Science

Management has been occurring as an isolate idea in numerous primary basic subject

**List of Distilled Primary Basic Subjects: Kind 1.**

The new primary basic subjects dominantly dealing with a "Service". These are common to natural science and social sciences:

1. Information Science
2. Library Science
3. Book Science

1X. Universe of Subjects: Structure and development
<table>
<thead>
<tr>
<th>Subject</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3V</td>
<td>Reading method</td>
</tr>
<tr>
<td>3X</td>
<td>Notes taking</td>
</tr>
<tr>
<td>4</td>
<td>Mass Communication</td>
</tr>
<tr>
<td>4T</td>
<td>Journalism</td>
</tr>
<tr>
<td>5</td>
<td>Exhibitionology</td>
</tr>
<tr>
<td>6</td>
<td>Museology</td>
</tr>
<tr>
<td>7</td>
<td>Systemology</td>
</tr>
<tr>
<td>9</td>
<td>Career</td>
</tr>
<tr>
<td>9C</td>
<td>Metrology</td>
</tr>
<tr>
<td>9d</td>
<td>Standardization</td>
</tr>
<tr>
<td>9f</td>
<td>Research methodology</td>
</tr>
<tr>
<td>9g</td>
<td>Evaluation technique</td>
</tr>
<tr>
<td>9p</td>
<td>Conference technique</td>
</tr>
<tr>
<td>9t</td>
<td>Commission technique</td>
</tr>
<tr>
<td>9p</td>
<td>Communication theory</td>
</tr>
<tr>
<td>9q</td>
<td>Symbolism</td>
</tr>
</tbody>
</table>

**Distillation 2:**

A Distilled Primary Basic Subject of kind 2 is a pure discipline evolved from one particular primary Basic Subject only.
The subject distilled out must be occurring earlier as a command subject going with a particular Basic Subject. Due to intensive study and with the resultant literary warrant, the compound subjects need to be considered as a specialization by itself. In course of time, it attains a totally independent status and thus becomes New Primary Basic Subjects: Kind 2

Following is the list of some of the New Primary Basic Subjects (36) formed by Distillation: Kind 2:

- MZX Astrology
- PX Applied Linguistics
- SX Applied Psychology
- VX Historical Source
- WT Public Administration
- WYA International Politics
- XY Economics in action
- XYA International economics
- YT Demography etc.

**B Fusion**

Interdisciplinary research is a common phenomenon these days.
The interdisciplinary research results in interdisciplinary subjects (37). Such subjects normally have embedded in themselves principles of both the Host Primary Basic Subjects. In the beginning the classificationists may place an interdisciplinary subject among subjects going with one of primary Basic Subjects that has the cute entity'. In due course, the Interdisciplinary subject may develop its own normative principles and theory. specialised studies in the new field will generate sufficient literary warrant which will prompt the classificationists to segregate from the Primary Basic Subject with which it has been initially associated and telescope it to the level of Primary Basic Subjects (38).

In this mode the two constituent Primary Basic Subjects are 'fused' in such a way that each of them loses its individuality and a new discipline is thus generated. The Fused Primary Basic subject is placed as an adjunct to the Primary Basic Subject where it was accommodated earlier as an isolate idea. If there are two or more Fused Primary Basic Subjects occurring as adjuncts, their sequence is determined by Principles like canon of scheduled mnemonics etc.
List of Fused Primary Basic Subjects in Co edition 71

TYT  Educametry
TYV  Educational Cybernetics
TX  Educational Psychology
WX  Geopolitics
WYT  Politimetrics
XYT  Econometry
XYV  Economico-cybernetics
XX  Industrial Economics and
YYV  Socio cybernetics

C. Clustered Primary Basic Subjects:

Clustering is another mode of formation of New Primary Basic Subjects resulting from interdisciplinary research. In the process of investigation of a phenomenon or entity, a large number of specialists are drawn from different subject-fields to study the various aspects. The preliminary results of such a study and the data obtained in different Basic subjects or compound Subjects going with the different Basic subjects are published in one and the same document disjunctively for further investigation or elaboration independently by the specialists in the respective subjects.
This mode of formation of clustered Primary Basic Subject, or and secondary Basic Subjects was earlier described as "Subject Bundle". This mode of formation features clustering of entities around a model idea because of their relation to each other, or their simultaneity of occurrence or for convenience in treatment or discussion (Neelameghan).

There are 3 varieties of clustered primary Basic Subjects:

1) Area Study:
2) General person study; and
3) Entity/phenomenon study

C.1: In an Area study (46) the input studies may cover subjects falling in the Natural Sciences, Humanities as well as Social Sciences. Therefore, an Area Study is placed between 'General' and 'Universe of subjects'. Among the different Area studies, the preferred sequence is spatial contiguity of the areas forming the forms of study.

Examples:  
(IP) Isolates
Note: To be derived by (GD) (Illustrative)
- u, 41 Chinese Studies
- u, 42 Japanese Studies
- u, 44 Indology
C.2: Generalia Person Study:

Some individuals are encyclopaedic in range of influence or recorded thought. Their contributions may range from subjects in the Natural Sciences, the Humanities as well as Social Sciences. Thus, such persons are to be put under 'Generalia'.

Examples:

W Generalia person
(IPI) isolates
Note: To be derived by (GD) (Illustrative)

W, MG Gandhi Studies
or
W, G

(Alphabetical Derive is also suggested as an alternative method).

C.3: Entity or Phenomenon Study:

According to Prof. Neelameghan (1985), the subjects involved in the entity or phenomenon study are two groups:

1. Those with a 'Wide range of input' and
2. Those with a 'Restricted Range of Input'.


Wide Range of Input: Any entity or phenomenon can be the focus of study with inputs from different subject fields. The array divisions of the Primary basic Subject 'Entity' or phenomenon study is obtained by subject device.

Examples:

X Study of entity/phenomenon (from the view point of diverse subject fields ranging over the natural sciences and social sciences)

Note: Divisions by (SD) (Illustrative)

X(C1, 6) Study of time
X(E1, 116) Gold (in all its aspects)

Restricted Range of Input:

These studies were observed to be coming dominantly from specialists in the natural science subjects.

Examples:

A Natural Sciences

AX Study of entity/Phenomenon from several different angles (Input mainly from natural sciences)

AXB Environmental Sciences

AXC Surface Sciences

AXD Soil Sciences

AXE Material Science

AXF Hydro Sciences
4.1.6.2. Non-Primary Basic Subject

These are the basic subjects other than the Primary Basic Subjects. These are derived from the Primary Basic Subjects by the following modes of formation:

Primary --- By Fission --- Secondary Basic --- Non-Subject
Basic --- By Lamination --- Compound Basic --- Primary Subject
Subject --- By Agglomeration --- Agglomerated --- Basic subjects

4.1.6.2.1. Secondary Basic Subject

Some of the Primary Basic Subjects are having certain traditionally recognised sub-fields. These were described by Ranganathan earlier as canonical Divisions. The mode of formation of these subjects is by 'Fission'. The fission of most of these Primary Basic Subjects occurred long back and the specialists have been referring to these subjects in a
particular order. The classificationist usually finds it helpful and convenient to follow the same division and use the same sequence of the subjects.

**Host Primary Basic Subjects having Secondary Basic Subjects:**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Subject</th>
<th>Class Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mathematics</td>
<td>B</td>
</tr>
<tr>
<td>2.</td>
<td>Physics</td>
<td>C</td>
</tr>
<tr>
<td>3.</td>
<td>Engineering</td>
<td>D</td>
</tr>
<tr>
<td>4.</td>
<td>Chemistry</td>
<td>E</td>
</tr>
<tr>
<td>5.</td>
<td>Geology</td>
<td>H</td>
</tr>
<tr>
<td>6.</td>
<td>Medicine</td>
<td>L</td>
</tr>
<tr>
<td>7.</td>
<td>Useful Arts</td>
<td>M</td>
</tr>
<tr>
<td>8.</td>
<td>Fine Arts</td>
<td>N</td>
</tr>
<tr>
<td>9.</td>
<td>Philosophy</td>
<td>R</td>
</tr>
<tr>
<td>10.</td>
<td>Geography</td>
<td>U</td>
</tr>
</tbody>
</table>

**Secondary Basic Subject: Order 1**

As the secondary Basic Subjects are conventional divisions of a Primary Basic Subject, no specific characteristic of division can be explicitly stated. The divisions of a Primary Basic Subjects are called as secondary Basic Subject of order 1.
### Secondary Basic Subjects

| R1  | Logic              |
| R2  | Epistemology       |
| R3  | Metaphysics        |
| R4  | Ethics             |
| R5  | Aesthetics         |
| R6  | Indian Philosophy  |
| R7  | Greek Philosophy   |
| R8  | Other Schools of thought |
| U1  | Mathematical Geography |
| U2  | Physical Geography |
| U3  | Biogeography       |
| U5  | Anthropogeography  |
| U6  | Political Geography |
| U7  | Economic Geography |
| U8  | Travel             |

**Secondary Basic Subject order: 2**

It can be observed that some of the Secondary Basic Subjects of order 1 are fissioned further to form secondary Basic Subjects of order 2.
Example:

Atmosphere fissioned to: Meteorology, Aeronomy, Ionosphere Studies, etc.

**Compound secondary Basic Subject:**

Whenever a spectator is attached to a secondary Basic Subject, it results as a compound Secondary Basic Subject.

Example

Economics - Public Finance - Socialism

4.1.6.2.2. **Compound Primary Basic Subject**

The attachment of a spectator (or a qualifier) to the Primary Basic Subject to be qualified is called compound or lamination kind 2. It gives rise to compound Primary Basic Subjects, or compound Basic Subjects for short.

A) **Specials Compound Primary Basic Subject:**

Another feature of Primary Basic Subject is that of specialization. Certain sub-areas of a Primary Basic Subject may become classes of specialization on account of social necessity or intensive research.

The Specialists field of activity is restricted, but more intensified. It will be helpful for them, if all the documents of their field of specialization are in close
proximity. This necessitated a special treatment for the specials. Unlike systems, specials are of recent origin. Such basic subjects came into prominence during the last few decades.

Dr. Ranganathan defined special as 'restriction of the field of exposition of a primary Basic Subject to a particular range of the incidence of any of its characteristics likely to belong to the unrestricted state of a subject'.

1. Economics of Public Enterprise
2. Economics of Public Enterprise during war time.
3. Public Enterprise in capitalistic Economics
4. Economics of Private Enterprise
5. Child Medicine
6. Female Medicine

The following are the primary Basic Subjects in CC Ed. 7 having special compound primary basic subjects

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Subject</th>
<th>Class Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Physics</td>
<td>C</td>
</tr>
<tr>
<td>2.</td>
<td>Chemistry</td>
<td>E</td>
</tr>
<tr>
<td>3.</td>
<td>Botany</td>
<td>I</td>
</tr>
<tr>
<td>4.</td>
<td>Zoology</td>
<td>K</td>
</tr>
<tr>
<td>5.</td>
<td>Medicine</td>
<td>L</td>
</tr>
</tbody>
</table>
A Special Compound Primary Basic Subject is obtained by attaching the spectator on the basis of characteristic to the Primary Basic Subject concerned. A hyphen (-) is used as a spectator symbol.

Example
L Medicine
SF Female
L-9F Female Medicine

B) Environmental Compound Primary Basic Subject:

Some of the Primary Basic Subjects are subjected to extra normal environment and warrant specialised studies on account of new and specific problems resulting therein.

The core entity of study in the subjects going with a Primary Basic Subject may be restricted or qualified using spectators derived on the basis of the characteristics "By Environment" that is the totality of the studies in the subjects going with the Primary Basic Subjects is qualified by the core entity of study being placed within an extra-normal environment. This gives rise to "Environmental compound Basic Subject". These were treated as "specials" till Ed. 6.
These Environmental Compound Primary Basic Subjects are of recent origin. These have attained prominence only in the recent past. Examples:

- Space physiology
- War Psychology
- Industrial Psychology

Following are the Primary Basic Subjects in CC, Ed. 7 having Special Compound Primary Basic Subjects:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Subjects</th>
<th>Class Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Medicine</td>
<td>L</td>
</tr>
<tr>
<td>2.</td>
<td>Psychology</td>
<td>S</td>
</tr>
<tr>
<td>3.</td>
<td>Economics</td>
<td>X</td>
</tr>
</tbody>
</table>

An environmental Compound Primary Basic Subject is obtained by attaching the speciator on the basis of a characteristic to the Primary Basic Subject concerned. A hyphen (-) is used as a speciator symbol.

Examples according to CC, Ed. 7

- S-9U Space Psychology
- S-9V War Psychology
- S-9X Industrial Psychology
The Primary Basic Subjects in the universe of knowledge have been moulded in different ways as different places in the course of time. Certain subjects have been of great concern to humanity right from the beginning. For example: Psychology, Medicine, Mathematics, etc., People living in different parts of the globe started perusing these disciplines in their own way. The lack of communication and interaction among the various groups in the past resulted in the birth of various 'Schools of thought' - Which Ranganathan (95 called "System". The ends of all the systems are one and the same. Only the means vary. If we take Economics, the various systems like war economics, co-operative, socialism, syndicalism are concerned with Economics. But means under each system differ. The fundamental principles are one system vary with the other. The various systems have been developed over the centuries and continue to exist side by side. In Ed. 1 of CC, Ranganathan termed them as "Schools of
Thought". He said that the term "system" evades a clear cut definition and hence it is an assumed term. He further stated that systems are intrinsic to the universe of knowledge and an exposition of a subject should be according to some system.

Examples.

1. Economics - Socialist System -
2. Economics - Socialist System - War environment
3. Economics - Socialist System - War environment - Public Enterprise
4. Psychology - Experimental system -
   Psychology - Experimental System - Outer space environment
5. Medicine - Homeopathy System
   Medicine - Homeopathy System - Industrial Environment
   Medicine - Homeopathy System - Industrial Environment - Child

According to Co, Ed. 7, the following are the primary Basic Subjects having system Compounds Primary Basic Subjects.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Subject</th>
<th>Class No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Physics</td>
<td>C</td>
</tr>
<tr>
<td>2.</td>
<td>Medicine</td>
<td>L</td>
</tr>
<tr>
<td>3.</td>
<td>Psychology</td>
<td>S</td>
</tr>
<tr>
<td>4.</td>
<td>Education</td>
<td>T</td>
</tr>
<tr>
<td>5.</td>
<td>Economics</td>
<td>X</td>
</tr>
</tbody>
</table>
The Class Number for any System Compound Primary Basic Subject can be derived by compounding the chronological focal number derived:

T - A Systems of Education
T - N Platoon System
X - A Systems of Economics
X - J Capitalism
X - N Syndicatism

(Full list of system compound Primary Basic Subjects has given in CC, Ed. 7).

derived from chronological Device using epoch of origin of the system. A hyphen (-) is used as a Speciator Symbol.

D) **Multiple Compound Primary Basic Subject**:

In case of Multiple Compound Primary Basic subject amplified by a system, Environmented and Special Facets, the System Facet - the most concrete one should be speciated first; followed by the Environmental Facet - being of intermediate concreteness; followed by the Special Facet - being of least concreteness.

Examples:

(1) Attitude environment - Child

(2) Psychoanalytic Psychology in war environment
Agglomeration is collecting together of entities or amassing of entities, without cohesion among the components. It's a collection of Primary Basic Subjects.

Agglomerate Basic Subjects are of two kinds. The Kind - 1 consists of subjects which are treated integrally or distinctively in one and the same document. These were earlier termed as "Partial Comprehension". These are in fact the Fundamental Disciplines which are the major, Primary divisions of knowledge, before the advancement of the fission.

The agglomeration of Kind 1 covers subjects going with successive Primary Basic Subjects enumerated in the Schedule. Asterisk (*) is used as an indicator of Agglomeration device.

Examples of Partial Comprehension:

1. Religion and Philosophy, comprehending Religion and Philosophy to be placed just before Religion.
2. Geography and History, comprehending Geography and History, to be placed just before geography.
3. History and Economics, comprehending History and Economics to be placed just before History.
4. Humanities comprehending Mysticism, Fine Arts, Literature, Linguistics, Philosophy, and Psychology to be placed just before Mysticism.
5. Plant Sciences, comprehending Botany, Agriculture, and Forestry, to be placed just before Botany.
Thus it is an interpolating digit with empty-valued value.

Examples:

Social Sciences (38a)
- RZ Behavioural Sciences
- TZ Geography and History
- UZ History, Political Science and Economics
- UZZ History and Economics

Kind 2 is an Agglomerate Comprehending Subjects going with non-consecutive Primary Basic Subjects in the Schedule of Basic subjects in a scheme of classification.

Examples: Psychology and Sociology
- Geography and Geology
- Chemistry and Mathematics

4.1.7. Compound Subjects and their Modes of Formation

A compound subject is a subject with a Basic subject and one or more component 'Isolate Ideas (39). Compound subjects are formed by combining any number of Isolate Ideas with a Basic Subject. Therefore, there is bound to be a large number of compound subjects within one Basic subject. In other words, it can be said that the number of compound subjects will be many times greater than the number of Basic Subjects in the universe of subjects.
Compound subjects are formed by the mode of lamination. "Lamination is construction by overlaying facet on facet, even as the sandwich is prepared by laying a vegetable layer over a layer of bread. When the basic layer is a basic subject and the other layers are isolate ideas, a compound subject is formed (40). Lamination represents the mode of relationship in which there is progressive strengthening of relationship between a Basic subject and its isolate facets or between Main Basic subject and its Non-Main Basic Subjects or between the isolate. From the same facet. The result is either the formation of a compound subject or a compound Basic Subject or a Compound Isolate. Thus Lamination phenomenon can be distinguished in three kinds.

They are:

1. **Lamination 1**: In this mode one or more isolate facets are laminated over a Basic Facet. In other words it can be said as mode, in which one or more isolate factors are combined with a basic subject. This results in formation of compound subjects.
Examples:

1. Classification of periodicals in University libraries.

2. Emotions in children
   Psychology (BS) children (Isolate facet) Emotion (Isolate facet).

b) Lamination 2: In this mode, two or more species of basic subjects going with the same Main Basic Subject are compounded over one another giving rise to compound Basic Subject.

Example: Indian Systems of Metaphysics
   Philosophy (Main Basic subject). Indian Philosophy (BS) Metaphysics (BS)

c) Lamination 3: In this mode two or more isolate from the same schedule of isolates are compounded giving rise to compound isolates.

Examples: 1. Abnormal children
   2. Middle class women

Both are compound isolates got by compounding one isolate over another.
The structural study of compound subjects poses the following problems:

1. Whether component ideas of compound subjects going with different Basic Subjects can be grouped into some categories.

2. If it is so, what should be the sequence of categories in:
   (a) one and the same compound subject;
   (b) different compound subjects having one and the same Basic subject; and
   (c) Compound subjects going with different Basic Subjects.

"In another words, which component of the compound subject should be remove? 1, which remove 2, which at remove 3 and so on with respect to the Basic subject in question, as point of reference, has to be determined. This choice of invariants should be consistent, not only with respect to one compound subject, but also with respect to different compounds. Subject going with different Basic Subjects. Further, the process of choosing invariants of different removes should be done in such a way that it minimizes the needs for modification at a later stage of development in the universe of subjects (41)".
Ranganathan tackled this problem at a higher level of generalization by formulating postulates relating to:

1. Fundamental categories, (42);
2. Rounds and levels, (43);
3. Sequence of facet in compound subjects, (44).

He also formulated certain principles for facet sequence.

DRTC Research Cell, Bangalore has a mode some quantitative studies. Two studies (45, 46) reported were conducted by Dr. Gopinath and his students (1983). One was in the field of physics and the other one in the field of biology and agriculture. The methodology followed was: (1) to scan the annual volumes of the British National Bibliography for 1961 and 1981 in the respective fields (2) to analyse the facets of documents scanned by the postulational approach to classification as suggested by Ranganathan. The findings in the field of physics indicate that there is greater concentration of property used action idea reported in 1961 concentration of studies on properties of personality ideas.

From the point of view of quantitative analysis of facets, the 1961 and 1981 data reflect that there is greater depth in facet dimension with compound subjects in 1961 rather than that of 1981 (47). Whereas the study in the field of biology and agriculture noted that "the compound subjects
going with biology as well as agriculture towards greater depth in the contents of documents." (48)

4.1.8. **Complex subjects and their modes of formation:** A complex subject is a subject formed by coupling two or more subjects expounding or on the basis of some relation between them. (49) Complex subjects are formed by the mode of "Loose Assemblage".

a) **Loose Assemblage:** In this mode two or more subjects or two or more isolates are studied in mutual relation. This mode can be further subdivided into three kinds:

b) **Loose Assemblage of Kind 1:** This is the mode in which two or more subjects whether simple or compound are studied in mutual relation. When such a relationship is recognised between two simple or compound subjects, a complex subject is born. This also can be taken as a starting point for the evolution of interdisciplinary subjects. The relation between two simple or compound subjects is known as phase relation. In phase relation, two or more subjects are combined by a variety of relations such as:

1. General;
2. Bias;
Examples

1. Relationship between Religion and Philosophy (General)
2. Mathematics for Economics (Bias)
3. Comparison between Sociology and Political Science (Comparison)
4. Difference between psychology and Education (Difference)
5. Influence of Biological Sciences on Social Sciences (Influence)
6. Application of Mathematical techniques in literary criticism (tool)
7. The Political Principles of the Indian Government Influencing the ownership of industrial enterprises.

b) **Loose Assemblage of Kind 2**: Loose Assemblage of kind 2 represents the mode when two or more isolates/concepts ideas from the facet are brought into mutual relation. The relation may be of any one of the types mentioned under loose Assemblage of kind 1 e.g. General, Bias, Comparison, Difference, Tool, Influence. Such a relationship between two isolates from the same facet results in the formation of a complex isolate idea.
Examples: 1. Relationship between Hinduism and Buddhism.
3. Comparative study between Hinduism and Buddhism.
4. Difference of Hinduism and Buddhism.
5. Influence of Buddhism and Hinduism.
6. Application of Buddhist religious principles in Hinduism.

C) Loose Assemblage of Kind 3: When two or more isolates/concepts ideas from the same array of order higher than 1 in one and the same schedule are brought into mutual relation, such a formation is known as Loose Assemblage of kind 3. The relation between the isolates may be one of the types as mentioned under Loose Assemblage of kind 1 i.e. General, Bias, Comparison, Difference, Tool and Influence. Such a relationship between two isolates from the same array results in the formation of a complex array isolate idea.

Example: 1. Relationship between Male and Female psychology
2. Male psychology biased to female psychology
3. Comparison between Male and Female psychology
4. Difference between Male and Female psychology
5. Influence of female psychology on men
6. Application of female psychology for understanding of male psychology

7. Difference between rural folk and city folk.

In a study made in 1969, it was found that the incidence of complex subject at the book level is comparatively lesser than that of compound subjects (50). In this study (51) about 16,000 books listed in the publishers trade List Annual for 1985 were scanned and the census of phase relation was found as follows:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Types of Phase relation</th>
<th>No. of documents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>General</td>
<td>22</td>
<td>16.2</td>
</tr>
<tr>
<td>2.</td>
<td>Bias</td>
<td>44</td>
<td>33.0</td>
</tr>
<tr>
<td>3.</td>
<td>Comparison</td>
<td>10</td>
<td>8.3</td>
</tr>
<tr>
<td>4.</td>
<td>Difference</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>5.</td>
<td>Tool</td>
<td>5</td>
<td>4.1</td>
</tr>
<tr>
<td>6.</td>
<td>Influence</td>
<td>44</td>
<td>36.4</td>
</tr>
</tbody>
</table>

In 1983 (52), the following three studies were reported in the DRTC Annual Seminar Volume:

1. Phase relation in natural and Social Sciences,
2. Phase relation associated with mathematical sciences;
3. Phase relation of biology with other subjects;
4. The study on phase relations in natural and social sciences observed that:

A) There is good amount of interrelation between these two sectors of universe of subjects;

B) Among the kinds of phase relations general phase relation has the highest incidence followed by application and influence phase relation;

C) Social Sciences and natural Sciences have considerable interactivity;

D) Psychology, Economics and Sociology have a wide range of subjects associated with them in phase relation;

E) Botany and Zoology have a high proportion of phase relation with bio-sciences.

4.1.9. Interdisciplinary Subjects and the Modes of Formation

It was during World War II that the need for interdisciplinary research was realized as a necessity. Since then interdisciplinary subjects have grown in large numbers. Interdisciplinary subjects have developed as a result of conscious attempts to encourage persons from different disciplines to focus attention on a problem, phenomenon or mission. They emerged in several ways. Neelamegham (53) recognised the following modes of emergence for interdisciplinary subjects:

1. Juxtaposition of studies on a phenomenon;

2. Borrowing of data from one discipline for use in another;
3. Borrowing of techniques and tools developed in one discipline for use in another.

4. Borrowing of principles and theories developed in one discipline for the development of the theoretical base of another discipline; and

5. Convergence of viewpoints of a confluence of specialists belonging to different disciplines on a problem.

According to Dr. Gopinath, "the different ways in which the multidisciplinary subjects have formed can be projected into a typology (54)'. This typology was first presented in the Third International Study conference for classification referred by Dr. Gopinath and Dr. Seetharama. Its modified version as suggested by Gopinath is as follows (55).

**TYPOLOGY OF MODES OF FORMATION OF INTER DISCIPLINARY SUBJECTS**

<table>
<thead>
<tr>
<th>Ranganathan</th>
<th>General Systems Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Loose Assemblage</td>
<td>1. Progressive systematization</td>
</tr>
<tr>
<td>2. Lamination</td>
<td>2. Progressive systematization (stage 2)</td>
</tr>
<tr>
<td>3. Fission</td>
<td>3. Progressive segregation (kind 2)</td>
</tr>
<tr>
<td>4. Fusion</td>
<td>4. Concurrent segregation and systematization</td>
</tr>
<tr>
<td>5. Distillation</td>
<td>5. Progressive Segregation (kind 1)</td>
</tr>
<tr>
<td>7. Agglomeration</td>
<td>7. Agglomeration</td>
</tr>
</tbody>
</table>
The typology starts from Loose Assemblage. It indicates that two subjects come into relationship in their initial stages by the mode of Loose Assemblage. However, the Loose Assemblage type of relationship does not last long. It leads progressively to evolve into laminate type of relationship, and thereafter, to fusion to distillation or cluster giving rise to new Basic Subjects.

Ranganathan explains this phenomenon of progressive strengthening of relationship as follows:

"One Main Subject may be bonded to another in any of the following ways:

1. Loose Assemblage by a phase relation;
2. Indirect Lamination as a subdivision of an isolate in a facet;
3. Direct Lamination as an isolate in a facet;
4. Fission or dissection/denudation yielding a canonical division of one of the Main subjects; and
5. Fusion by which each Main Subject loses its identity and a new Main subject is formed.

4.2. Frequency of Occurrence of Modes in Social Sciences

In the previous section there is an attempt made to apply Ranganathan's typology of modes of formation of subject to
Basic Subjects, Compound subjects and complex subjects in
social sciences. In this section an effort has been made to
the empirical testing of the modes of formation. Of the
several studies made in the past, two of them are of worth
mentioning value. One belongs to the year 1951. This may be
considered as the first empirical study on modes of
formation. It was conducted by K.D. Puranik (56). At that
time only three modes had been identified. Those are:

a) Denudation;

b) Lamination; and

c) Loose Assemblage.

Puranik (57) analysed 316 articles in the five periodicals :
Jl and (5) Law Q. rev. for the three epochs 1900, 1920 and
1950 according to their modes of formation. The findings
show the dominance of Denudation in 1900 and its subsequent
decline the dominance of lamination in 1920 and its gradual
rise and the dominance of Loose Assemblage in 1950 (56).

Another important study was made at DRTC (59) during
the year 1983. This study was confined to the field of
Biosciences. This study was formed on the incidence of modes
of formation in the sample of 222 periodicals chosen (60).
In this study Loose Assemblage has an incidence about 50%.
This indicates the initial bonding between the emergence of inter-relations between any two subjects. The mode of fusion is having 30% incidence. This is a developed stage of modes of formation. The emergent evolution initiated by various kinds of Loose Assemblage is likely to culminate in Fusion. Agglomeration which is the beginning of the enlargement of the subject covered in a periodical publication. Subject cluster has the least incidence" (60a).

4.2.1 Purpose and Methodology

The study presented in this chapter has been conducted to verify:

1. Whether the formation of subjects in 1975, 1980 and 1983 be still analysed and accommodated in the context of the modes enunciated by Ranganathan; and

ii. To ascertain the quantitative measure of their incidence

For the purpose the documents relating to sociology, international relations, Labour relations and Geography, were scanned in the Annual Volumes of the British National Bibliography for 1975, 1980 and 1983. The main entries for books, conference proceedings and periodicals found in 301-301.9, for sociology, 327-327.9 international relations,
331-331.9 for Labour relations ; 910-912 for Geography in the British National Bibliography were listed in separate slips.

The total number of entries collected were listed as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Sociology</th>
<th>International Labour</th>
<th>Relation</th>
<th>Geography</th>
<th>Total relation</th>
</tr>
</thead>
<tbody>
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<td>1</td>
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<td>4</td>
<td>5</td>
</tr>
<tr>
<td>1974</td>
<td>1026</td>
<td>192</td>
<td>256</td>
<td>133</td>
<td>1607</td>
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<tr>
<td>1980</td>
<td>1442</td>
<td>216</td>
<td>494</td>
<td>231</td>
<td>2383</td>
</tr>
<tr>
<td>1983</td>
<td>1167</td>
<td>242</td>
<td>523</td>
<td>174</td>
<td>2106</td>
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<tr>
<td>Total</td>
<td>3635</td>
<td>650</td>
<td>1273</td>
<td>538</td>
<td>6096</td>
</tr>
</tbody>
</table>

The bibliographical reference of each of the main entries was ascertained by the title of the document as well as by the subject loadings associated with the entry. The subject, thus ascertained, was analysed, in context of the typology of modes of formation of subjects. The following example illustrates as typical entry and the method for ascertaining the subject and correlating it with the typology of modes of formation of subjects:

301 - Sociology.

Subject as expressed by the raw title: Sociology: a historical and contemporary outline.

Subject heading: Sociology

Expressive Title: History of Sociology

Mode of formation of subject: Fission

The analysed data sheets were consolidated by quantitative incidence of modes of formation.

4.2.2 Analysis and Interpretation

The data on the incidence of modes of formation of subject is presented in Table (1). The table reflects upon the capacity of the Ranganathan model to analyse and accommodate all subjects of the sample. (6096 Subjects. 3635 from Sociology, 650 from International Relations, 1273 from Labour Relations and 538 from Geography). It also shows that Lamination is playing dominant role and next followed by Loose Assemblage. In case of Main subjects, the incidence of Fission is comparatively higher than distillation, cluster and fusion. Agglomeration is the least of all modes of formation of subjects in the above analysis.
4.3 FACET ANALYSIS OF THE COMPOUND SUBJECTS IN SOCIAL SCIENCES : RECOGNITION OF P, M, E, S AND T

4.3.1. INTRODUCTION

Library classification arranges groups of documents in a helpful sequence. The arrangement of documents on a shelf is a linear one, but we know that the universe of subjects of concern is multidimensional in nature [61] when one wants to describe the position of any one existent or a group of existences in such a universe, many parameters are required to achieve. This purpose involves transferring multidimensional space into uni-dimensional space. According to Ranganathan, dimension refers, in mathematics to "the degree of manifoldness of an aggregate as fixed by the number of parameters necessary and sufficient to identify anyone of its members, that is, to distinguish it from all others [62]."

Therefore, a line has one dimension, a surface has two dimensions and volume has three dimensions. Here, the number of dimensions is based on the number of parameters required to identify a point (member) on it. A similar concept is applicable to library classification.

In library classification, our problem is to choose what should be kept invariant in the classification of subjects.
The immediate neighborhood relation of several of the subjects can have to the same remove because of the multidimensional nature of the space in which the subjects lie. But only one of the subjects can be considered to have its immediate neighborhood relation kept invariant in the mapping. Mapping is an extremely complicated matter.

Different schemes have provided different solutions to this problem. The problem of mapping has been solved by Ranganathan by means of postulational approach. "A postulate is a statement about which we cannot use either of the epithets "right" or "wrong". We can only speak of a set of postulates as "helpful" or "unhelpful". The formulation of postulates is guided more by intuition and logical inference at the unconscious level. These are postulated because they have proved to be helpful. New ideas can be postulated if they are found helpful in mapping the universe of subjects in a helpful sequence along a line. Similarly, the existing postulates can be modified or replaced if found necessary.

From 1944 onwards, Ranganathan used the postulates of five fundamental ideas, as well as the other postulates and principles going with it, rather successfully. In practical classification, the sequence of compound or complex subjects going with a basic subject is not predetermined, but it
should be helpful to the majority of users. The postulational approach places the subjects in a helpful sequence. Its most important achievement is that, "classification of a subject on the basis of the postulates and the principles is done without any predetermined idea about the facets, it should or should not have, or about their numbers, or about their sequence" (Prolegomena, p. 397). Such a scheme for classification is a freely faceted classification.

It may be noted that present day-schemes, such as CC, BC, DDC and UDC, seem to have been designed on the basis of postulates for work at the idea plane, but these have adopted different sets of postulates for work at the notational plane. The postulational approach in library "classification brings objectivity in the study and practice of this discipline. The postulational approach also puts the work of a classifier, as well as that of a classificationist, on firm basis. A classificationist should base his work of designing and developing a scheme on such an approach which can help avoid pitfalls. The postulates also provide a tool useful to the comparison of the efficiency of different schemes of classification."
As explained earlier, a postulate is a statement where the words "helpful" or "unhelpful" are applicable, one cannot use the words "true" or "false". The postulates at the idea plane regarding the design of a scheme for library classification were not provided in largely descriptive theories of library classification. However, the postulates for work at the idea plane were given by Ranganathan in his *Prolegomena to Library Classification* (2nd Ed. 1957). Postulates for the idea plane can form a basis for different schemes of classification, but postulates for the notational plane are likely to be different from scheme to scheme.

4.3.2. **RECOGNITION OF FUNDAMENTAL CATEGORY**

There are five and only five fundamental categories, namely Personality, Matter, Energy, Space and Time, formulated by Ranganathan in 1944. He made this postulation after analysing about 1,008 different compound subjects. He said, "we came lost to a fundamental point bearing on facet analysis. An examination of the facets of different subjects shows that they are all related to one or other of the five fundamental categories Time, Space, Energy, Matter and Personality. Any analysis ultimately strikes root in them"
Before the postulation of the five fundamental categories and its use in the design of the Colon Classification, ed 4 (1952), all the isolate facets other than space and time isolates of a compound subject, were given the same descriptive names; depending on the context of the host basic subject. Certain facets now deemed to be manifestations of the fundamental category Personality had a contextual and descriptive name, example, "Education Facet" in "T Education", and "Language Facet" in "P Linguistics". The incidence of the manifestation of matter was rare. They were primarily considered to be materials constituting the entities. But all the rest of the isolate ideas were uniformly denoted by "problem" facet. It was later realised that the nondescriptive term "problem" was used to denote not only 'action' but also properties (64).

4.3.3. IDENTIFICATION OF THE FUNDAMENTAL CATEGORY OF AN ISOLATE (65)

4.3.3.1. PERSONALITY

A suggested method for identifying the fundamental category of an isolate facet forming a compound subject is by the method of residues or the 'Neti-Neti principle' (Not-This,
Not-This principle) (66). In this method a termed idea is correlated with each of the four fundamental categories - Time, Space, Energy and Matter - in succession, and if the kernel idea cannot be deemed to be a manifestation of any one of these four fundamental categories it was deemed to be manifestation of the fundamental category personality. This method yields helpful results in the postuational method of classifying subjects.

The recognition of \([P]\) isolates is not easy in the social sciences. They are easily recognized in any subject in the Natural Sciences, because a \([P]\) isolates in these subjects has a perceptual from which can be identified by the primary senses bare or aided by instruments. But, this is not so in any subject in the social sciences. In any such subject a \([P]\) isolate has no perceptual forms, it has only a conceptual one. However, with some experience and careful thinking a social form can be recognised by the intellect.

The following table shows such conceptual personality Forms in some of the subjects of the social sciences.
Experience in designing depth classification schemes has shown that a typical subject going with a main subject is essentially a study of the attributes or properties of a typical entity and its variety. Thus, every subject deemed to go with the main subject sociology is a study of the attributes of a social focus of study in all the subjects going with a main subject may be called the 'Core component'. It is the core component which essentially determines the main subject with which the subjects containing it may be deemed to go; in the particular pattern of sequence of the components of a subject going with a main subject prescribed by the General Theory of Library Classification. The variety of the core components forms the schedule of LPIH isolates; the core components essentially determines the
isolate ideas in the matter and energy facets of the compound subjects deemed to go with the Basic subject concerned. Subjects going with different main subjects essentially differ in respect of their core components, in determining the relative degree of affinity of subjects going with different basic subject, greater weightage should be given to the relative affinity of their core components, and in determining the difference between subjects going with different main subjects. Greater weightage should be given to the difference in respect of their core components (67). Thus, it is the "core component" which is the manifestation of the fundamental category Personality. Norman Roberts states (68) that the Personality has been defined vaguely, and as such is likely to cause difficulties. However, it may be noted that the two guiding principles-postulates of Absolute syntax and Canon Helpful sequence - in the General theory of Library classification state that the sequence of components of a subject, and the overall sequence of subjects should be helpful to the majority of readers. Therefore, whole analysis of a subject and assembling the components of every compound subject going with a basic subject the readers approach or users' needs are given due weightage by decreasing the core entity of that subject to be a manifestation of
fundamental category Personality (P). In Neelanghan's Paper (69), it is shown that a subject can be considered as a system of an asymmetric non-commutative, centralized system.

The following is an extract from the schedule of Common Personality Isolators in Colon Classification Schedule Edition 7:

- b Profession
- d By Institution
- f Investigating Institution
- f2 Observatory
- f3 Laboratory
- f5 Consultant
- f7 Ashrama (Yogic)
- f8 Testing
- g Learned body
- h1 Popularising Institution
- h5 Exhibition
- h6 Museum
- t Educational Institution
- t1 Elementary level
- t2 Secondary level
- t3 Collegiate level
Second level of personality for institution

1. Leader/President/Chief executive
2. Second in command Vice-President
3. Secretary
4. Joint/Assistant secretaries
5. Members

The nationalized bodies are individualized by chronological devices. The others are individualized by their international or national or well known names using alphabetical device.

4.3.3.2. Matter

The manifestation of "matter" is now deemed to be of three varieties, namely, matter (material), matter (property) and Matter (methods). In 1944, when Ranganathan postulated the five fundamental categories (P), (M), (E), (S) and (T), he identified only matter-material as manifestation of the fundamental category matter. All the other isolates which are now considered as manifestation of the fundamental category matter, were included as "Problem isolates", and
subsequently in 1952, as "Energy isolates". This led to certain difficulties, since "energy" was defined to connote action of one kind or another and it was hard to explain how certain isolate ideas - such as, morphology, physiology, disease, civil rights and duties could be deemed to be "energy". This paved the way for closer examination of the fundamental category 'Energy and Matter' in 1952. In the same year, Vickery indicated that in idea deemed as a manifestation of energy was multiple and not single. He suggested replacing "Energy" by more than one fundamental category. He wrote about it to Ranganathan and suggested the connecting digit " : " for property isolate. But the separation of "Action" and "Property" and "Action" and "Personality" was found difficult in many cases. Ranganathan has felt that it was " a case where we can divide but may not be able to rule (70)". Subsequently, in a paper and the classification of subjects in Chemistry, Vickery made out a strong case for differentiating between "Property" and "Action" at least in the field of Chemistry (71). In 1954, there was a vague identification by Ranganathan that "Property" was a manifestation of the Fundamental Category matter (72). It was only in 1958, when the preparation of a schedule of common property isolates was taken up at considerable rethinking on the concept of "property" was
made. With the aid of practice in the sources (73), it was decided to treat "property" as a manifestation of the Fundamental Category matter (74). This decision was implemented for use in CC in 1966, after experience had shown that it was helpful to deem it as the Fundamental Category matter. However, some of isolates posed problems in identifying their manifestation. Most of these are action associated isolates. The differentiation of energy isolate from property isolate had been a problem. Neelameghan suggested (75) that the action-associated isolates may be grouped as an a) Action-associated isolate idea occurring as an attribute qua attribute (not a qualifier) of one or other of the isolate ideas or with the Basic subject and occurring in one and the same compound subject, and b) Action-associated idea occurring not as an attribute of any other isolate idea when either of them occurs in one and the same compound subject. Each one of the isolates belonging to group 1 may be deemed to be a manifestation of the Fundamental Category matter and that belonging to group 2 may be deemed to be a manifestation of the Fundamental Category Energy. However, the concept of "property" taken as matter - property isolate leads to difficulties in facet sequence of certain subjects. Neelameghan and Gopinath have given examples to show that the sequence of facets presented by
certain compound, subjects, when analysed, according to postulates, gives a sequence which does not conform to the implication of the Wall picture principle, although the sequence is in conformity with the Postulates for Sequence (76). The problem is traced, totalling "property" as an isolate. A solution to this problem is to deem the idea "Property" as a kernel idea not as an isolate facet or, a spectator. Helpfulness suggests that the "property" idea is given a bond strength greater than that of the 'spectator' idea may go with any Isolate Facet, as determined by the wall picture principle. In 1958, along with identification that 'Property' was a manifestation of the Fundamental Category Matter, Ranganathan the Parthasarathy recognised that 'Method' was also a manifestation of the Fundamental Category Matter. But, as Ranganathan did not have an opportunity to work with actual documents in a Library, the idea was not pursued. However, the tentative decision that all properties and methods were; a) manifestation of the Fundamental Category Matter was experimented upon (77) and was finally confirmed (78). But it was generally found that a Method isolate is immediately proceeded by an Energy Isolate (79). Thus, three kinds of manifestations of the Fundamental Category Matters kinds of manifestations of the Fundamental Category Matters were identified Neelameghan, in
his paper (79) has shown that the Question of deeming an idea denoting a "Method" as a manifestation of the Fundamental Category Matter does not seem to arise. He suggests that the idea denoting a "method" may occur as

1. (IPI) Isolate; or
2. Array division or speciator to "property" or
3. Personality isolate immediately preceded by an Energy isolate.

This suggestions requires further investigation.

The following is an extract from the schedule of common Property isolates in the colon classification Edition 7(21):

- Property
- Theory
- Normative Principle
- Hypothesis
- Basis
- Existence
- Structure/Constitution
- Function
- Relations
- Quality
- Identity
- Equality
Similarity
Compatibility
Difference
Accuracy/Correctness/Exactness
Reliability
Consistency
Precision
Efficiency
State/Conditions
Normal/Normality
Subnormal State
Supernormal State
Abnormality
Balance/Homeostatic State
Trend, Orientation
Coincidence
Continuity
Attraction
Susceptibility
Superability
Resistivity
Influence
Weakness
a61  Boundedness/Finitness
a71  Homogenety
a72  Intrinsic value
a73  Purity
a76  Heterogenity
a81  Invariance Constant
a811 Constant
a812 Coefficient
a85  Aberration
a86  Variability
a861 Variable
a863 Parameter
a87  Macifications
a91  Puredness
a92  Relativeness
a921 Determinacy
a926 Undeterminacy
a93  Solvability
a97  Uniqueness
aA  Special relation.
4.3.3.3. **Energy**

The current definition of the concept of the Fundamental Category Energy is that it connotes some kind of action qua action (80). Here, by action is meant action from an agent external to the system studied. For example, "Naming-ceremony among certain polynesian communities", "Naming-ceremony" suggests a flavour of an action. As mentioned above Neelameghan has shown that these action-associated ideas are properties, and it is only an action-associated isolate idea occurring not as an attribute of any other isolate idea when either of them occurs in one and the same compound subject, that should be deemed to be a manifestation of the Fundamental Category "Energy".

The following is an extract from the schedule of common Energy Isolates in the colour classification schedule Edition 7(81):

**aa** Action

**ab** Create Produce

**ac** Assigning . Attribute. Charging.

**ad** Operating
ae Continuing
ae5 Enclosed. Close. Terminate.
ae6 Abolish. Destroy. Instruction. Annihilate
af Associate. Relate to. Refer to.
af1 Correlate.
afi inferring.
af2 Matching, comparison.
af3 Differentiate
af5 Opposed contradict.
ag Approximate
ag1 Uniformize
ag2 Irritate. Copying. Duplicate.
ag4 Substitute
ag6 Counterfeit
ah Interfere
ah1 Crossed. Intersecting
ak Compensate
ak1 Equalize. Balance. Adjust
ak5 Counter Balance. Counteract
am Influence
am1 Orientation. Bias
ap Change
ap1 Decrease. Diminish. Lower. Thidow. Reduce
ap2 Minimize
ap3 Increase, Raise, Growth, Augment, Multiply.
ap4 Maximize
ar Include, Subsume.
ar5 Exclude, Eliminate, Reject, Segregate, Alienate.
as Remaining, Clearing, Take off.
at Exchanging
ax Distribution
ay Reversing
ac Combination
ac1 Mix
ac2 Joining, Connecting, Unit ing, Attaching,
ad Alloying, Amalgamation, Compounding, Adulterate.
ad1 Impregnate
ad2 Infiltrate, Infuse, Injection.
ad7 Assimilation, Integration.
aE Assemble, Put Together, Agglomerate, Conglutinate, Form, Make, Construct, Formulate.
aE1 Interlinking, Networking.
aF Disjoining, Separating, Isolate, Dissociate, Disconnect, Detaching, Sever.
aF4 Disarrange, Disorganise, Derange.
aF5 Complicate.
aG Divide, Subdivide, Sectionalize, Segmentation.
The full schedule for common action isolates provides for a large number of action isolates.
4.3.3.4. **Space**

The concept of the Fundamental Category "Space" is in accordance with what is commonly understood by that term. The surface of the earth, the space inside it, and the space outside it, are manifestations of the Fundamental Category Space. The usual Geographical Isolate ideas — such as, continents, countries, and counties — are taken to be manifestations of the Fundamental Category Space. Physiographical ideas — such as desert, prairie, rainforest, plateau, mountain, river and lake — are also taken to be the manifestations of Fundamental Category Space (82).

When we consider the subject "History of India", the term "India" does not denote the geographical area going by that name. But it denotes the community living in India. Hence, in this subject, the isolate "India" should be taken to be a manifestation of the Fundamental Category "Personality" and, not of "Space".

The Following is an extract of the schedule of space isolates taken from to colour classification Edition 7(21).
1 World
2 Mother Country
3 Favoured Country
32 Eurasia
4 Asia
41 China
41T Manchuria
41U1 Korea
41U12 North Korea
41U5 South Korea
41V Formosa (Taiwan)
41W1 Tibet
41X Sinkiang
41Y1 Mongolia
41Y5 Hong Kong
42 Japan
431 Vietnam
431W1 Laos
431X Kampuchea (Cambodia)
433 Thailand
434 Philippines
436 Indonesia
437 Malaysia.
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<td>44T1</td>
<td>Bhutan</td>
</tr>
<tr>
<td>44U1</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>44V</td>
<td>(Ceylon) Sri Lanka</td>
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<td>Iran</td>
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<td>Iraq</td>
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<td>Europe</td>
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<td>Spain and Portugal</td>
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Malawi
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Southern Rhodesia
Zimbabwe
Swaziland
Lesotho
South Africa
Botswana
Namibia
Angola
Congo (Democratic Republic)
Congo Republic (Brazzaville)
Gabon
Cameroon
Central African Republic
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681 Ethiopia
683 French Territory of the Afars and the Issas
685 Somalia
687 Kenya
688 Uganda
688V Burundi
688X Malagasy
7 America
71 North America
72 Canada
73 U.S.A
74 Mexico
75 Central America
751 Guatemala
752 British Honduras
753 El Salvador
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<td>7791</td>
<td>Falkland Islands</td>
</tr>
<tr>
<td>78</td>
<td>West Indies</td>
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<tr>
<td>781</td>
<td>Trinidad</td>
</tr>
<tr>
<td>781T</td>
<td>Tobago</td>
</tr>
<tr>
<td>782</td>
<td>Windward and Leeward Islands</td>
</tr>
<tr>
<td>782T</td>
<td>Barbados</td>
</tr>
<tr>
<td>782U1</td>
<td>Martinique</td>
</tr>
<tr>
<td>782X</td>
<td>Guadeloupe</td>
</tr>
<tr>
<td>782Y1</td>
<td>Virgin Islands</td>
</tr>
<tr>
<td>783</td>
<td>Puerto Rico</td>
</tr>
<tr>
<td>783T</td>
<td>Hispaniola</td>
</tr>
<tr>
<td>784</td>
<td>Dominican Republic</td>
</tr>
</tbody>
</table>
785 Haiti
786 Jamaica
786T Grand Cayman
787 Cuba
788 Bahamas Islands
788T Caicos Islands
788U1 Turks Islands
77 Australasia
8 Australia
8V New Guinea
8X New Zealand
92 Atlantic Island
93 Land with Pacific Ocean
934 Melanesia
935 Micronesia
936 Polynesia
943 Antarctica Islands
947 Antarctica Islands
94Z Oceans
95 Indian Oceans
96 Atlantic Ocean
961 Mediterranean Ocean
967 North Sea
97 Pacific Ocean
963 Antarctic Ocean
937 Arctic Ocean

Schedule of Space Isolates (Level 2)

Y Geographical Features
Zf7 River
Zj8 Forest
Zk2 Desert
1=Zf7 Rivers of the world
0 Population Cluster
01 Hamlet
02 Village
03 Town
04 Super Town
05 City
06 Super City
07 Metropolis

Spectators to Space Isolates:
-1 Zone:
-2 Equatorial Zone
-3 Tropical Zone
-4 Sub-Tropical Zone
-6 Temperate Zone
-7 Sub-arctic Zone
-8 Arctic Zone
-91 Area Surrounding Ocean
-96 Atlantic Countries
-961 Mediterranean Countries
-9A Orientation:
-9B East
-9C Near East
-9D Middle East
-9E Far East
-9F South East
-9G South
-9J West
-9N North
-9Q Centre
-9R Inside
-9S Outside
-A Empire
-A52 Roman Empire
A53 French Empire
-a56 British Empire
4.3.3.5 Time

Time, is perhaps, the easiest of the Fundamental Category for identification. The concept of "Time" is in accordance with what we commonly understand by the term "Time". The isolate ideas—such as, millennium, century, decade, year and so on—are its manifestations. Time isolate of another kind—day and night, seasons such as summer and winter, time with
meteorological quality - such as, wet, dry and stormy - are also taken as manifestations of the Fundamental Category Time (83). In the Basic Subject "Literature", and author is denoted by the year of his birth, instead of by his name. For example William Shakespeare is denoted by "1564". This is done to secure a helpful, chronological sequence of authors and for providing infinite hospitality in chain. Therefore one should not regards the Author Facet of the subject as a manifestation of the Fundamental Category "Time", but as "Personality". Thus it is seen that the Fundamental Categories - Personality, Matter, Energy, Space and time are identifiable without much difficulty and can be used for library classification.

The following is an extract of schedule of Time Isolate taken from colon classification Edition 7( ).

Spectators to Time

-a Meteorological Division
-c Wind condition
-d Calm
-e Breezy
-j Temperature Levels
-m Temperate
-n Hot
-q Humidity Levels
-r Dry
-t Humid
-02 Divisions of year
-02Z Lunar Division
-1 Waxing Moon
-11 First Half
-12 Second Half
-13 Full Moon
-87 Solar Division
-911 Day time
-912 Morning
-916 Evening
-92 Night
-93 Day
-931 Sunday
-932 Monday
-933 Tuesday
-934 Wednesday
-935 Thursday
-936 Friday
-937 Saturday
Week
Week 1
week 2
Month (Solar)
January
February
March
April
May
June
July
August
September
October
November
December
Season.
Spring
Summer
Autumn
Winter
Year:
Solar year
-972 Lunar year

Time Isolates:

9Z Civil Time:
A Geological age
A1 Eozoic
.... ..........
A4 Cenozoic
A2 Calendar Time
B 9999 to 1000 B.C.
E 1000 to 1099 A.D.
F 1100 to 1199 A.D.
G 1200 to 1299 A.D.
H 1300 to 1399 A.D.
I 1400 to 1499 A.D.
J 1500 to 1599 A.D.
K 1600 to 1699 A.D.
L 1700 to 1799 A.D.
M 1800 to 1899 A.D.
N 1900 to 1999 A.D.
P 2000 to 2099 A.D.
Q 2100 to 2199 A.D.
R 2200 to 2299 A.D.
Continued work in the classification of micro ideas led to the recognition (1) of the cycle of recurrence of the manifestations of the fundamental categories in compound subjects. This led to the postulate of Rounds for (P), (M), and (E), the sequence of rounds being decided with the aid of the wall picture. Principle (84); and (2) that within one and the same round, a manifestation of one and the same fundamental category may occur two or more times. This led to the postulates of Level and Level Cluster (85).

4.3.4.1 Sequence of P, M, E, S & T

The Postulate of concreteness (86) which followed the enunciation of the postulate of Fundamental Category
determines the sequence of the Fundamental Category and Personality, Matter, Energy, Space and Time. Hence, if a compound subject is made up of besides the basic subject, five isolate facets, one each from each of the five groups, the sequence would be (BS), (P), (M), (E), (S) and (T), according to the postulate of concreteness and postulates of Basic Facet and Isolate Facet (87). The sequence, thus arrived at, is in conformity to what the majority of persons think in respect of the relative concreteness of the isolate which are manifestations of any one of the five fundamental categories. It is also in conformity with the Wall Picture Principle and other guiding principles.

The shelf sequence (88) should adhere to the Principle of Increasing Concreteness, which states that "if two subjects are such that one can be said to be more abstract and less concrete than the other, the former should precede the latter. An implication of this principle of analytic-synthetic classification would be that the facets in the facet formula of a Basic subject should be in the decreasing sequence of concreteness. This is achieved by conforming to the Postulate of concreteness."
Thus, with the aid of Postulates of Fundamental Categories, Rounds, Levels, Basic Facet, Canons of and principles of Helpful sequence, a consistency in the pattern of the sequence of compound subjects going with one and the same basic subject has been achieved. This syntax of facets has been found to be satisfactory to the majority of users. And, further, it has been conjectured that Facet Syntax arrived at on the basis of the Wall - Picture Principle is the same as the Absolute Syntax of ideas (89).

4.3.5 **Different Categories applicable to classification**

The work in relation to the analysis of subjects in terms of categories has been attempted by different classificationists. The following table - that is, "The Table of Categories", gives us a synoptic view of the various categories of ideas recognised by different classificationists and, shows how they can be grouped, or reduced, to the five Fundamental Categories - Time, Space, Energy, Matter and Personality - of the General Theory of Library Classification formulated by Ranganathan.
<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
<th>Category</th>
<th>P</th>
<th>M</th>
<th>E</th>
<th>S</th>
<th>T</th>
<th>No. of Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Managanthan</td>
<td>Personality</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
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<tr>
<td>2</td>
<td>Debnath</td>
<td>Initial Product</td>
<td>Material</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>Cordier</td>
<td>Organisations</td>
<td>Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Leroy, Braffort</td>
<td>Objects/ Entities</td>
<td>Properties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>De Grolier</td>
<td>Organ</td>
<td>Form</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
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<tr>
<td>6</td>
<td>Systematic</td>
<td>Matter State</td>
<td>Substance</td>
<td>Processes</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>Farrandane</td>
<td>Entities</td>
<td>Properties</td>
<td>Abstract</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>Foskett (D J)</td>
<td>Products, Parts</td>
<td>Materials</td>
<td>Abstract</td>
<td>Action</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Barbara Kyle</td>
<td>Personalities</td>
<td>Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>Vickery</td>
<td>Constituent</td>
<td>Object of</td>
<td>Processes</td>
<td>Action</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product, Organ,</td>
<td>measure, General</td>
<td>General Process</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Structure, Agent,</td>
<td>property</td>
<td>Operation</td>
<td></td>
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<td></td>
<td></td>
<td>Tool</td>
<td>materials</td>
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<tr>
<td>11.</td>
<td>Mills for Whole Thing, Kinds, Parts, (Guide to Agent. UDC)</td>
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<tr>
<td>14.</td>
<td>H Selye Target, Agents</td>
<td></td>
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</tr>
<tr>
<td>17.</td>
<td>Shara &amp; Egan Product, Object of Agent, Tool action.</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Ceremin Objects State Processes Operation Abstract Proper names Properties Abstract concepts</td>
<td>Abstract concepts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>Vieducts Physical entity Attributes that identify the (Type 1) (Type 2) (Type 3) (Type 4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
It can be seen from the table that the various categories proposed by different classificationists for analysing and classifying the universe of subjects are reducible to the five Fundamental Categories - Personality, Matter, Energy, Space and Time - of S.R. Ranganathan.

The categories "Space and Time" seem to be either explicitly stated or implicit in the categories enumerated by the different classificationists.

As regards the number of categories suggested, by different classificationists, the range is between two and few, the maximum being that of De Grolier and the minimum that of Kyle and Selye. The classificationists, who have used the concept of 'Categories for classification', are largely from the United Kingdom, followed by France, U.S.A, USSR, Canada, Czechoslovakia and Germany.

Most of the classificationists have used categories for designing special schemes (restricted to certain subjects) of classification. But Farradane's work deals with the universe of subjects in its entirety, free from the traditional main classes. This is 'universe of concepts'. The categories
used by the classificationists have not been defined clearly that is, there is no clear delineating of concepts used.

The categories reducible to the Fundamental Category, Personality are only varieties of a typical community. The categories proposed by the different classificationists are: a) Isolates derived on the basis of characteristics; b) Levels of (P) belonging to the same round, or another round. For example, Fooskett's "Part" and Vickery's "Part and Organ" are levels of (P); and (c) Speciators which qualify the principal idea.

The categories proposed by other classificationists which have been deemed to be the Fundamental Category Matter of Ranganathan are essentially of three kinds though they have been called by different names. They are:

1. Material / substance
2. Properties
3. Processes / methods

This is in conformity to the recent thinking of the concept of the Fundamental Category Matter of Ranganathan. The Fundamental Category Matter consists of Matter Material (MMT), Matter Property (MP) and Matter Method (MM). The
sequence of combination is (MME); (MP) and this conforms to the Wall - Picture Principle and the principle of Decreasing Concreteness. As regards (MM), it is always preceded by (E).

The categories reducible to the Fundamental Category Energy have been denoted by the terms "Action, Operation, Activities" by other classificationists. Some of the classificationists have taken isolates such as "study, control" as separate categories.

4.3.6 Problems in the Recognition of Fundamental Categories

Recognition of manifestation of the fundamental categories is beset with multiple problems. The recognition of manifestation can be done at three levels, namely, generic level, basic subject level, and specific subject level. Generic level of recognition of the manifestations of fundamental categories is priority based on individual concepts. It is free from the contexts. The recognition of manifestations of fundamental category for these concepts are based on their unique definitions. For example, the term "transport" is a manifestation of the (FC) personality. Similarly "Family" is a manifestation of the (FC) personality. 'Job' is a manifestation of matter property.
The word 'Creation' is a manifestation of (FC) Energy. The recognition of manifestations of (FC) at the basic subjects level is context specified. Its comprehension or generality lies within the scope of the compound, subjects going with that particular basic subject. This may be denoted, as class intensive level. At the specific subject level, the recognition of manifestation of (FC) would be operative with only one compound subject. The relational aspects of different concepts incident in a compound subject would also effect the recognition of the (FC). The generic level, recognition of manifestation of (FC) can be correlated to near-seminal approach. The class intensive level is correlated to optimum levels approach and the specific level be correlated to phenomenal level, that is, closest to the reality of occurrence. The classificationist and classifier are confronted with the organisation of the class intensive recognition of manifestations of the (FC) such as recognition would provide an optimum approach to both generic as well as specific approach.

The recognition of the manifestations of the (FC) at the collective level of basic subject and at the level of specific subjects gives rise to different kinds of problems.
These problems are to be identified and measure of their incidence in the compound, subjects is to be observed.

Personality is a core concept or core entity of a statement. Its role is akin to the noun phrase of a sentence. In class intensive situation, this core concept could be anything. It is found that different types of concepts can take the position of personality. The recognitions of personality, therefore, became a problem. Due to this problem only Ranganathan suggested the method of residues (90).

The concept of the (FC) Matter was a dormant one in the first six editions of colon classification.

Material constituent or passive content of a focal idea was considered to be matter. But the recognition of a qualifier concept in 1963 - 64 led to the identification of material of make of an entity as one of the qualifiers. Therefore, the incidence of material as a manifestation of (FC) matter appeared very rarely when property ideas were deemed to be manifestation of (FC) matter, the chance for incidence of the same increased in compound subjects. But the problem of distinction between property and action isolates came into prominence. Thus, the problem of recognition of the matter
isolates and energy isolates were dependent on isolating passive and active nature of the action connecting terms.

The energy is an important one. Normally it is associated with transitive verb or action concepts. In C C (Ed 4, 1952 to Ed 6, 1966), it was associated with problem tacet. This led to basketing in of non-homogeneous set of ideas into the manifestations of (FC) Energy. The recognition of property as a manifestation of (FC) matter relieved, this to some extent. But the manifestations of (FC) Energy gives rise to conflict with (FC) matter in relation to functional and non-functional activities. The qualifiers to energy such as agent of action, method of action, instruments of action, posed, excessive problems in the recognition of manifestation of (FC) Energy.

The recognition of the manifestations of fundamental category is impeded by hindrances. The hindrances are caused by several factors. According to Gopinath, four types of hindrances have been identified. They are qualification, multi-connotation, heterogeneity and a combination of age, utility, literary warrant and professional status. A term cannot more than one role of an idea. Heterogeneity refers to the non-coherent formation of the compound subject. This
gives rise to problems in the recognition of the (FC). The developmental stage indicates the problems due to growth of the subject fields. The age of the field, the utilitarian aspects the professional commitments and the literary warrant taken together affects the recognition of manifestations of (FC). This is denoted by the abbreviation AULP. This indicates that the stage of development of the basic subject influences the recognition of the manifestations of the (FC). For example "Social inhibition of maturation in natural population of varieties". Here the influence concept on "Social inhibition" and "maturation" is still in an evolving process. This is a type of loose assemblage stage of the formation of subjects. This is the first stage of formation of an interdisciplinary basic subject. Another example would be "Ecologically oriented family intervention. The ecology is correlated with "Family intervention" in maintaining a homestatus. This indicates a nascent formation of the interdisciplinary basic subject. The problem of qualifiers qualify a principal idea and thus result towards more specific idea. Such an isolate is a compound isolate. In interdisciplinary subjects, this problem is pronounced. For example, in "international relations", the specific subject "Peking": Hegemonism in action in South Asia", the
personality focus climates are likely to be three "South Asia", "Child" and "Hegemonism". The recognition of one principal idea could relegate the others to the status of qualifiers. The recognition of the manifestations fundamental categories by a classifier can be facilitated, by using schedules of ideas deemed to be manifestations of one or other of the fundamental categories. Personality, Matter, Energy, Space and Time. The last four categories of manifestations may be generalized, fairly exhaustively. The personality category is very specific in manifestations. It is possible to draft a typology of qualifiers in order to separate the isolates and qualifiers incident in compound isolates. It is possible to draft a typology of qualifiers in order to separate the isolates. They are common property schedules, common energy schedules and a set of qualifiers to personality isolates.

4.4 Facet Analysis in International Relations

4.4.1 Introduction

Studies in various fields of social sciences have witnessed marvellous developments in the periods following the second world war. Enormous literature in the form of books, monographs, essays, articles, reviews and the like stands as
a clear testimony to it. If so, the study of politics, whether national or international, has seen its own remarkable development to an extent that now it, as Stanley Hoffman says (91), looks like 'an area - crowded, shopping centre, much like political science in the days when departments of government were characterized by an accumulation of unrelated courses'.

4.4.2. **Meaning, Nature and Scope: International Relations as a Field of Study**

International relations is a human activity in which persons from more than one nation, individually and in groups, interact (92). International relations are carried on by face to face contact and through more indirect communications. Usage of the term "international relations" by scholars in the field, is not consistent. Some use "international relations", and "international politics" interchangeably, but many prefer to reserve "international politics", for relations between governments and use "international relations" as a more inclusive term. They consider international politics and, subjects such as international economics, international communications, international law, international war, and international
organizations to be subcategories of international relations. In more popular discourse "international relations" is often used, to refer to phenomena about nations that do not involve relations between them. Sometimes the study of foreign nations and foreign governments is called international relations, but this broad usage is diminishing. The study of international relations, includes certain aspects of nations and their governments, particularly foreign policy-making activity. But the more restricted usage that is evolving includes only those characteristics of nations that have the greatest effect on interaction between nations. Advancing knowledge is making possible more explicit boundaries for the fields as research more clearly identifies which characteristics of nations cause the greatest variation in their relations with each other. In the words of Platig (93), while some hail it as 'intellectually invigorating', others look it as 'an escape into social irresponsibility'. However, as a great admirer of the side of development, he throws light on the concept and core of this discipline. While dealing with the case of 'concepts', he explains that as a field of enquiry, this subject studies the distribution of power on a global scale and the interplay between and among power centres of the world. In this category we have
to study the concepts of a) power - it is used, here in a very broad sense so as to encompass the entire range of man's influence and control over his fellow beings. b) Distribution of power - Each person in contact with others is possessed of some degree of ability - however trivial - to influence others. Power is thus broadly diffused on a global scale. (c) Government - It is a territorial basic group in which an identifiable organisation provides overall management of the powers of the group and monitors the power relations of sub-groups, d) Sovereignty - though a concept defying brief analysis and its utility being limited for analytical purposes, it is a useful word for designating those classes of states in which can be found most of the major centres of power on the contemporary global scene. Then while taking up the core of the subject of international relations he added a) Forms - the interactions of governments of sovereign states take many forms, all of which are of concern to international relations as diplomatic, military, economic b) Political systems - the interactions of the governments of two or more sovereign states can be said to take place within a multi-state system for most purposes c) Actors - in addition to many governmental and non-governmental actors, based, within the territory of a single
Sovereign State, there are also many international groups that play a direct role in multinational political system. It enables plateg to stress to point that to scope of this discipline covers international factors and international social systems.

Available literature on the theme of scope of this subject demonstrates the exists of two vantage points for viewing it - the system-oriented and the entity-oriented. While the former envisages international society as a whole, to treat all entities as parts of the system, and concentrate on relationships, the latter is the concentration on the parts and on analysis of their purposes and structures, with perhaps only secondary attention given to the external situation (94).

4.4.3 Issue of the 'Autonomy' of the Discipline: Relationship with Collateral Studies

One of the most interesting as well as baffling features of the study of international relations and politics is its close relationship with some collateral disciplines that sustains as well as procreates the controversy about its 'autonomous' position in the world of social sciences. A look at the enormous literature produced during the 1950s and
thereafter demonstrates that this subject is not what it has been during the inter-war period. Its leading writers have borrowed so much from other disciplines like economies, sociology, psychology, mathematics, statistics, anthropology, Cybernetics and engineering, etc. that at every urn, the student of this subject "is indebted to, and dependent on other disciplines". The use of inter-disciplinary approach in the study of international relations and politics is informed by a scientific form. The general view is that more and more material should be borrowed from other collateral disciplines so as to better understand and explain 'international political reality' and on that basis to gain capability of presenting this subject in the form of a 'science'. It is well opined: "Ideally international relations provide the framework for an emerging discipline for the integration of concepts, proportions and methodologies from many disciplines as well as the development of whatever concepts, propositions and methodologies may be relevant specifically to the study of problems at the international levels. Ultimately, international relations may become a discipline which incorporates, builds up on and synthesises insights discovered by most, if not all, of the social sciences."
The enormous development of the discipline has, therefore, led to the emergence of a controversy as to whether it should be treated as a part of the discipline of political science, or it should be ranked as a separate field of study. The traditional view is that, despite having developed into the form of a family of its own, international relations and politics is still a member of the original family for the very reason that 'state' remains the central actor. It remains true that the most significant contacts at the international level are those which develop through the formal and informal machinery involved in inter-governmental relations. Opposed, to this is the view of treating the study of international relations as an autonomous subject, though it is true that 'State' - the beginning and the end of political science - plays the role of a central actor in the field of international relations and politics, the fact cannot be lost sight of that this study throws 'unique' light in this direction. No longer knowledge applicable to international relations is drawn from one social science (political science), rather it is drawn from all social sciences (95). We may appreciate this view that the relationship between international relations and political science" is the same as the relationship between Sociology and Psychology. It is the transition from the meticulous
study of one unit at a time to the study of the interaction structure between the units that characterize the relation between these pairs of sciences (96)."

4.4.4 Historical Development

4.4.4.1 The Past

Although men have written about international relations for thousands of years, only in this century has the field begun to have some of the characteristics of an academic discipline. The publication of 'world politics' by Paul Reinsch in 1900 is often cited as an early landmark in this development. Before World War I, courses in the field were confirmed largely to diplomatic history, international law and international economics. The war stimulated the development of courses in international organization, international relations and international politics. By the out-break of World War II a reaction to these modes of study had developed E.H. Carr's 'THE TWENTY YEARS' CRISIS, 1919-1939 (1939), which was highly critical of research and teaching in the fields, and F. Schuman's 'International Politics' (1933) indicated the beginning of the "realist" (also sometimes called empirical) emphasis in the study of international relations. This trend included both an effort to overcome idealistic bias in research and teaching and an aspiration
towards more systematic study, a precursor of future systematic work was Quincy Wright's monumental study of wars from 1500 to 1940, published in 1942.

After World War II the realist position was stated persuasively by Hans Morgenthau in a highly successful and very influential textbook, Politics among Nations (1948). Morgenthau emphasized the importance of power in the attainment of national objectives. Morgenthau lists the following components of national power: geography, natural resources, industrial capacity, military preparedness, population, national character, national morale, quality of diplomacy, and quality of government. Some writers, for example, tend to treat national power as something that can be represented by a single measure, through combining measurements of its components (1958). The tendency for the concept to become a fad rather than a useful analytic tool was underlined when Denis Sullivan, in an analysis of international relations textbooks (1963) found 17 different usages.

A new generation of international relations scholars armed with the contributions of and increasingly rigorous social science and aided by new norms for interdisciplinary
collaboration began making significant progress toward the development of a science of international relations (Sprout and Sprout 1962). The concepts and techniques employed in analysis such topics as decision-making, conflict, game theory, bargaining, communication, systems geography, attitudes, etc. were applied to problems in international relations. Machine data processing and computers extended, the range of manageable problems, and man-computer and all-computer simulations permitted for the first time controlled experimentation in international relations.

In 1954 Synder, Bruck and Sapin published an influential monograph, Decision-making as an approach to the study of international politics that provided, an analytic scheme suggesting the relevance of work in various areas of political science, sociology, social psychology, communication theory, and organizational behaviour to the study of international relations. This approach postulates that national decision-making behaviour take place in a complex organizational setting and can be accounted for by interrelations of three clusters of variables organizational roles and relations, communication and information and motivation. Four years later Snydev and Paige (1958) applied, the scheme to the United States decision to
intervened militarily in Korea in June 1950. This effort stimulated some refinements in the analytic scheme and helped to develop hypotheses linking the variables.

In 1955 Charles McClelland urged the application of general system analysis developed by the biologist Ludwig Von Bertalanffy, to the study of international relations. This followed applications in physics, physical chemistry, and the social science. Bertalanffy developed his general systems approach as a result of perceiving similarities in conceptual schemes developed in fields of knowledge commonly considered to be widely separated. Morton Keplaw (1957) used radically different methods of systems analysis developed by W. Ross Ashby. This approach employs closed and simple systems, rather than general ones, and does not imply either the probability or the improbability or radical change. Kaplau constructed six possible international systems and specified the environmental circumstances under which it is likely to persist and those under which it is likely to be transformed into the one of other kinds of systems. In "Action and Reaction in world politics (1963) Rosecrance also cites Ashby as he applies systems analysis to an examination of nine international systems that existed after 1740. From these historical cases he generates nine models.
Taking an international systems perspective, some have focused on international integration. The development of integration as a major focus of international relations research has been spurred by regional integration, particularly in Europe in the Post-World War II period. In a pioneering work Karl Deutsch and Richard Van Wagenen, both political scientists, and a team of historians (Deutsch et al. 1957) examined ten cases of successful and unsuccessful integration in the North Atlantic area, ranging from the formation of England in the Middle Ages to the breakup of the Union between Ireland and the United Kingdom in 1921. From these case studies they generated a list of conditions necessary for both amalgamated and pluralistic security of communities. This effort borrowed a great deal from communications research.

Ernst Haas has preferred to study integration through first-hand depth research of one international organisation at a time, using the organisations as "whetstones" for sharpening theory. His work on the European Steels and Coal Community (1958) and the International Labour Organisation (1964) has given much attention to the process whereby integration in one governmental function "spills new" into another area.
The theoretical framework developed by Etzioni (1965) is influenced importantly by his native discipline, sociology. He has worked primarily with secondary sources in applying this framework to the European Economic Community, the Nordic Council, efforts to unite Egypt and Syria, and to the attempted Federation of the West Indies.

Perhaps controlled experimentation in international relations is the most vivid indicator of ferment generated by borrowing from other disciplines. Simulation of international relations has also developed out of war games. This heritage is recognized by Lincolm Bloomfield and Norman Padelford (1959) and others, who use the term "political gaming" to refer to their simulation efforts. In 1960 Richard Brody and Michael Drivenaw simulated 16 simulations of a two-bloc "cold war" international system, identical except that each simulation had different decision makers. Each of the 16 simulations began with two nuclear powers and each experiences nuclear proliferation at an identical time (Brody 1963). This experiment permitted investigation of wide spread proliferation of nuclear weapons before it occurred in the real world. The most sustained effort in international relations simulation was begun by Harold
Guetzkow in 1953 (Guetzkow et al 1963). His international simulation is an operating model of prototypic, rather than actual, nations. The international simulation and modifications of it have been used in research and teaching by a number of institutions in the United States, Latin America, Europe and the Far East. The rapid spread of simulation activity suggests that controlled experimentation and the construction of operating models have a permanent place in the methodology of international relations.

The advent of nuclear weapons has stimulated more widespread attention to military strategy and diminished the gulf that had developed for both scholars and policy makers - between military and political factors in international relations. In response, political scientists, psychologists, and economists began applying a wide range of social science knowledge to problems of military strategy. Thomas C. Schelling, an economist, in his "Strategy of conflict." He saw enlightening similarities between, say maneuvering in limited war and jockeying in a traffic jam, between deterring the Russians and deterring one's own children, or between the modern balance of terror and the ancient institution of hostages" (1960). Research on deterrence stimulated the
application of social psychology, communications theory, and game theory to problems of military strategy. Thomas Milburn (1959) is one who called attention to the findings of psychological research that indicate that reward to desired behavior is sometimes more efficacious than punishment for undesired behavior in influencing human conduct.

The overwhelmingly destructive power of nuclear weapons brought renewed interest in disarmament and arms limitation. Similar concern had been manifested at the times of the Hague Peace Conference at the turn of the century and also in the late 1920s and early 1930s. But the complex military technology of the nuclear age encouraged greater participation of physical scientists in disarmament discussion. The pages of the "Bulletin of Atomic Scientists" provide evidence of increased participation of physicists in arms control and disarmament research and discussion. Their contributions to the technology of nuclear test detection and nuclear arms inspection began the development of a technology of nuclear control. The realization that disarmament would not bring an end to conflict fostered consideration of alternatives to violence that could be used for waging conflict in a disarmed world (Mils, et al, 1961). This line of enquiry gradually brought
a subtitle but profound evolution in the interests of some international relations scholars, from concern with the causes of war to study of the causes of peace.

At the outbreak of World War II one of the pioneers in the scientific study of international relations, Lewis F Richardson, asserted, "there are many anti-war societies, but they are concerned with propaganda, not research. There is a wide public interest in the subject provided it is expressed in bold rhetoric, but not if it is a quantitative scientific study involving statistics and mathematics. There is no appropriate learned society (1960). Examples of the better known products of the peace research movement are "conflict and Defence"(1962) by Konneit Boulding, an economist, "The Peace Race"(1961) by Seymour Melmair, an industrial engineer, and "strategy and conscience (1964), by Anatol Rapoport, a mathematical biologist.

Work on current regional international systems has made possible modest efforts at comparative international relations. In "politics and culture in international history (1960) Adda Bozeman overcomes the customary preoccupation of international relations scholars with Europe and North America. Some important research has been done on
governmental international relations tool's recent work (1965) on the effect of international travel on national and international images and research by Herbert Kelman (1963) on the reactions of participants in exchange programmes. But non-governmental international relations tend not to be incorporated into the more general theoretical work in the fields.

4.4.4.2 The Future

The study of international relations will continue to be affected by the urgency of war and peace problems and by increasing belief that research can contribute to the understanding and solution of these problems. International relations research will in the near future be even more affected by the twentieth-century revolution in social science that it has been in the past. It is likely that aspects of international relations will be increasingly incorporated into the concerns of each of the social sciences. This development can be observed in the pages of the 'Journal of Conflict Resolution', an interdisciplinary quarterly devoted to research related to war and peace. It can also be seen in the growing number of sessions devoted to international relations at the meetings of professional
societies of the different social sciences. The various kinds of human behaviour which scholars have traditionally classified as diplomacy will be dissected and studied as cases of negotiation, legislative behaviour, representative behaviour, political socialization, communication, organizational behavior etc. These developments will tend to inhibit the growth of a coherent discipline, but there will be pressures towards coherence as members of different disciplines collaborate. This tendency is manifest in a volume edited by Kelman, 'International Behaviour (1965)', with contributions by Political Scientists, Psychologists, sociologists, and an anthropologist. It is also revealed in the founding of the Multidisciplinary International Studies Association in 1959.

As the field of international relations is integrated into the mainstream of social science, it may be expected that the generalizations that international relations scholars advance will be subjected to rigorous testing through systematic data collection. High-speed computers already have made possible significant efforts to marshal data on hundreds of national social political and economic attributes and to analyse their relationship to international relations.
(Russett, et al. 1964) "Quantitative international politics" reveals the growing tendency of scholars to use rigorous social science techniques for gathering and analyzing data. Scholars will probably also increase their efforts to gather data through field research techniques, as a supplement to documentary sources and statistics provided by governments and international agencies (Alger 1965).

Diligent application of man's scientific skills and resources to the problems of international relations in the concluding decades of the twentieth century could increase man's capability for international construction to their point where it will more nearly approximate his highly developed ability for international destruction.

4.4.5 Input subjects of International Relations

The subjects contributing to inter-disciplinary clustering of "International Relations" are several. They are indicated in the following table:
<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Input Subjects</th>
<th>Type of Contributions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>General System Theory</td>
<td>To study the behaviour of &quot;international systems&quot;. Models and systems aspects components of systems.</td>
</tr>
<tr>
<td>2</td>
<td>Operations Research and Simulation</td>
<td>Experiments to simulate possible type of actions/reactions among nations on a variety of problems.</td>
</tr>
<tr>
<td>3</td>
<td>Computer Science</td>
<td>Design of softwares for simulation of experiments in handling international relations.</td>
</tr>
<tr>
<td>4</td>
<td>Probability Theory</td>
<td>The application of models, in particular to study the intensity/intensity of relations among nations.</td>
</tr>
<tr>
<td>5</td>
<td>Life Sciences</td>
<td>Ecological aspects: Maintenance of pollution-free zones and atmosphere as an aspect of international relations.</td>
</tr>
<tr>
<td>6</td>
<td>Behavioral Science</td>
<td>Psychology inputs to the study of ideas and human interactions, socio-political interactions in the international relations.</td>
</tr>
<tr>
<td>7</td>
<td>Education</td>
<td>Education - extension of education facilities - Aid type studies, Brain drain and other aspects.</td>
</tr>
<tr>
<td>8</td>
<td>Sports, Tourism and Travel</td>
<td>Methods of improving cultural and political relations among the different institutions.</td>
</tr>
</tbody>
</table>
9. Economics  
Economic homeostasis. Balances 
Micro - Macro balances. 
Developing Economics. 
Influence of developed economy. 
Economic transactions, Goods 
transactions, services 
transactions.

10. Sociology  
Study of nations, societies, 
group, power groups, dissident 
groups in the international 
area.

11. Military Science  
Role of military and defence 
strategies in the operations of 
international negotiations and 
relations.

12. Religion  
Role of religion in promoting 
international unity/dignity 
among nations.

13. Area Studies  
Geopolitics, geoeconomic and 
geocultural transactional 
factors in the relations among 
nations.

14. Technology  
Technology transfer 
Multinational transaction of 
technology.

15. Organisational structure  
Emergence of international 
organisations to faster, 
monitor and disseminated 
relations in international 
arena.
There appears to be no direct application for international relations in other fields. The scanning of literature in this field does not indicate any special feature in respect of its contribution to other subject fields. This indicates a stage of formation and development of international relations. It seems to be an early stage of clustering of subjects. They do not seem to have integrated into a full field of theoretical value. It is also possible to say that the problem - cluster in social sciences may generally be subjects which receive inputs/contributions to solve the problems. The problem - cluster "international relations" exhibits the interplay of several concepts in clustering of the subjects. A diagrammatic approach to this cluster is shown in the figure:
Fig 5 A Cluster Around Problem
4.4.7 Treatment of the subject

"International Relations" in various Library Classification Schemes:

The subject "International Relations" as such is not treated in the different schemes of classification, but various aspects of development find their place in the social sciences. International Relations as stated earlier is an interdisciplinary subject drawing from various other fields in the Social Sciences such as political science, sociology, statistics, economics, history and information science. As such these aspects have been indicated, under treatment in the following sections. The treatment of various aspects of the subject is as follows in different schemes for classification:

4.4.7.1. Universal Decimal Classification (UDC):

3 Social Sciences
30 Sociology
31 Statistics
32 Political Science, Politics, Current Affairs
33 Political Economy, Economics
34 Jurisprudence, Law, Legislation
35 Public Administration, Administrative Law, Military Science and Defence.
The scattering of Political Science topics among several sub classes of social sciences and juxtaposition of Economics (33) between Political Science and Law is highly unsatisfactory, with the further admixture of Public Administration and Military Science and Defence in the same sub-class that can hardly be justified by any stretch of imagination (97). Constitution, Electoral Systems and Fundamental Rights and Duties are separated from Political Science by being placed as a subdivision of Law. Public Administration also ought to have been placed in close proximity to these topics as an important subject of study forming part of the discipline of Political Science. International Relations is not given any proper recognition in UDC where it is placed as a subdivision of Political Science. International Relations in this scheme is considered to be purely descriptive and excludes Diplomatic History, Colonial Policy, and the Administration of Foreign Affairs from its purview. International law is considered to
be a department of law, with a major section of it devoted to international organizations including the United Nations, League of Nations and several regional organizations.

320 Political Science
321 The State and Society
322 The State and Churches
323 Internal Politics
324 Elections
325 Migration, Colonization, Colonial Policy.
326 Slavery
327 International, Foreign Affairs.
328 Parliament
329 Political Parties.

It is hard to understand the placing of the "relations of the state with the church" (which is one of the several similar institutions) as a separate sub-division except possibly due to the important place of religion in the European history. The organization of topics within 325 can also create problems because any lumping together of the problems of colonization with the system of colonies is not desirable. Apart from the odd placing of international, Foreign Affairs (327) between slavery (326) and Parliaments (328) and the absence of thorough facet analysis, its
separation from "diplomacy" and "international organizations" in International Law must be irritating to any true votary of international relations. It appears, for instance, that international relations in UDC is more concerned, with positive measures like Disarmament (327.37) and, on the contrary, underemphasizes the negative aspects, such as armament, by not finding a place for it and related matters in 327. The subdivisions of 327 similarly need drastic overhauling to enable the class to accommodate new subjects that are now cropping up like mushrooms in the field of international relations. It must be recognized again and again that several handicaps of this scheme are not of its choice but result from its adopted percentage of the Decimal classification.

4.4.7.2 Dewey Decimal classification (DDC) Ed 19

300 Social Sciences
320 Political Sciences
321 Kinds of Government and States
322 Relation of State to Social Groups
323 Relation of State to its Residents
324 The Political Process
325 International Migration
The early schemes of library classification have drawn their inspiration largely from the writings of Aristotle and Bacon. The major breakthrough came with the publication of the Dewey Decimal Classification in 1876. All subsequent schemes have been patterned after it to a varying degree. The influence of the ideas of Melvil Dewey, the founder of modern library classification, is bound to survive long after his scheme has become redundant for all practical purposes. The Dewey Decimal Scheme has, however, only a limited historical interest to us because its schedules of classification for political science, international relations and international law are too brief to deserve a critical examination.

4.4.7.3 **Library of Congress Classification (LC)**

Library of Congress Classification (LC) is very much patterned after the expensive classification of Charles Ammi Cutter. Social Sciences in general and political science in particular are well covered because of the large holdings of the library in that field.
Political Science (J) Schedules were brought out in a volume in 1910 for the first time, eight years after work on the scheme was initiated and a revised edition of the same was published in 1956. The schedules are kept up-to-date by 'LC classification - additions and changes' brought out at quarterly intervals. Class J comprehends both international law and international relations in line with tradition as recognized in the old American curricula of teaching. It remains to be seen whether class K for Law, yet to be published by the LC some-time in future, also includes international law within the ambit of law proper. The present position of international relations in Class J is not happy because it is further emasculated by dividing it into three portions: foreign relations, diplomacy, and international arbitration. The traditional approach to the fast-growing discipline of international relations may be further noted by the absence of any reference to "International Politics" in the index to the second edition of class J. The outline of the class is as follows:

J Official documents
JA General Works
JC Political Theory
Divisions of the discipline under discussion as outlined above are those traditionally accepted in American universities before the forties. Political theory, for instance, is being increasingly distinguished from political philosophy, but this is not reflected in LC. The absence of hierarchical relations need not be very much emphasized because the LC has no use of them on principle, but the oddity in the hierarchy of main divisions of class J may be pointed out where JK, JL, JN, JQ are equated with JF.

Foreign relations may be considered as the major class for the purpose. No common isolate is indicated for "International Relations Periodicals". The glaring mistake is further repeated when detailed schedules are given for
major events in American foreign relations without repeating
the same procedure for many other countries, say Japan or
India.

The class 'Procedure in International Disputes:
International Arbitration, world peace, etc (JX 1901 - 1995)
is a conglomeration of diverse topics. It covers among others
the Hague conferences, courts of International arbitration,
disarmament, League of Nations (designated as International
Parliament), and the United Nations. If the League of
Nations is designated as International Parliament, then its
proper place should have been with constitutional History and
Administration (JF). The problem has arisen because the
fast-growing subdiscipline of international organization
did not have proper recognition at the time the schedules of
Class J were originally developed in 1924. The necessary
rectification has been carried out in the index to the
revised edition by re-designating the whole section as
"Procedure in International disputes : International
Arbitration, World Peace, International Organizations, etc.
There is no doubt that a great deal of the success of the
experiment is due to the dictionary catalogue of the Library
of Congress with its detailed system of subject headings.
The success of the scheme is entirely due to the ideal marriage of classification with cataloging.

4.4.7.4 **Bibliographic Classification (BC)**

The Bibliographic Classification (BC), a remarkable facet of individual effort in near isolation from the mainstream of American Scholarship in the field of Library Classification, had taken almost forty-five years of incessant intellectual labour by Bliss to complete it. Sociology in BC is equated with the Social Sciences and is followed by:

- History
- Social Welfare
- Political Science
- Law
- Economics

The order of the Social Sciences has been worked out very carefully, and the justification for the same has been elaborated at great length by Bliss as embodied in the Principle of Gradation by Speciality. His arrangement of Social Science Discipline is based on the premise that "no new fundamental sciences have arisen during the past half-century (98)."
Among the major disciplines of the social sciences, political science, economics, and history, in all their essentials owe their ancestry to the Greeks, and Sociology is the only new major discipline having grown in to its proper stature during the last century. Political science, sociology, international law, international relations, and international organization, for instance, have grown to stature in recent years.

Bliss denoted major disciplines by capital letters as in LC and followed the traditional American practice of Political Science (R) comprehending both International Relations (RI) and International Law (RJ), with the letter also provided an alternative placing in Law (S). Political science is divided into Political Science (general), government, constitution, legislation, administration, international relations, international law, colonies, immigration, military, municipal services, local selfgovernment and politics. These are again traditional subdivisions of the subject to be found in any standard American text book of his times. It is odd to find socialism and "internationalism" placed in the preceding class Q that stands for the long descriptive heading of 'social welfare and Amelioration, Women, Socialism and Internationalism.'
Justification for clubbing these two would be the facile assumption in the early twentieth century of equating these subjects with social welfare.

In BC Political Science (R) relating to International Relations, Political Internationalism (RI). International Relations (RI) is distinguished from Internationalism (QY) by restricting it to what is popularly known as foreign relations. The schedule for International Relations is a mixed one and does not substantiate the argument of bliss about this system being "based on the logical principles of classification and consistent with the systems of science and education. "This particular schedule begins with the class number for 'Comprehensive Treatises' (RIA) which is a common facet applicable to all general and special subjects and is then followed by three class numbers for phase relations such as Cultural, Educational and Scientific Relations to the Political (RIC). The three class numbers (RIC, RID, RIE) cannot surely exhaust all possible phase relations and it is further wrong to create a homonym class number for three terms: cultural, educational and scientific. The only justification for the same may be the existence of the Unesco which has three kinds of main activities as its fields of operation. The same class number RIH denotes both 'Consular
Service and Consuls (RAR), to give another glaring instance, divides five similar but not the same concepts: Revolution, Sedition, Conspiracy and Coup d'état. It is very hard, for instance, to justify the following order of subclasses under Diplomacy, and Diplomatic Service (RIG): b) Foreign Offices and Legations, Envoyes e) Embassies H) Credentials, j) Diplomatic Privileges l) Art of diplomacy, t) Political Intrigue y) Special subjects not provided for above. The Terminology about which Bliss can claim much credit in general also leaves much to be desired. It is difficult to envisage the placing of Militarism and Power-Politics under the same class number R10. The Balance of Power, An International Policy (RIR), to give another instance of a terminological idiosyncrasy, can be shortened to "balance of Power" without much loss of sense because the main division, International Relations, (R) comprehends, by implication, the term, international policy.

4.4.7.5 Colon Classification (CC)

Ranganathan has clearly been much influenced by his background of mathematics in the working out of theoretical principles underlying his scheme. The advantage of the colon classification over other schemes lies in its claim to
the systematic application of the Postulational approach over the whole range of this scheme. The freedom implied in accepting a faceted scheme of library classification may, however, be severely limited by the inadequacy of the scheme in respect of the structure of the scheme about which we may have to say much when we examine critically the schedules of CC in respect of Political Science, International Relations and International Law.

Political Science, International Relations and International Law are properly placed along with other social sciences. Ranganathan has as much traditional approach towards these disciplines as it can be said of the authors of any other general scheme of library classification. Where Ranganathan differs from others, including subject specialists, is his novel bifurcation of Political Science into two main classes, viz., History (V) and Political Science (W).

The traditional concept of History (V) implied the discipline to include political history, archaeology, archives, and other related subjects. Ranganathan adds all that to History as well as includes conventional political science subjects, like constitution, fundamental rights, elections, foreign
relations, executive, legislative, and judiciary when concerned with the description relating to any particular geographical area. The theoretical aspects of all these subjects plus political systems, forms of state, and ideologies such as democracy, dictatorship, and communism are placed in political science. The demarcation between the two main classes is ingenious and has been adopted to enable political science topics relating to a geographical area to have space as the primary facet. This approach would be useful to area specialists, but not as much to subject specialists, such as constitutional experts, because books on constitution would get scattered in numerous places on the shelf. Ranganathan’s purpose could have been as well served by adding an extra facet (personality representing space) to Political Science and dispensing with History for the purpose of political science topics.

International relations has been given a stepmotherly treatment because it is denoted by three classes, Colonial, Mandatory and Foreign under Policy (V:1) which should be properly speaking a common energy isolate. International organization as a distinct class is conspicuous by its absence. United Nations and League of Nations by their
unhappy equation with the World State have, however, found places. No separate schedules are provided for international law, but a general instruction is given to apply the same schedules of Law (z) for the purpose.

The facet formula for political science consists of two levels of personality and one level of energy facet. The foci in the first level of personality are said to consist of political systems arranged in the order of their historical evolution beginning with anarchy and ending with the World State as the apex of political systems. It is indeed further surprising to find dictatorship and communism as divisions of the class Democracy (W6). The second level personality comprehending all these Political Science topics that have to do with the forms of government in the following order: Head, Executive, Legislature, Party, Local Body, Judiciary, Civil Service. In a nutshell, the second level personality has to do with the internal polity comprising of government (including Public Administration) and party politics. The placing of the "head of the state" in a separate category from the "executive" may be questioned in many quarters and in the same manner questions may be raised at reducing the sub-discipline of Public Administration to the puny level of
Local Body. The subdivisions of party are too thin to cover political factions within political parties and the numerous pressure groups representing various social and economic interests that have begun to play increasingly significant role in the body politic of all countries. The provision for individual political parties is adequate because of the clever use of the chronological device for the purpose.

Classification of the various levels of political party organization such as central executives, bodies for annual conferences, and local organization and analogy of cabinet, legislative and local bodies respectively will not be easy in actual practice. The colon classification provides for the following classes under the above mentioned category:

- Policy
- Constitution
- Function
- Relations of the State with special classes of people
- Relations with citizens (civil rights and duties)
- Election method
- Policy has to do with decision - making which covers the whole range of topics including intelligence, recommending, prescribing, invoking, applying, terminating, and appraising, none of which finds a proper place in the schedules of this classification. The concepts, federation and colony, on the contrary, should have found a place among the political systems as federal and imperial systems. "Fundamental Rights and Duties" and
"Election Method" should have formed part and parcel of constitution because these are closely related to it. Function and Relation of the State with special classes of people are mostly redundant because they are compound classes.

The preceding criticism of the schedule of CC may look severe, but it has been made in the belief of this scheme being the only one among the general schemes of library classification susceptible to radical reforms without any hesitancy. The principles on which this scheme is based are the best in the circumstances, and equal attention to revising the structure of schedules would make it incomparably superior to any general scheme for the purpose of minute classification.

4.4.7.6. Other Schemes

There are not too many special schemes in the fields of Political Science, and International Relations to warrant a detailed comparative study between them and the general schemes. The scheme of classification for public administration designed by Sophia Hal Glidan (99) is extensively used in several special libraries because the
schedules of the Decimal Classification for "Public Administration" are inadequately developed. This scheme which employs a mixed notation has its schedules worked out on an "enumerative" basis. The same is true of the classification for International Law and relations designed by Kurt Schwerin (100). The scheme is not detailed because it attempts to strike a balance between the inadequate schedules of the Decimal Classification and the detailed ones of LC. The work done by the Human Relation Area Files, New Haven (US), in this connection, should be of general interest, inspite of its orientation towards cultural matters. The major assumption underlying the classification was the possibility of seven categories that could be the basis of classifying an element of culture which involved:
a) a patterned activity appropriate only under certain
b) circumstances, frequently associated with a particular
c) subject, and commonly directed towards some
d) object by the use of some
 e) means normally performed with a
 f) purpose and bringing about some concrete
 g) result (101)".

Categories proposed for the Human Relation Area Files classification scheme are extremely interesting but not quite
relevant for the purpose of library classification. Barbara Kyle and D.U. Foskett, in particular, have been concerned with the problems of social science classification, their ideas being still in the formative stage. Barbara Kyle has precisely provided places for the major disciplines of social sciences with no subdivisions because a common schedule of classification of the social sciences as a whole is given separately in a single sequence. There can thus be no dispute whether, say socialism or Feudalism forms part of political science, economics or sociology. The problems of library classification may have to be viewed differently to achieve fresh breakthroughs by analysing the structure of major and minor disciplines at length.

4.4.8. Application of Facet Analysis in the Subject 'International Relations'

In chapter 4.3 there was clear discussion about the freely faceted classification system of Ranganathan - a) The recognition of fundamental categories - Personality, Matter, Energy, Space and Time b) Identification of the fundamental category of an isolate, c) Postulates of rounds and levels, sequence of Personality, Matter, Energy, Space and Time d) The casual factors in the recognition of the manifestation of fundamental categories.
In this chapter an attempt is made to apply Ranganathan's Facet analysis to the subject "International Relations". For this purpose a) 182 abstracts during the period 1980-90 from different abstract journals in the subject were collected; b) Guidebooks and other information source-books were studied to get a general scope and structure of the subject—fields; c) the bibliographies, the indexes in particular, the abstracting periodicals, publications and the primary periodical publications were chosen for scanning the literature on the subject; d) an informative abstract and/or the text of a Primary Periodical Publication were perused to get an appraisal of the scope of specific subject; e) the necessary bibliographical references in the chosen specific subject were recorded, the title for the publication, its location in the host periodical publication or other documents were recorded. An annotation based on and informative abstract/text of the original article was recorded. One document—one entry system was followed for recording to facilitate flexibility in handling records.
4.4.8.1 **Procedure for Analysis of Subjects**

The facet analysis of the specific subject was done according to steps for classifying suggested in Ranganathan's *Prolegomena to library classification* (ed 3; 1967), the procedure is confined primarily to the steps in the idea plane (102). According to Ranganathan, eight successive steps are involved in the facet analysis: step 0 to step 4 belong to the idea plane. Step 5 belongs to the verbal plane. These five steps refer to the analysis and synthesis in the idea plane. Steps 6 and 7 to the notational plane.

1. **Step 0 : Raw Title** - A raw title is the title found on the title page, or at the head of a document.

2. **Step 1 : Expressive Title** - An expressive title is the one expressive of the subject of the document covering all the facets.

   a) The expressive title can be the title given to the title page, if it is fully expressive of the contents of documents. A glance through the concerned document would be necessary for the purpose.
b) If the raw title is not fully expressive, the basic subject terms or/and some isolate terms may have to be added. That is, ellipses are filled up. This would require a perusal of the document itself.

c) In case the raw title contains derived composite terms, then these are replaced by fundamental constitute terms.

d) If the raw title happens to be a fanciful title, the expressive title is provided by the classifier after a perusal of the document.

3. Step 2: Title in kernel terms - the kernel title is the one containing only the kernel terms. Kernel terms are other than apparatus ones. The Kernel title is obtained from the expressive title by removing the apparatus words, including auxiliary words, puffs, and so on. The Kernel terms are converted into nominative singular form.

4. Step 3: Analysed Title - in this step, the basic subject term is labelled "(BF)". Each isolate term is assigned the abbreviation representing the fundamental category of which it may be deemed a manifestation as well as the round and level.
5. Step 4: Transformed Title - In step 4, the Kernel terms, along with their respective abbreviations, are rearranged with the help of Postulates of helpful sequence.

6. Step 5: Title in standard terms - Here, the Kernel terms are placed by the equivalent standard terms used in the preferred scheme for classification. This is a step which belongs to the verbal plane.
4.4.8.2. **International Relations - Facet Analysis**

   (Annuals of American Academy of Political and Social Science. 354; 1964; 335-44)
   Study of the apartheid policy and the sanctions by the United Nations on the same.
   International Relations (BF), Apartheid Policy (IP1): Sanction (IE) - by United Nations (qualifier to IE).

2. Arab banking finance : Protections of Opec/opac surplus (Economic times 11.3.81)

3. Arab boycott of Israel
   (Foreign affairs 55:1977:472)
   Study of the foreign trade policy of Arabs. Boycott of Israel.
   International Relations (BF), Foreign trade Policy (IP1) - Arabs (Qualifier to IP1) : Boycott (E) - Israel (Qualifier to IE).

4. Are there any chances for detente in Asia (Review of International Affairs. 32; 1981, 2,5: 15-17)
   Investigation for the chances of detente in Asia
   International Relations (BF), Detente (P), in Asia (qualifier to P); chances (1MP1), Investigation (IE)
5. The arms race and its consequences in the US and USSR
   (International Affairs. 1980;Oct., 36-45)
   International Relations (BF), Arms race (1P1) - between
   USA and USSR (qualifier to 1P1).

6. At the Madrid meeting
   (International Affairs. 1981, February ; 38-48)
   Study of the security and cooperation among European
   countries during 1981.
   International Relations (BF), Security and cooperation
   (1P1) - in Europe (qualifier to 1P1) - during 1981
   (qualifier to 1P1).

7. Brezhnev wants a divided Detente.
   (Amrit Bazar Patrika 1981, March P5)
   Study of the Policy of divided detente of USSR during
   1981.
   International Relations (BF), Detente (P) - Divided
   (qualifier to 1P1) - of Russia (qualifier to 1P1).

   Discusses the similarities between fiscal and foreign
   policies of Great Britain and United States.
   International Relations (BF), Economic relations (1P1)
   USA and Great Britain (qualifier to 1P1).
9. Caribbean between Carter and Reagan
Examines the prospects of the foreign policy under Reagan administration.
International Relations (BF), Political Relation (1P1) between Caribbeans and USA (qualifier to 1P1).

10. China seeks trade loans to save contracts
(Tribune, 1981 March 11)
Comments on China's decision to cancel contracts with Japanese firms and the implications thereof.
International Relations (BF), Trade Loans (1P1) by China (qualifier to 1P1): Influenced by (IE), Japanese firms (qualifier to (E)).

11. China's Middle East Policy
(International Affairs, 1980 October 46-54).
Study of the peace treaty between China and Middle East.
International Relations (BF), Peace treaty (1P1) between China and Middle East (qualifier to 1P1).

12. Close look: Relevance of non-alignment
(Statesman, 1981 March 12).
Analysis of the Position of non-aligned movement after
the conclusion of the Delhi conference of the non-aligned foreign ministers as reflected in its declarations.

International Relations (BF), Non-Alignment Policy (1P1) Retrospects and Prospects (MP).


International Relations (BF), International Commodity Negotiations (1P1) in Europe (qualifier to 1P1); Conflict (MP).


Study of the cooperation and coordinated strategy among the European nations during 1980's.

International Relations (BF), coordinated Strategy (1P1) - for Europe (qualifier to 1P1) - for cooperation (qualifier to P) - 1980 (qualifier to 1P1).

15. Crisis in international relations (Review of International Affairs. 32:710;1981, February 5;21-22).
Discusses the present day conflict and crisis in international relations in Asia.

*International Relations (BF), Conflicts and crisis (1P1) - in Asia (qualifier to 1P1).*

16. **Dangerous vacuum in offing**


Analysis of the prospects of dangerous developments of the contradictions between Indian and the US, Chinese axis in context of the prospective summit between US, China and Pakistan and the marked increase in the U.S. Naval presence in the Indian Ocean.

*International Relations (BF), Contradictions (1P1) - between US and India (qualifier to 1P1) - in the context of the summit between USA, China and Pakistan = in relation to the presence of US Naval base in the Indian Ocean (qualifier to 1P1).*

17. **Detente : The battle of ideas**

(*International Relations.* 1981, Feb; 12-21)

Study of the peaceful coexistence among the third world countries.

*International Relations (BF), Peaceful co-existence (1P1) among third world countries (qualifier to 1P1).*
18. Domestic sources of India's policy of non-alignment.
(India quarterly, 36, 3 & 4; 1980, July-Dec; 348-62)
Study of the domestic sources of India's policy of non-alignment.

19. East Africa is wooing Asians.
(Tribune 1981, March 11).
Reviews the prospective economic cooperation between India and Kenya after recent visit of President Daniel Arap Moi of Kenya to India.
International Relations (BF), Economic cooperation (1P1) Between India and Kenya (qualifier to 1P1): Influenced by (IE) - Visit of Kenya President to India (qualifier to E).

Study of possibilities of expanding the trade between developing countries.
International Relations (BF), Economic cooperation (1P1) - Trade (qualifier to 1P1): Expansion (IE) - developing World (qualifier to E).
21. For a peaceful Indian Ocean
(International Affairs, 1981, February 80-91).
Study of the Plea for Indian Ocean for peace zone.
International Relations (BF), Peace (1P1) - Indian Ocean (qualifier to 1P1) - Indian Ocean (qualifier to 1P1); plea for (1M1).

22. Foreign aid 1975-80
Study of the India's policy towards foreign aid.
International Relations (BF), Foreign aid (1P1) - India (qualifier 1 to 1P1) - during 1975-80s. (qualifier 2 to 1P1).

23. Foreign aid and gaps: Sri Lankan Poor
(Deccan Herald 1981-2-3).
Analysis of the impact of foreign aid on the economic conditions in Sri Lanka.
International Relations (BF), Foreign aid (1P1); Influence on (1E), Economic conditions (qualifier 1 to 1E) of Sri Lanka (qualifier 2 to 1E).

24. Foreign exports under fire in Sri Lanka
(Mail, 1981, March 9).
Comments on the criticism against foreign exports involved in public and private sectors in Sri Lanka.

25. The growing economic might of the USSR and effectiveness of its foreign policy (International Affairs, 1981, Jan; 68-78).

Study of USSR economy influence on its foreign policy.

26. Impediment to Soviet - Japanese relations (International Affairs, 1981, Feb; 51-3)

Analysis of the mutual co-operation of Soviet Union and Japan.

27. Independence, Peace and development. (Review of International Affairs 32,740; 1981, Feb. 5; 1-3)

Reviews the historical perspectives of one major results and effects of the policy and movement of non-alignment in the past two decades.
28. **Indian Ocean Oil diplomacy**

(Tribune, 1981 March 19)

Examines the causes of confrontation between United States and Russian mainly in a bid to control global resources of oil in the Indian Ocean besides other scarce resources.

**International Relations (BF), Global Oil resources (1P1), Gaming control (MP): Confrontation (E) between USA and Russia (qualifier to 1E).**

29. **Indo-FRG economic relations;**

(Indian and foreign review, 16, 1981 March 13; 10-11)

Examines the economic relations between India and Federal Republic of Germany specially in respect of joint ventures in their World Countries.

**International Relations (BF), Economic relations (1P1), Indo - FGR (qualifier to 1P1).**

30. **International legal safeguards for the marine environment.** (International Affairs, 1980 Oct; 86-93)
Study of the international marine environment. Safeguards for the same.

International Relations (BF), Marine Environment (1P1), International (qualifier to 1P1): Safeguards (MP) - Legal (qualifier to MP).

Analysis of the impact of International Solidarity on Chilean people's struggle.
International Relations (BF), International Solidarity (1P1); Impact (MP) - on Chilean struggle (qualifier to MP): Analysis (IE).

32. Iran and Iraq at War: The Effect on development (Review table. 1981, Japan; 61-9)
Study of the impact of war between Iran and Iraq on the development.
International Relations (BF), War (1P1) between Iran and Iraq (qualifier to 1P1); Impact (MP) - development (qualifier to MP) - National (qualifier to qualifier).

Highlights the foreign policy of the USSR underpinned by the irrationality of the rapid growth of country's economy, science and technology.

International Relations (BF), Foreign Policy (1P1) - USSR (qualifier to 1P1); Influenced by (E) Economic might (qualifier to 1E) = of USSR (qualifier to 1E) = Rapid growth (qualifier to qualifier of 1E); Irrationality (2MP1).

34. The law of the sea: Before the final stage (International Affairs. 1981, Jan; 83-9)
Political and Military Analysis of the legal aspects of the international sea limits.

International Relations (BF), Sea limits (1P1) - International (qualifier to 1P1); legal aspects (MP); Analysis (1E) - Military and political (qualifier to 1E).

35. Law of the sea treaty: Is West sabotaging the accord (Indian express. 1981, March)
Study of the sabotage of law of sea limits treaty.

International Relations (BF), Sea limits (1P1); Law (1MP1); Treaty (1E); Sabotage (2E) by West (qualifier to 2E).
36. Lenin's banner of peace and co-operation among nations.  
(International Affairs. 1980, Oct; 1-12)

Analysis of the impact of Lenin's ideology over the peace policy of the Soviet Union
International Relations (IR), Peace Policy (1P1) - Soviet Union (qualifier to 1P1): Influenced by (IE), Lenin's ideology (qualifier to IE): Analysis of (IE).

37. Letter from America  
(Statesman 1970 November 30)

Study of the impact of USA and Iran's confrontation on the peace and security of Middle East.  
International Relations (IR), Peace and Security (1P1) - in Middle East (qualifier to 1P1), Threatened by (IE) - confrontation (qualifier to 1E) = between USA and Iran (qualifier to qualifier to 1E): Analysis (2E).

38. Major power alignment and serious interstate disputes 1850-1914.  (Dissertation abstracts international. 39; 1979; 6956 - A)

Study of the influence of major power alignments on the serious interstate disputes: Case study with Arab - Israel Syria problems.
International Relations (BF), Interstate disputes (IP1) - between Egypt, Israel and Syria (qualifier to IP1): Influenced by (IE) - Major power alignments (qualifier to IE) Analysis (2E).

39. Military use of silk road
(National Herald, 1981, March 13)
Examines the road link between China and Pakistan in the occupied Kashmir and its military implications.

International Relations (BF), Defence Policy (IP1) - Road links (qualifier 1 to IP1) - China and Pakistan (qualifier 2 to IP1) - in occupied Kashmir (qualifier 1 to IMF1); implications (INPI) to military (qualifier 1 to IMF1) to India (qualifier 2 to IMF1) - Analysis (IE).

40. Moves to put Arab Eggs in many baskets
Reviews the future prospects and present moves in respect of the investment of Arab surplus funds for the development purpose in different countries.

International Relations (BF), Funds Investments Policy (IP1) - From Arab surplus (qualifier 1 to IP1) - for development (qualifier 2 to IP1) - in different
41. **Nations in arms; the theory and practice of territorial defence.** (London, Chatto and Windas for the International Institute for Strategic studies, 1976).

Study of war policies of nations for territorial defence, its political and economic implications.

*International Relations (BF), War Policy (1P1) - of Nations (qualifier to 1P1) - for territorial defence (qualifier to 1P1); Implications (1M1) - Political and Economic (qualifier to 1M1): Analysis (1E).*

42. **NATO's aggressive plans and standardization of weapons** (International Affairs, 1980 Oct, 80-6).

Study of the problems in aggressive armament policies of NATO group of countries and the impact of standardization of weapons on the same.

*International Relations (BF), Armament Policy (1P1) - Aggressive (qualifier 1 to 1P1) - NATO countries (qualifier 2 to 1P1); Influenced by (1E) - Standardization of Weapons (qualifier to 1E).*

43. **Need for regional co-operation** (Deccan Chronicle, 1981 March 27)

Emphasizes the need for mutual aid and regional
cooperation of India with Asian neighbours to check inflation.

International Relations (BF), Neighbourhood relations (1P1) - between India and other Asian Countries (qualifier to 1P1) - between (1Mp1) on inflation control (qualifier to 1Mp1).

Study of the social psychological aspects of the negotiations between countries.

International Relation (BF), Negotiations (1P1) between Nations (qualifier to 1P1); Analysis (1E) - Socio psychological perspectives (qualifier to 1E).

45. Pakistan's public and private faces.
(Deccan Herald. 1981 March 19).
Analysis of the views of President Zia-Ul-Haq of Pakistan and other officials in Pakistan about Pakistan's security in the context of Afghanistan crisis, United States and Pakistan relationships and Indo-Pak relations.

International Relations (BF), Defence Policy (1P1) - of Pakistan (qualifier to 1P1); Influenced by (1E) Afghan
46. **Peking: Hegemonism in action.**

*(International Affairs. 1981, Jan: 34-42)*

Analysis of Influence of China on South East Asia.

*International Relations (BF), Hegemony (1P1)* - by China (qualifier to 1P1) - On South East Asia

*(Qualifier to 1P1) : Analysis (IE).*

47. **Pretoria's undeclared war.**

*(Patriot, 1981 March 5)*

Analysis of the confrontation between the racist regime of South Africa and the front line states of Africa particularly Angola, Zambia, and Mozambique.

*International Relations (BF), War Policy (1P1)* - Undeclared (qualifier 1 to 1P1) - South Africa (qualifier 2 to 1P1) - with Angola (qualifier 3 to 1P1).

48. **Questions Mr. Carter must answer**

*(Times of India, 1980 Jan, 19).*

Study of the arms aid of Pakistan by USA being influenced by the Soviet Union interception in Afghanistan.
International Relations (BF), Arms aid (1P1) - from USA to Pakistan (qualifier to 1P1). Influenced by (1E) - Soviet interception (qualifier to 1P1). Influenced by (1E) - Soviet interception (qualifier to 1E) = in Afghanistan (qualifier to qualifier of F).


50. The role of small group in foreign policy decision - making: A potential pathology in crisis decision. 1979, University of Cincinnatı. 341 pp. Analysis of Pathology in crisis situations in decision making in foreign policy by a small group of persons. International Relations (BF), Foreign Policy (1P1) - Decision - Making (1E) - by small group (qualifier to 1E): Pathology (2MP1) - Crisis situations (qualifier to 2MP1): Analysis (2E) - Objective (qualifier to 2E).
51. Sadat dazzles Europe with Political showbiz.

(Amrit Bazar Patrika, 1981 February 27)

Analysis of the prospective impact on international policies of the forthcoming meeting in Washington between President Ronald Reagan and Egyptian President Anwar Sadat.

International Relations (Bf), Political relations (1P1) among European nations (qualifier to 1P1) influenced by (E) - USA - Egypt relations (qualifier to 1P1)

52. Scramble for Iranian Trade Pie.

(Commerce, 142, 3636; 1981 Feb, 21; 421)

Deals with US - Iran relationships after the release of American Hostages.

International Relations (BF), Trade benefits (1P1) - between Iran and USA (qualifier to 1P1)

53. Security through Detente.

(World Focus, 2,2; 1981; Feb; 3-6)

Reviews the perspective and operational programmes of the two super powers in relation to European Security and stresses the accord to follow the principles of detente for security and peace in the world.
International relations (BF), Security and Detente (1P1) - Europe (qualifier to 1P1) - Influenced by (E) - Super Powers (qualifier to 1E).

54. South Africa - Mainstay of racism and apartheid.
   Study of the international impact of racism and apartheid policies of South Africa.

55. South East Asia needs lasting peace.
   (International Affairs. 1981, Feb ; 27-37)
   Analysis of the tendencies of South East Asian nations for a policy of peaceful co-existence.

56. The Soviet Peace Programme.
   (International Affairs. 1981, Feb. 2.; 1-11)
   Interpretation of the Soviet peace policy programme for 1981.
57. A specific measures for limiting the arms race.
   (International Affairs, 1981, Feb; 101-8).
   A discussion on the specific measures for limiting
   international arms race.
   International Relations (BF), Arms race (1P1);
   International (qualifier to 1P1): Limiting (1E);
   specific measures (qualifier to 1E): Discussion (2E).

58. The strategy of nuclear adventurism.
   (International Affairs, 1981, Jan; 26-33)
   A study of the nuclear adventurism in International
   Relations.
   International Relations (BF), Nuclear adventurism
   (1P1); Strategy (1MP1): Study (1E).

59. Struggle for disarmament: Achievements, difficulties
   and prospects. (International Affairs, 1981, Feb; 92-
   100)
   Prospects for international disarmament.
   International Relations (BF), Disarmament (P) -
   International (qualifier to P); Prospects for (1MP1).

60. Tension which is causing anxiety
   (Review of International Affairs, 32, 840; 1981
   Feb. 5; 12-14)
Study of tension caused by anxiety in international affairs.

International Relations (BF), Tension (IP1):
Influenced by (IE) - Anxiety (qualifier to IE).

(Mail. 1981, February 19).
Analysis of the policy of United States towards third world countries in the light of the statements made by the U.S. Secretary of State Alexander M. Haig in the Senate.
International Relations (BF). Political Relations (IP1) - Between Third World and USA (qualifier to IP1).

62. The trilateral coordination centre for imperialist policy. (International Affairs. 12; 1978; December; 106-110).
Economic and political crisis in capitalistic countries caused by national liberation and socialist movement.
International Relations (BF), Imperialist Policy (IP1) Capitalistic countries (qualifier to IP1): Caused by (IE) - National liberation and socialist movement (qualifier to IE).
63. Trust and cooperation among peoples - a guarantee of peace and security. (International Affairs. 1960, Sept. 3-11).

Study of the trust and cooperation among peoples of South East Asian countries.

International Relations (BF), Peace and Security (1P1), South East Asian Countries (qualifier to 1P1).

64. Under the cover of a 'Soviet Threat'.


Critical study of soviet threat to rupture in international detente.

International Relations (BF), Detente (1P1) - International (qualifier to 1P1) - Soviet threat (qualifier to 1E) - Critical Study (2E).

65. The United Nations and decolonization.


Study of the influences of United Nations of the decolonization of portuguese empire.

International Relations (BF), Decolonization (1P1): Influenced by (1E) the United Nations (qualifiers to 1E).
66. The USA - the mainstay of Neocolonism in Africa 
Influence of USA on the neo-colonism in Africa
International Relations (BF), Neo-colonism (IP1) - in
Africa (qualifier 1 to IP1) - of USA (qualifier 2 to
IP1).

67. US aid over to years
(International Herald 1981 - March - 11)
Analysis of the purpose and significance of US aid to
the developing countries.
International (BF), Economic aid (IP1) - to developing
countries by USA ( qualifier to IP1) : Analysis (IE).

68. US an arsenal for autocracies.
(Times of India. 1981, March 13).
Analysis of the impact of United States policies on the
political developments in countries like Pakistan El
Salvador.
International relations (BF), Armament supply (IP1) -
USA ( qualifier to IP1) : Influencing (E) - Political
development (Qualifier to IE).

69. U S and the third world : Abrasive thrust of Reagon
Policies.
(Times of India 1901 March 13)

Highlights the impact of President Ronald Reagan's Policies on the relating between United states and the third World.

International Relations (BF), Abrasive thrust (1P1) - USA REagon's (qualifier 1 to 1P1) - towards third world (qualifier 2 to 1P1).

70. US opts for more militancy.

(Deccan Herald, 1981, March 20).

Increase of militancy of USA and its impact on the third world.

International Relations (BF), Militancy (1P1) - USA (qualifier to 1P1): Increase (1E).

71. US Policy projects global perils.

(Democratic World, 10, 13; 1981 March 23; 11-22)

Critically analyses the USA foreign policy in the light of arms aid to pakistan.

International Relations (BF), Global crisis (1P1): Projection (1E) - Through USA foreign policy (qualifier to 1E).
72. USA war games to split the non-aligned
(Blitz 1981 Feb. 14; 3 & 23)
Study of the war policies of USA and its impact in
splitting the third world.
International Relations (BF), Pro-War Policy (1P1) - of
USA (qualifier to 1P1) ; Impact (MP).

73. USSR and Finland - Good neighbours.
(International Affairs. 1981, Feb; 80-4)
Study of the neighbourhood relations between Finland
and USSR.
International Relations (BF), Neighbourhood relations
(1P1) - Soviet Union and Finland (qualifier to 1P1).

74. Washington's Middle East impasse.
(International Affairs. 1981, Feb, 73 - 9)
Study of the international tension Middle East
influenced by USA.
International Relations (BF), Tension (1P1) -
International (qualifiers 1 to 1P1) - at Middle East
(qualifier 2 to 1P1) ; influenced by (1E - USA
(qualifiers to 1E).
75. Zone of peace in the Caribbean: The road of easing tension. (Review of International Affairs. 32; 740; 1981, Feb. 5; 3-5)

Emphasize the need to transform the Caribbean into a zone of peace which is vital for peace in the world.

International Relations (BF), zone of peace (1P1)
Caribbean (qualifier to 1P1), Impact (MP) - for Easing tension (qualifier to MP).

76. The problem of preserving peace and the ideological struggle.

(International Affairs 1983, No.7).

Study of the efforts to resolve the problems of war and peace. Determines the nature and guidelines for ideological confrontation.

International Relations (BF), Peace and War (1P1) - Resolve the problems (qualifier to 1P1); Determine (E) Nature and guidelines (qualifier 1 to 1E) - ideological confrontation (qualifier 2 to 1E) ; efforts (2E).

77. Fraternal unity of the countries of Indochina

(International Affairs. 1983, No.7).

Study of three fraternal Indochinese countries pursuing policy of peace and Friendship among nations.
International Relations (BF) - peace and friendship policy (IPI) - among nations (qualifier 1 to IPI) - Indochinese countries (qualifier 2 to IPI): Yatomoal (IM): study (IE).

78. The inadmissibility of Nuclear war - the imperative of the times.
(Intl. Affairs, 1983, No.7)
Study of the inadmissibility of Nuclear war.
International Relations (BF), Nuclear War (IPI) - Inadmissibility (qualifier to IPI): Study (IE).

79. For peaceful uses of outer space.
(International Affairs, 1988, No.7)
Study of the Peaceful uses of outer space.
International Relations (BF), outer space (IPI) - peaceful user (qualifier to IPI): Study (IE).

80. Religious forces against war threat.
(Intl. Affairs 1983, No.7)
Study of the forces of imperialism to exploit religious convictions to attain their political goals.
International Relations (BF), Religious Forces (IPI) - Imperialism (qualifier 1 to IPI) - Political goals (qualifier 2 to IPI): Study (IE).
81. Quiet aggression against El Salvador
(Inti. Affairs, 1983, No. 8)
Study of imperialist power of Central America in El Salvador.

International Relations (BF), Imperialist power (IPI) - Central America (Qualifier 1 to IPI) - El Salvador (Qualifier 2 to IPI) : Study (IE).

82. Socialist International Relations: Substance and development trends.
(Inti. Affairs 1983, No. 8)
Study of Socialist social relations.

International relations (BF), Socialist (IPI) - Social relations (Qualifier to IPI) : Study (IE).

83. International significance of the formation to the USSR.
(Inti. Affairs 1983, No. 1).
Study of the international significance of the formation of USSR.

International Relations (BF), Formation (IPI) - internal significance (Qualifier to IPI) - USSR (Qualifier 2 to IPI) : Study (IE).
64. Power industry and international cooperation
(Intl. Affairs 1983, No. 1)
Study of economic cooperation in Power industry. / International Relations (BF), Economic Co.
Operation (IPI) - Power industry (Qualifier to IPI) :
Study (IE).

65. Trade wars in the West.
(Intl. Affairs 1983, No. 2)
Influence of trade wars in the West.
International Relations (BF), Trade War (IPI) - West
(Qualifier to IPI) : influence (IE).

66. The alignment of world forces: How to prevent Nuclear War.
Study of alignment of world forces. Prevention of Nuclear war.
International Relations (BF), Nuclear War (IPI) - alignment of world forces (Qualifier to (IPI) : Study (IE).

67. Modern international relations: In the light of the Marxist - Leninist Theory on war and peace.
(Intl. Affairs, 1983, No. 5)
Study of war and peace based on the Marxist - Leninist Theory in modern international relations.

International Relations (BF), war and peace (IPI) - Marxist - Leninist Theory (Qualifier to IPI): Study (IE).

88. The uncertainty of energy supplies in a geopolitical perspective.
(Intl. Affairs. Spring 1985, v61,2)
Suggests some of the geopolitical uncertainties in energy business.

International Relations (BF), Energy business (IPI) - Geopolitical uncertainties (Qualifier to IPI): Suggestion (IE).

89. Non-official mediator in disputes: reflections on Quaker experience.
Study of the internal disputes. Influenced by non-official mediation.

International Relations (BF), Internal disputes (IPI): influenced (IE) - non-official mediation (Qualifier to IE).
(Intl. Affairs, Spring 1985, v61,2)
Study of the causes of decline in Britain's participation post - 1945 - 9 from 'Big Three' membership. Foreign Office View.
International Relations (BF), Big Three membership (IPI) - Foreign Office view (Qualifier to (IPI)).
Decline (IE) - Causes (Qualifier 1 to IE) - Britain's precipitate post 1945-9 (Qualifier 2 to IE). Study (2E).

(Intl. Affairs, Spring 1985, v61,2).
Assessment of Clement Attlee's involvements in the British Foreign Policy in the immediate post - Second World War.
International Relations (BF), Second World War (IPI) - Clement Attlee (Qualifier to IPI) - British Foreign Policy (IPI2): involvement (IE): Assessment (2E).

92. OPEC and the hyperpluralism of the oil market in the 1980's.
(Intl. Affairs, Spring 1985, v61,2)
Study of the reasons underlying the loss of OPEC and the influence of oil market conditions.

International Relations (BF), OPEC (IPI) - Reasons underlying the loss (Qualifier IPI), influence (IE) - oil market conditions (Qualifier to IE): Study (2E).

93. American anti-colonialism and the dissolution of the British Empire.
(Intl. Affairs, Summer 1965, V61, 3)
International Relations (BF), British Empire (IPI) - dissolution (Qualifier to IPI): influence (IE) - American anti-colonialism (Qualifier to IE): Study (2E).

94. Detente and US domestic politics.
(Intl. Affairs. Summer 1985, v61, 3)
Study of United States detente policy and its influence on American politics.
International Relations (BF), Detente (IPI) - United States (Qualifier to IPI): influence by (IE) - American Politics (Qualifier to IE): Study (2E).
95. The objectives of China's foreign policy: for last peace, increased friendly cooperation and co-prosperity.
(Intl. Affairs, Autumn 1985, v61, 4).
Study of issues of Peace and the North-South issue of China's foreign policy.
International Relations (BF), Foreign Policy (IPI) - China Qualifier 1 to IPI - Peace and North - South Issue (Qualifier 2 to IPI): Study (IE).

96. Economic aspects of Helsinki.
(Intl. Affairs, Autumn 1985, v61, 4)
Study of the economic aspects of security and cooperation in Europe.
International Relations (BE), Economic aspects (IPI) - Security and cooperation (Qualifier 1 to IPI) - Europe (Qualifier 2 to IPI).

97. The Soviet Union and Grenada Under the New Jewel Movement.
(Intl. Affairs, Autumn 1985, v61, 4)
Study of the justification of Soviet military intervention in Grenada.
International Relations (BF), Military intervention
98. Deterrence: the problem - not the solution.
Study of the influence of Nuclear deterrence on defence and foreign policy.
International Relations (BF), Nuclear deterrence (IPI) - on defence and foreign policy (Qualifier to IPI): influence (IE). Study (2E).

99. Political relations between the United States and Western Europe: their implications for Japan.
(Int'l. Affairs, Winter 1987/88, v64,1)
Study of the trilateral relationship between North America, Western Europe and Japan.
International Relations (BE), Trilateral relationship (IPI) - North America, Western Europe and Japan (Qualifier to IPI).

100. The Economics of Perestroika
(Int'l. Affairs, Spring 1988, v64,2).
Study of economic policy of Soviet Union - Perestroika.
International Relations (BF), Perestroika (IPl) - Soviet Union (Qualifier to IPl), Economic Policy (IP2) : Study (IE).

101. EEC budgetary strains and constraints.
(Intl. Affairs. Winter 1987/88, v64,1)
Cooperative study of European Communities budgetary strains and constraints.

International Relations (BF), Budget (IPl) - Strains and constraints (Qualifier 1 to IPl) - European Communities (Qualifier 2 to IPl) : Comparative study (IE).

102. The common fund
(Intl. Affairs. Winter 1986/87, v63,1)
Study of the UNECTAD's proposal for integrated programme for commodities = command Funds.

International Relations (BF), Command Funds = integrated programme for commodities (IPl) - UNECTAD's proposal (Qualifier to IPl) : Study (IE).

103. London's big bang in international context.
Study of the London's big bang on the stock exchange in international context.
104. Proposals and propaganda: arms control and British public opinion in the 1980’s.
(Intl. Affairs, Winter 1986/87, v63,1)

105. Becoming a non-nuclear weapon state:
Britain, the NPT and safeguards
(Intl. Affairs, Spring 1987, v63,2).
Study of a non-nuclear weapon state of Britain under the Nuclear non-proliferation treaty and safeguards.

106. Making Waves: Mr. Gorbachev’s Public Diplomacy.
(Intl. Affairs, Spring 1987, v63,2.)
Study of Mr. Gorbachev's foreign policy and the international context.

International Relations (BF), foreign policy (IPI) - Gorbachev (Qualifier 1 to IPI) - international contest (Qualifier 2 to IPI) : Study (IE).

Study on the problems of consultation between United States and UK.
International Relations (BF), consultation (IPI) - United States and UK (Qualifier to IPI): Problems (IE) : Study (2E).

108. Harmonizing EEC - CMEA relations never the twain shall meet?
Analyses the developments of the costs and benefits in EEC and CMEA.
International Relations (BF), Costs and benefits (IPI) - EEC and CMEA (Qualifier to IPI): development (IE) : Analysis (2E).
109. Britain's changing international interests: Economic influences on foreign policy priorities.
(Intl. Affairs, Summer 1987, v63, 3).

Study of Britain's international trade. Influence of structural changes.
International Relations (BF), International trade (IPI)
- Britain (Qualifier to IPI) : influenced by (IE)
- Structural changes (Qualifier to IE) : Study (2E).

110. The 'frozen front': the labour government, the division of Germany and the origins of the cold war, 1945-7.
(Intl. Affairs, Autumn 1987, v63, 4).

Study of the Origin, nature and impact of the cold war. Influenced by the division of Germany between East and West.
International Relations (BF), Cold War (IPI) - Origin and nature (Qualifier to IPI) : influenced by (IE)
- the division of Germany between East and West (Qualifier to IE) : Study (2E).
111. East West relations: The British role.
Study of the Soviet Union influenced by East West Relations of British.
International Relations (BF), Soviet Union (IP1):
Influenced by (IE) - East West relations (Qualifier 1, to 1E) British (Qualifier 2 of 1E) : Study (2E).

112. International Conflict in Latin America
Study of the international conflict in Latin America.
International Relations (BF), International Conflict (IP1) - Latin America (Qualifier to IP1).

113. International financial intermediation.
Study of the internationalization of banking and finance.
International Relations (BF), Banking and Finance (IP1) - Internationalization (Qualifier to IP1) : Study (IE).

114. Creating the computer: Government, industry and high technology.
(Brooking Institution, Washington, June 1987).
Study of the Technologies in the development of computers at national and international market.

International Relations (BF), Computers Technology (IPI); Market (IMI) - National and international (Qualifier to IMI): Study (IE).

115. Targeting the computer: Government support and international competition.

(Brooking Institution, Washington, June 1987).

Study of the computer technology at international level, influence of funding.

International Relations (BF), Computer Technology (IPI) - national and international level (Qualified to IPI) - influenced by (IE) - funding (Qualifier to (IE).

116. Japan: Facing economic maturity

(Brooking Institution, Washington, May 1987).

Analyses the Japanese economic growth, influence of Japanese macro economic policy.

International Relations (BF), Economic growth (IPI) - Japanese (Qualifier to IPI): influence of (IE) - macro economic policy (Quest 1 to IE) - Japanese (Qualifier 2 to IE): Analysis (2E).
117. Economic relations in the Asian-Pacific region:
Trends and Prospects.
Study of economic relations between the Asian-Pacific regions.
International Relations (BE), Economic relations (IPI) -
Asian-Pacific regions (Qualifier to IPI) : Trends (IE).

118. The myth of lost hegemony.
(Intl. Orgn. 1987, No.1)
Study of United States hegemonic Power
Impact of Security, Production, finance and Knowledge
International Relations (BF), Hegemony (IPI) -
United States (Qualifier to IPI) : impact (IE) -
Security, Production, Finance and knowledge
(Qualifier to IE) : Study (2E).

119. Quasi-States, Dual regimes and neoclassical theory:
international jurisprudence and the third world
(Intl. Orgn. 1987, No.1).
Study of the international jurisprudence of
Quasi-states, dual regimes and neo-classical theory of
Third World countries.

International Relations (BF), Neutralization agreement (IPI) - Austrian State Treaty (Qualifier to IPI) - Prevention (IE) - Crisis (Qualifier to IE) : Study (2E).


International Relations (BF), Trade (IPI) - liberalization (Qualifier 1 to IPI) Economic cooperation (Qualifier 2 to IPI) : Study (IE).

Comparative analysis of Britain's international economic liberalism. Application of cognitive analysis.

International Relations (BF), international economic liberalism (IPI) - Britain (Qualifier 1 to IPI) - cognitive analysis (Qualifier 2 to IPI): Application (IE) - Comparison (2E).

123. Ad hoc multilateral diplomacy: The United States, the contact Group and Namibia interaction organisation. 1987, 2) Study of the contact group, a unique, ad hoc multilateral effort to negotiate an internationally acceptable plane for the independence of Namibia.

International Relations (BF), Diplomacy (IPI) - Contact Group (Qualifier 1 to IPI) - Unique ad hoc, multilateral effort (Qualifier 2 to IPI) - Independence of Namibia (Qualifier to IPI): negotiation (IE) - Internationally accepted plan (Qualifier 3 to IE): Study (2E).

124. Automobiles in international trade regime change or persistence (Int'l. Org'n. 1987, No.3).

Study of the international trade in automobiles.

International Relations (BF), Trade (IPI) - automobiles (Qualifier to IPI): Study (IE).

International Relations (BF), Economic co-operation (IPI) - International Theory (MPI): influence (IE) - Non-Proliferation regime Qualifer-to IE): Study (2E).

126. Trade and the variety of democratic institutions. (Int. Orgn. 1987, No.3)

Study of the international Trade influenced by institutional factors.

International Relations (BF), Trade (IPI): influenced by (IE) - Institutional factors (Qualifier to IE): Study (2E).


Study of international regimes in international commodity trade regulation.

International Relations (BF) Trade (IPI) international regimes (Qualifier to IPI): Study (IE).
128. Third World Solidarity, the group of 77 in the UN General Assembly.
(Intl. Orgn. 1987, No.3).

International Relations (BF), voting behaviour (IPI) - The Third World States in the United Nations (Qualifier to IPI): Application (IE) - community of interest model, the leadership model and reciprocal coordination model (Qualifier to IE): Study (2E).

129. Hegemony, imperialism, and the profitability of foreign investments.
(Intl. Orgn. 1987, No.3).

International Relations (BF), Foreign investments (IPI) - Hegemony, imperialism and the profitability (Qualifier to IPI): Influence (IE): Study (2E).

130. NATO and the Persian Gulf: emerging intra-alliance behaviour
Study of the international cooperation between NATO and the Persian Gulf.

International Relations (BF), Economic Cooperation (IPI) - NATO and the Persian Gulf (Qualifier to IPI). Study (IE).

131. Testing theories of alliance formation: the case of South-west Asia

(Intl. Orgn. 1987, No.4)


International Relations (BF), Alignment (IPI) - South West Asia (Qualifier to IPI): insured by (IE) - Balance of power theory and bandwagoning hypothesis qualified to (IE).

132. Bridging the gap: international organizations as organizations

(Intl. Orgn. 1987, No.4,2)

Study of international organization and the Sociology of Organizations.

International Relations (BF), International
133. American Commitments in the Third World: theory vs. practice
(Intl. Orgns. 1987, No.4,3).
International Relations (BF), Global commitments (IPI) - American (Qualifier 1 to IPI) - Third World (Qualifier t 2 to IPI); Theory influence (IE).

International Relations (BF), Industry and Trade (IPI) - France and United States (Qualifier to (IPI)): Study (IE).

135. Testing the obsolescing bargain hypothesis in the manufacturing sector.
(Intl. Orgns. 1987, No.4,5).
Study of testing the obsolescing bargain hypothesis in the manufacturing sector.
International Relations (BF), Manufacturing Sector (IPI) - The obsolescing bargaining hypothesis (Qualifier to IPI) : testing (IE) : Study (2E).

Study of the oil oligopoly in the international oil industry.
International Relations (BF), Oil Industry (IPI) - Oligopoly (Qualifier to IPI) : Study (IE).

137. Theories of international regimes.
(Intl. Orgn. 1988, No.1,1)
Study of the theories of international regimes.
Influenced by structural, game-theoretic, functional, and cognitive approaches.
International Relations (BF), International, Regimes (IPI) - Structural, game-theoretic functional and cognitive approaches (Qualifier to IPI) : influence (IE).
(Intl. Orgns. 1988, No.1,2).  
Study of Nuclear learning and U.S. - Soviet Security Relationship : effect of regimes. (BF), Nuclear relationship (IP1) - U.S. Soviet Security relationship (Qualifier 1 to IP1) - regimes (Qualifier 2 to IP1 : effect of (IE) : Study (2E).  

139. The agent - structure problem in international relations  
theory. 
(Intl. Orgns. 1988, NO,1,3)  
Study of the agent - structure problem in international relations theory. Influence of neorealism and world-system Theory.  
International Relations (BF), structural theories (IMPI) - International relations theory (Qualifier 1 to IMPI) - Neorealism and world system theory (Qualifier 2 to IMPI) : agent - structure problem (IE) : Study (2E).  

140. Nordic economic policies in the 1970s and 1980s  
Study of the Nordic countries economic policies in the 1970s and 1980s.
141. **Divestment, investment sanctions, and disinvestment; an evaluation of anti-apartheid policy instruments.**
(Intl. orgns. 1988, No.1,5).

Study of the South Africa divestment, investment sanctions and disinvestments: an evolution of anti-apartheid policy instruments.

142. **Nuclear Power Safety and the role of international organization**
(Intl. Orgns. 1988, No.1,6)

Study of the nuclear power safety and the role of international organization.
Study of the distributional coalitions and other sources of economic stagnations: on Olson's Rise and decline of nations
International Relations (BF), Social organisations (IPI) - Distributional coalitions and economic stagnation (Qualifier 1 to IPI) - Olson's rise and decline of nations (Qualifier 2 to IPI): Study (IE)

144. The international economy as a constraint on U.S. Macroeconomic policy making, (Intl. Orgns. 1988, No.2,2)
Study of U.S. Macroeconomic policy making.
Influenced by international economic factors.
International Relations (BF), Trade and exchange policy (IPI) - United States (Qualifier 1 to IPI) - economic factions, (Qualifier 2 to IPI) : influenced (IE) : Study (2E)

Study of Economic relations between Soviet and Eastern Europe. Influence of subsidization.
International Relations (BF), Economic Relations (IPI) - Soviet and Eastern Europe (Qualifier to IPI) - influence (IE) - Subsidization (Qualifier to IE) - Study (2E)

146. Changing relations among the government, labour and business in Japan after the oil crisis.
(Intl. Orgns. 1988, No.2,4)
Study of the economic relations among the government, labour and business in Japan after the oil crisis.
International Relations (BF), Economic Relations (IPI) - Government, labour and business (Qualifier 1 to IPI) - Japan (Qualifier 2 to IPI) - the oil crisis (Qualifier 3 to IPI) - Study (IE)

Study of Protectionist Policy in the United States and Japan. Influence of economic structure, regimes, statist approaches and domestic structure.
International Relations (BF), Protectionist Policy (IPI) - United States and Japan (Qualifier 1 to IAI - Economic structure, regimes, statist approaches and
domestic structure (Qualifier 2 to |Pl|) : influence (IE) : Study (2E).

148. Diplomacy and domestic politics: the logic of two level games
(Int. Orgns, 1988, No.3,1).
Study of the diplomatic relationship between domestic politics and international relations.
International Relations (BF), Domestic Politics (|Pl|) : relationship IE - diplomatic (Qualifier to IE) : Study (2E).

149. Economic interdependence, bargaining power and political influence.
Study of economic cooperation between states.
Influenced by Bargaining Theory.
International Relations (BF), Economic cooperation (|Pl| - States (Qualifier 1 to |Pl|) - Bargaining Theory (Qualifier 2 to |Pl|) : influence (IE) : Study (2E).

150. Anarchy and the limits of cooperation: a realist critique of the newest liberal institutionalism.
International Relations (BF), The Newest Liberal Institutionalism (|Pl| - International anarchy and cooperation (Qualifier to |Pl|) : influence (IE) : Study (2E).
Study of the newest liberal institutionalism. Influence of international anarchy and international relations (BF), the newest liberal institutionalism (IPI) - International (Qualifier to IPI); market (IMI) - competitions (Qualifier to IMI): Study (IE).

151. Mastering the market: Japanese government targeting of the computer industry.

(Intl. Orgns. 1988, No.3, 4)
Study of the impact of Japanese Policies on market competition.
International relations (BF), Policies (IPI) - Japanese (Qualifier to IPI); market (IMI) - competitions (Qualifier to IMI): impact (IE). Study (IE).

152. The changing relationship between the World Bank and the International Monetary Funds.

Study of the changing relationship between the World Bank and the International Monetary Fund.
International relations (BF), World Bank and International Monetary Fund (IPI) - Changing relationship (Qualifier to IPI); Study (IE).
153. Reassessing lessons from the ABM treaty,
Study of the negotiations between Soviet Union and
United States on anti-ballistic missile defence
systems.
International Relations (BF), Negotiations (IPI) -
Soviet Union and United States (Qualifier 1 to IPI) -
Anti-ballistic missile defense systems (Qualifier 2 to
IPI) : Study (IE).

154. The six plus one: British Policy making and the
question of European Economic integration, 1955.
(Intl. Affairs. Summer 1988, V64,3).
Study of British Policy making and the European
Economic integration.
International Relations (BF), British Policy making
(IPI) - European Economic integration (Qualifier to
IPI) : Study (IE)

Study of Japan's history old and new.
International Relations (BF), Japan's history (IPI) -
old and new (Qualifier to IPI) : Study (IE)
156. The Kennedy administration and economic welfare against communism
(Int'l. Affairs. Autumn 1988, V64,4)
Study of the growth of America's Embargo Policy.
Kennedy's administration's views.
International Relations (BF), Embargo Policy (IPI) - America
(Qualifier 1 to IPI). Kennedy's administration's view
Qualifier 2 IPI) : growth (IE) : Study (2E).

157. British Policy towards Western Europe, 1947-9; the best of possible worlds.
(Int'l. Orgns. Autumn 1988, V64,4)
Study of the Postwar relationships between British and countries of Western Europe.
International Relations (BF), Postwar relations (IPI) - British and countries of Western Europe (Qualifier to IPI) : Study (IE).

158. The nineteenth century system. Balance of power or political equilibrium.
Study of nineteenth century informational system.
Influence of balance of power and equilibrium.
International Relations (BF), International System (IPL)
- Nineteenth Century (Qualifier 1 to IPL) - Balance of Power and equilibrium (Qualifier 2Y to IPL) - Influence of (IE) : Study (2E)

International Relations (BF), Henemonic stability (IPL); Theory (IPL): assessment (IE) - empirical (Qualifier to IE) : Study (2E)

160. Ideology and informational relations.
(Rev. of Inti. Studies 1989, V15, P1-10).
Study of the distinctive feature of the evolution of the modern international system.
International Relations (BF), International System (IPL) - Modern (Qualifier 1 to IPL) - distinctive feature (Qualifier 2 to IPL) : Study (IE).

161. The origins of modern international relations theory.
Study of the origins of modern international theory.
162. David Davies: a hunter after peace.
Study of David Davies efforts in world peace.
International Relations (BF), Peace (IPI) - World
(Qualifier 1 to IPI) - David Davies efforts (Qualifier 2 to IPI) : Study (IE)

163. A ramb come to judgement. Fred Halliday, Marxism and International Relations.
Comparative study of cold war I and II and Soviet Theories.
International Relations (BF), Cold War I & II (IPI) - Soviet Theories (Qualifier to IPI) : Comparison (IE)

164. The English School of international relations:
A reply to Sheila Grader.
Study of English school in International Relations -
Reply to Sheila Grader.
International Relations (BF), English School (IPI) :
Reply (IE) : Study (2E)
165. South Africa's deepening crisis.
Study of South Africa's deepening crisis.
International Relations (BF), Crisis (IPI) - deepening
(Qualifier 1 to IPI) - South Africa (Qualifier 2 to IPI) : Study (IE).

166. The balance of power revisited.
(Rev. Intl. studies 1989, V15, p.77-85)
Study of the general tendencies of political scientists
and historians in the theory of Balance of power.
International Relations (BF), Balance of power theory
(IPI) - Tendencies of Political scientists and
Historians (Qualifier to IPI) : Study (IE).

167. The place of the balancer of power theory.
Study of the role of balancer in balance of power
International Relations (BF), Balance of Power Theory
(IPI) - role of balancer (Qualifier to IPI) : Study (IE).

168. The international telecommunications regime : the
political roots of regimes for high technology
Study of the international telecommunications regime in the global market.

International Relations (BF), International Telecommunications regime (IPI); Global market (IMI); Study (IE).

169. Long Waves, technological information, and relative decline.

(Intl. Orgns, 1990, V64, 2).

Study of Kandratieff long waves. Influence the economic climate.

International Relations (BF), Long Waves (IPI) - Kandratieff (Qualifier 1 to IPI) - Economic climate (Qualifier 2 to IPI); influence (IE).

170. Is world politics evolutionary learning.

(Intl. Orgns, 1990, V.65,1).

Study of evolutionary learning in world politics.

International Relations (BF), World politics (IPI) - Evolutionary learning (Qualifier 1 to IPI); Study (IE).
171. Neither MITI nor America: the political economy of capital liberalization in Japan.
(Intl. Orgns. 1990, V65, 1)
Study of international trade of capital liberalization.
Comparative study of Japan and America.
International Relations (BF), International Trade (IPI)
- Capital liberalization (Qualifier to IPI) - Japan and America (Qualifier 2 to IPI) : Comparative Study (IE).

172. Realism, detente and nuclear weapons.
(Intl. Orgns. 1990, V65, 1)
Study of realistic arguments of detente and nuclear weapons.
International Relations (BF), Detente and Nuclear Weapons (IPI) - Realistic arguments (Qualifier to IPI) : Study (IE).

173. Toward a Foucauldian analysis of international regimes.
(Intl. Orgns. 1990, V65, 1)
Study of liberal approach to international regimes.
International Relations (BF), International regimes (IPI) - Liberal approach (Qualifier to IPI) : Study (IE).
174. Socialization and Legemonic Power
(Intl. Orgns. 1990, V65, 3)
Study of Legemonic Power in international system.
International Relations (BF), Henemonic Power (IPI) -
International System (Qualifier to IPI) : study (IE)

175. Multilateral negotiations : a spatial analysis of the
Arab - Israeli dispute.
(Intl. orgns. 1990, V65,1).
Study of multilateral negotiations between Arab and
Israeli.
International Relations (BF), Multilateral negotiations
(IPI) - Arab and Israeli (Qualifier to IPI) : study (IE).

176. Secessionist minorities and external involvement.
(Intl. orgns. 1990, V65,1).
Study of external state involvements in seven postwar
secessionist movements.
International Relations (BF), Post war Secessionist
movement (IPI): Study of (IE) - external state
involvement (Qualifier to IE).
177. The theory of collective action and burden sharing in NATO.
(Int'l Orgns. 1990, V65,1).
Study of Mancur Olson's theory of collective action and burden sharing in NATO.
International Relations (BF), Theory of collective action (IPI) - Mancur Olson's Theory of collective action (IPI) - burden sharing in NATO (Qualifier 2 to IPI) : Study (IE).

178. Exploring the "myth" of hegemonic stability.
(Int'l Orgns. 1990, V65,4).
Study of the Hegemonic stability theory and its shortcomings.
International Relations (BF), Hegemonic Stability (IPI) : Short Comings (IE) : Study (2E).

179. Global prohibition regimes: the evolution of norms in international society.
(Int'l Orgns. 1990, V65, 4).
Study of the international law and domestic criminal laws, influence of norms
International Relations (BF), International law and domestic laws (IPI) : influence of (IE). norms (Qualifier to IE).
180. Taxation and the political economy of the tariff.
International Relations (BF), Tariff Policy (IPI) - American (Qualifier 1 to IPI) - Trade strategies and group politics (Qualifier 2 to IPI): influenced by (IE): Study (2E).

181. How Japan affects the international system.
Study of Japan Strategic Pragmatism.
International Relations (BF), Strategic Pragmatism (IPI): Study (IE).

182. Group and the Uruguay round of Trade Negotiations.
Case Study of one recent exercise in coalition building in nonhegemonic environment.
International Relations (BF), Non-Hegemonic environment (IPI) - Coalition building (Qualifier to IPI): Case Study (IE),
4.5. **Application of Facet Analysis in the Subject**

`Labour Relations`

Like 3.4.8 chapter, in this chapter also an attempt has been taken to follow the freely faceted classification system of Ranganathan. Based on his 'Facet Analysis' approach, have analysed the Titles in the subject 'Labour Relations'. For this purpose a) 110 abstracts during the period 1980-90 from different abstracting Journals in the subject especially 'Journal of Economic Literature' during the said period were collected. b) Guide books and other information source books were studied to get a general scope and structure of the subject fields; c) the bibliographies, the indexes in particular the abstracting periodical publications and the primary periodical publications were chosen for scanning the literature on the subject; d) an informative abstract and/or the text of a primary periodical publications were perused to get an appraisal of the scope of specific subject; e) the necessary bibliographic references in the chosen specific subject were recorded, the title of the publication, its location in the host periodical publication or other documents were recorded. An annotation based on an informative abstract/text of the original article was
recorded. One document - one entry system was followed for recording to facilitate flexibility in handling records.

4.5.1. **Procedure for Analysis of the Subject**

The facet analysis of the specific subject was done according to steps for classifying suggested in Ranganathan’s *Prolegomena to Library Classification* (Ed. 3; 1967). According to Ranganathan’s eight successive steps are involved in the facet analysis. The steps were explained in 3.4.8.1 chapter. Same step by step procedure is followed for the subject ‘Labour Relations’.

4.5.2. **Labour Relations - Facet Analysis**

1. **Problems of full employment**
   Economic Resource, Labour (BS), Full employment (1P1) - Problem (Qualifier to 1P1). Study (1E).

2. **The demand for labour market structure: An economic approach.**
   Economic Resource, Labour (BS); Market Structure (1M); estimation (1E) - Economic (Qualifier to 1E).
3. Right-to-work laws and the extent of unionization.
   
   Economic Resource, Labour (BS), Trade Unions (IPI):
   influenced by (IE), Right-to-work laws (2P).

   Economic Resource, Labour (BS), Employment Promotion (1M):
   influenced by (IE) - Seniority (Qualifier to IE).

5. Length of service and promotions in union and Non-union work groups.
   Economic Resource, Labour (BS), Trade Unions (IPI):
   influenced by (IE) - Seniority (Qualifier to IE).

   Economic Resource, Labour (BS) - Trade Union (IPI):
   Effect of (IF), The collyer Policy (2P): Empirical study (2E).

7. Fairwages and industrial civil service.
8. The political model of strikes: A new twist.
(Southern Econ. J., July, 1985, 52(1), pp. 23-33)
Political Model (2E).

9. Bargaining law as a cause and consequence of the growth of Teacher Unionism.
Economic Resource, Labour (BS) - Teacher unions (IPI): influenced by (IE): Collective
bargaining law (Qualified to IE).

Economic Resource, Labour (BS) - Trade Unions (IPI):
influenced by (IE) wage differentials (qualified to IE): analysis (2E).

11. Employee characteristics and representation election outcomes.
Economic Resource Labour (BS) - Employees characteristics
(IPl): influenced by: Election outcomes (qualified to (IE).

12. Unions and monopoly profits.

Economic Resource, Labour (BS) - Trade Unions (IPl): influenced by (IE), Monopoly Profits (2p).

13. The scope of bargaining and bargaining outcomes in the public schools.

Economic Resource, Labour (BS) - Public School (qualified to IPl): collective bargaining variations (IE).


15. The attitudes of union and nonunion male workers towards union representation.

Economic Resource, Labour (BS) - Trade Union (IPl):
Influenced by (IE) - male workers (qualifier to IE) - Attitudes (2E).

16. Unionism among professional employees in the private sector.
   Economic Resource, Labour (BS) - Trade unions (IPI):
   influenced by (IE) - Professional employees (qualifier to
   IE), private sector (2p).

17. Modest Labour Management Bargains continue in 1984
despite the recovery.
   Economic Resource, Labour (BS) - Management (IPI)
collective bargaining (IE).

18. The effects of unions on employment and productivity P:
    An unresolved contradiction. (J. Lab. Econ., part Jan.
    (BS) - Trade Unions (IPI): Employment and productivity
    (IM1): Effect IE).

19. The failure to negotiate first contracts: Determinants
    (BS) - Trade Unions (IPI): Negotiation: Analysis (2E).
20. Strikes, Strike penalties and arbitration in six states. 

Economic Resource, Labour (BS) - Trade Unions (IPI):
Strikes, strikes penalties and arbitration (IE) states (P).


Economic Resource, Labour (BS) - Trade Unions (IPI):
Effect of (IE) - Corporate strategy and workplace innovations (qualifier to IE).

22. Unions, pension wealth and Age - compensation profiles. 

Economic Resource, Labour (BS) - Trade Unions (IPI):
Influenced by (IE) - Pension and compensation (qualifier to IE).


Economic Resource, Labour (BS) - Trade Unions (IPI):
Strike activity (IE) - U.S. (qualifier to IE).
24. **Feedback and grievance resolution.**


25. **The effect of the cost of strikes on the volume of strike activity.**


Economic Resource, Labour (BS) - industry (IPI) - on the volume of strike activity (qualifier to IE).

26. **An analysis of the selection of arbitrations**


27. **Profitability and profit sharing.**


28. **The General Basis of arbitration behaviour: An empirical analysis of conventional and final offer arbitration.**


Economic Resource - Labour (BS): arbitration (IE) - Conventional and final offer arbitration (qualifier to IE).
Economic Resource, Labour (BS), Players Assn. (IPI);
Compensation benefits (IM); Study (IE).

30. Unions and the share economy
Economic Resource, Labour (BS), Trade Unions (IPI);
Collective bargaining (IE).

31. Teacher unions and the cost of public education.
Economic Resource, Labour (BS) - teacher union (IPI);
effect of (IE) - cost of public education (qualifier to IE).

32. New developments in collective forms of work organisation in socialist countries.
Economic Resource, Labour (BS) - work organisation (IPI)
- collective forms (qualifier to IPI) - socialist countries (qualifier 2 to IPI); study (IE).


34. Alternative Trade Union objective functions in the theory of wage bargaining.

Economic Resource, Labour (BS) - Trade Union (IPI) - influence of (IE) - Theory of wage bargaining (qualifier to IE).


36. Capitalism and kinship: Do institutions matter in the Labour market?
37. The structural determinants of union bargaining power. 
Economic Resource, Labour (BS) - Trade Unions (IPI) - Power (qualifier to IPI): influenced by (IE) - structural determinants (qualifier to IE).

38. The effect of unions on productivity in a multinational manufacturing firm. 

39. Empirical models of arbitrator behaviour under conventional arbitration. 
Economic Resource, Labour (BS): Arbitrator behaviour (IE) - on conventional arbitration (qualifier to IE): Analysis (2E)
40. The impact of industrial robots on the world of the work.


Economic Resource, Labour (BS), Work (1P1): influenced by
(IE) - Industrial Robots (qualifier to IE).

41. Declining strike activity in Australia 1983-85: An
international phenomenon?


Economic Resource, Labour (BS): Strike activity in
Australia 1983-85 (qualifier 1 to IE) - Declining
(qualifier 2 to IE).

42. Participation in Local unions: A comparison of Black and
White members.

(Ind. Lab. Relat. Rev., Apr. 1987, 40(3), pp. 323 -
335).

Economic Resource, Labour (BS) - Local unions (1P1) -
comparison of Black and White members (phase relation).

43. Tactical use of union's duty of Fair representation: An
empirical analysis.


Economic Resource, Labour (BS) - Trade Unions (1P1),
influence of (IE) - Fair representation (qualifier to
IE): Empirical analysis (2E).
44. The effect of union characteristics on the outcome of NLRB certification elections.


Economic Resource, Labour (BS) - Trade Union (IPI) -
influence of (IE) - Elections outcome (qualifier to IE).

45. An integration of trade union models in a sequential bargaining framework.

(Econ. J., Mar. 1887, 97(385), pp. 121-39)

Economic Resource, Labour (BS) - Trade Union (IPI) - the monopoly model and bargaining model (qualifier to IPI) -
influenced by (IE).

46. Union Political activities: A review of the empirical literature.


Economic Resource, Labour (BS) - Trade Unions (IPI) -
influenced by (IE) - Political activities (qualifier to IE).

47. Agricultural Labour strikes and Farmers' income (Econ. Inquiry, Jan. 1987, 25(1), pp. 121-33)

Economic Resource, Labour (BS) - Trade Union (IPI) -
Agricultural industries (qualifier to IPI) - Strikes (IIE) -
effectiveness (qualifier to IE).
Economic Resource, Labour (BS) - Shareholders' equity (IPI); influenced by (IE) - concession bargaining (qualifier to IE).

49. Collective bargaining arrangements, closed shops and relative pay.
Economic Resource, Labour (BS) - Trade Unions (IPI); influenced by (IE) - wage differentials (qualifier to IE).

50. Unions effects on job attitudes.
Economic Resource, Labour (BS) - Trade Union (IPI);
Effect of (IE) - job satisfaction (qualifier to IE).

52. Estimating strike effects in a general model of prices and qualities.

Economic Resource, Labour (BS); Strike effects (IE) - General model of prices and quantities (qualifier to IE).

53. Bargaining as search behaviour under mutual uncertainty.

Economic Resource, Labour (BS); strikes - wage proposals (qualifier to IE).

54. Cooperating adversaries.

Economic Resource, Labour (BS), Management (IPi); Study of (IE) - mutual altraison (qualifier to IE).

55. Supervisory participation in professional associations: implications of North Shore University Hospital.

Economic Resource, Labour (BS) - Nurses Union (IPi); Collective bargaining (IE).


Economic Resource, Labour (BS), Management (IP1): Local bargaining units (IE).

Economic Resource, Labour (BS) - Teacher unions (IP1) - Public schools (qualifier to IP1); productivity (IM): Study (IE).

Economic Resource, Labour (BS), Management Relations (IP1) - Shop Floor Level (qualifier to IP1): Study (IE).

Economic Resource, Labour (BS), Trade Union Workers (IP1) Non-Union Workers (qualifier to IP1); Job (IM - Lifetime) (Qualifier to IP1): Study (IE).

61. Managerial perceptions of the economic impact of labour relations programs.
Economic Resource, Labour (BS), Relations Programs (IPi)
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- Economic (Qualifier to IE).


63. Labour Unions and the adoption of new Technology.
Economic Resource, Labour (BS) - Trade Unions (IPi):
Application of (IE) - New Technology (Qualifier to IE).

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influenced by (IE) - wage differentiates (Qualifier to IE).
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   (J. Econ. Behav. Organ., Mar. 1987, 8(1), pp. 39-60)
   Economic Resource, Labour (BS) - Trade unions (1P1) -
   Agency Theory (Qualifier to 1P1) : Study (IE).

66. Major labor contracts in 1986 provided record low wage
    adjustments.
   Economic Resource, Labour (BS), Private industry (1P1),
   influenced by (IE) - record low wage and compensation
   adjustments (Qualifier to IE).

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   (J. Lab. Econ., Apr. 1987, 5(2), pp. 149-73)
   Economic Resource, Labour (BS); Strikes (IE) - Asymmetric
   information model (Qualifier to IE).

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   or 'teetoler' effect (Qualifier to IE).

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    Correlates of compensation and profitability.
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73. The impact of progressive income tax rates on Canadian negotiated wage rates.
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76. Inequality in teh working calss : The unanticipated consequences of union organisation and strikes.

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78. The impact of unions on the voting behaviour of their members.
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Economic Resource, Labour (ES): collective bargaining (IE) - outlook Qualifier to IE)

Economic Resource, ALabour (BS); Market (IM1) - distributional implications of revenue-sharing pay (Qualifier to IM1): Study of (IE) - fixed and flexible wage (Qualifier to IE).

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86. Do union organizers matter? Individual differences campaign practicers and representation election outcomes
Economics Resource, Labour (BS) - trade unions (IPI) - organizers characteristics (Qualifier to IPI) : Study (IE)

87. The role of negotiators in union form bargaining.
Economics Resource, Labour (BS) - trade union leaders (IPI) - objectives (Qualifier to IPI) : Study (IE)

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Economics Resource, Labour (BS) - teacher union (IPI) - Elementary and secondary schools (Qualifier 1 to IPI) - organizational and demographic models (Qualifier 2 to IPI) : Influenced (IE) - workplace control (Qualifier to IE).
90. Union membership and voting for cope-endorsed candidates.  
Economic Resource, Labour (BS) - union membership (IPI) -  
cope endorsed candidates (Qualifier q to IPI) - voting  
behaviour (Qualifier 2 to IPI): Study (IE).  

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(IPI)-behavioural and nonbehavioural research models  
(Qualifier to IPI): Study (IE).  

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transaction costs perspective with particular reference  
to New Zealand.  
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evaluation (IE)- transaction costs (Qualifier to IE).  

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Economic Resource, Labour (BS), worker (IPI) - discipline  
effect (Qualifier to IPI): Disaggregative analysis  
(IE).

Economic Resource, Labour (BS) - Trade unionisation (IPI) - local public sector (Qualified to IPI) - Bargaining laws (IE).

95. Effects of trade unions on the earning differential between males and females.


Economic Resource, Labour (BS) - trade unions (IPI) - Male and female workers (Qualifier to IPI) - effect on (IE) - wage earning differentials (Qualifier to IE).

96. Union corporate camping: An assessment


Economic Resource, Labour (BS) - Trade unions (IPI) - Disputes (IE).

97. New generation of organised workers in India: Implications for management and Trade Unions

(IJR, July 1990, 28(1)

Economic Resource, Labour (BS), trade union relation (IPI) - with management (Qualifier 1 to IPI) in India (Qualifier 2 to IPI) - Study (IE).

Economic Resource, Labour (BS) - trade unions (IPI) - (Bombay Qualifier to IPI), Job strategy (IM) - grading model (Qualifier to IM): effect of (IE) Technology (Qualifier to IE).

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100. Industrial Relations in Jammu and Kashmir

*(IJIR, July 1990, 26(1))

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102. Industrial relations - the coming decades
(IJR, July 1990, 26(1).
Economic resource, Labour (BS) - Industrial relations
(IP1): Study (IE).

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case of cotton textile industry in Bangladesh.
(IJR, July 1990, 26(4)
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(IP1) - in Bangladesh (Qualifier to IP1); productivity
(IM): measurement (IE): Analysis (2E).

104. Conflict and accommodation in Industry: A study of
Sydney waterfront.
(IJR, Oct. 1990, 26(2)
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and accommodation (Qualifier to IP1); Sydney waterfront
(Qualifier to IP2): Study (IE).

105. Gender earning differentials in Singapore.
(IJR Oct. 1990, 26(2).
Economic Resource, Labour (BS)-Workers (IP1)-Male and Female (Qualifier to IP1) - Singapore (Qualifier 2 to IP1): Influence of (IE) - wage differentials (Qualifier to IE).

106. Creation of awareness among agricultural Labourers: The need the method
(IJIR, OCT. 1990, 26(2))
Economic Resources, Labour (BS), Agricultural (IP1): Creation (IE) - awareness (Qualifier to IE)

(IJIR, OCT, 1990, 26(2))
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(IJIR, OCT. 1990, 26(2))
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(IJIR., January 1991, 26(3)
Economic Resource, Labour (BS) - Trade Unions (IPI)-Participation and deprivation (Qualifier to IPI); Study (IE)

4.6 Comparative Analysis

In this chapter an attempt has been made to study the comprehensive analysis of "International Relations" and "Labour Relations". International relations encompass the study of interactions between governments and international bodies. The interactions can be military, political, legal, economics, educational commercial, social and cultural aspects. The subcategories of studies in international relations are highlighted by international politics, international communication, international law, international war, and international organizations. In International
relations, the impact of international relations is an interaction between nations on all aspects whereas labour relations or labour economics concerned primarily labour problems, labour welfare (accidents, old age pension etc), labour unions and job security. That is labour relations mainly concerned with the relationship between the worker and his/her job. This is concerned with supply of labour, laws and wage, condition of work, wage determination and bargaining and other forces relating to the general economic welfare of the worker, and also study government regulations of working conditions and the provision of social insurance and other wage supplements. International relations deal mainly with the "Nation" and "Government" while labour relations deal with mainly "labour market" where prices for the labour services are fixed. That is, demand for and supply of goods distribution will be taken place.

In Economic life, Politics is a pervasive influence. The subject of economics used to be called "Political Economy" before Political Science became established as a separate academic discipline. Political Science as well as international relations studies mainly the Government including the competitive struggle for votes, leadership and power. In both policy determination and its administration,
the interrelations and overlap of politics, international relations and economics are extensive. To a considerable extent, the policies of economic institutions, such as corporations and trade unions, are formed through the processes of their internal government, whether they are democratic, authoritarian or authoritarian in nature. Business management uses political concepts when it talks of its "authority" and prerogatives. Politics and International Relations provided the framework and the ground rules to nations to pursue their economic interests.

Several factors have contributed to the ascendency of the economic considerations in the current analysis of international politics (103). First, nations which are preoccupied with conflictual relations and tend to overrate the problem of security increasingly discover that the pursuit of power and security can derive great strength from a calculated application of the economic instruments of foreign policy for most nations, especially to weaker ones, gets narrowed with the concentration of nuclear power in the hands of a limited few. Other goals such as economic welfare, political autonomy and industrial progress became relatively more important. Obsession with security produces little or no improvement in their power position. At the
same time, they are hard pressed by the far more serious problem of economic backwardness and are getting committed in varying degrees to the goals of social and economic development. Since national economic development is inseparably concerned with the ordering of external economic relations, international economic issues rise to the top of the national policy agendas. Thirdly, an interesting consequence of this emphasis on international economic issues has been a new diplomatic confrontation between the developed and underdeveloped nations of the world. While it is true that a significant part of the trade, monetary and investment activities of the advanced nations is confined within their own world, they still control vital segments of the economies of the backward nations and make sure that the later continue to remain within the fold of world capitalist system. Two main economic instruments, trade and aid which are used by political authorities of industrially advanced nations not only to promote their economic interests but to achieve political and without sparking off any major political crisis at the systematic level that is what a section of scholars and statesmen in the west mean by "low Politics" of economic liberalism in the relations of nations which they ant to keep immune from the "high politics" of
national confrontation. International trade can have three distinct political objectives: a) trade as an instrument of sanction: A powerful nation can exploit the need and dependence of a weaker nation and force it to fall in line by offering rewards or imposing punishments, b) trade as an instrument of policy leverage - by far the largest number of instances in which trade has been used for non-economic purposes are those where controls of other nations' foreign policies have been felt necessary, c) trade as an instrument of war - it is common knowledge that disruption of vital trade links, imposition of blockades, enforcement of embargoes on contraband items are regular features of modern warfare and are freely resorted to by belligerent power to deprive the adversaries of their economic capabilities.

Turning 'foreign aid', one finds it has been used for a considerable period of time through the emphasis on it has varied through the ages. Foreign aid programmes fall into four broad types: 1) military aid 2) technical assistance 3) grand 4) development loans. Of these, the first is probably also the oldest, for military aid has been a traditional technique of maintaining the balance of power and influencing the outcome of armed hostility in favour of the
country desired to be proposed up. Technical assistance is a relatively new form of international aid and coming into the limelight as the widening technological gap between the advanced and the backward nations need to be narrowed by a systematic policy of technology transfer.

The least costly of all types of aid programmes, it is designed to disseminate knowledge and skills rather than money and materials. Finally, there are international loans, hard and soft, depending on the rate of interest charged and the length of time allowed for repayment. A growing foreign debt not only upsets the economy but threatens the very foundation of sovereignty. As long as it does not show signs of an improved balance of payments from which to repay foreign loans, it will be constantly haunted by a sense of economic subjection and will be subject to all sorts of fiscal advice and political interference from the donor country. The latter may go on giving aid to a pliable recipient only to make it apparent in due course that the net flow of aid after deducting the cumulative charges on debt servicing is at most significant.
The trade unions play an important role in labour relations.

These labour unions have been referred to as political instrumentalities engaged primarily in economic activity. Also, of course, they engage in political activity and one does not need to subscribe to the doctrine that economic interests completely determine political action in order to appreciate the impact of organized labour on national, state and local politics and on foreign affairs. Interdependence between the two disciplines, international relations, labour relations is that in the solution of economic issues, political decisions (elections, legislation - and administration and judicial determination) are an alternative to labour market settlement.

Diplomatic relations play an important role on the independence of these two subjects. In international relations there are of direct, indirect, middlemen, Hegemony, Homogeneity, ... of diplomatic relations, whereas these relations in labour are of internal scene like – relationships between strikes, crisis, inflation, obsolescence etc. The parameters of parties in international relations are bilateral, unilateral, multilateral, single-cluster and multi-cluster whereas in labour these are interrelated. The is labour unions, labour distribution, demoralized labour.
Depends upon their characteristics of these International Relations and labour relations an attempt they have been taken to analyse according to the categories of freely faced classification of Ranganathan. It is but appropriate for the personality facet to precede the 'energy facet' because the primary concepts like state, nation, people, individual, power, policy, legislation, war, and decision are fundamental to the international relations. No progress in library classification is conceivable without granting the due place to these concepts in the hierarchy. In 'Labour relations' under personality facet - facets like 'Labour relations' under personality facet - facets like 'Labour', employment, Age, Sex, Management, work, occupation, industry, benefit, product and systems will come.

The energy facet is hard to disentangle from the personality facet at times because of the borderline cases and the absence of methodological tools to arbitrate about the subjects under dispute in international relations. Among the primary groups of isolates for the energy facets are freedom, sovereignty, jurisdiction, distributions, sharing, legislation, treaty-making etc. In labour relations under energy category - creation, change, search powers, rate, investigation, determination development etc facets will come.
Under 'matter' category in labour relations - facets like by type of work, plan of work, place of work, job characteristics, by-economy, welfare, wages etc, will come.

4.7. **Observation**

The data presented in the previous sections of this chapter gives an inkling into the development and interdisciplinary nature of social science subjects - sociology, International Relations, Labour relations and Geography. International relations and labour relations are relatively new. They have emerged in greater depth and variety only at the end of 1960's 1970's. However, the studies on some of these subjects, such as international relations and labour relations seem to have had roots in the earlier times. The age of subjects does reflect their influence on the recognition of manifestations of the five fundamental categories. There are significant similarities in the comparative study of international relations and labour relations as already presented. The economic relations are greater in labour studies and can provide indicator to international relations. Where as international relations can provide for political relations.

There is, small set of relation extracted to indicate these.
4.7.1 Economic Studies

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4.7.2 Political Studies

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<tr>
<td>7. Nations campaigns</td>
<td>7. Trade unions campaigns</td>
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4.8. Conclusion

We have studies in this chapter, the result of the application of Ranganathan's typology of models of formation of subjects - sociology, International Relations, Labour relations and Geography. For this analysis, the data has been taken from British National Bibliography during the period 1975, 1980, and 1983. The data presented in the table
1) of the section 3.2 shows the growth rate in those subjects formation. Principles have been recognised in the modes of formation of those subjects. Facet analysis has been done in the subjects International Relations and Labour relations during the period 1960-1990. The data were collected from the different abstracting journals in the concerned subjects. 292 abstracts were collected and facets analysis was done according to Ranganathan's facet analysis. In the recognition of fundamental categories some of the problems have been mentioned. Role of casual factors in the manifestation of fundamental categories have been mentioned. Comparative analysis between International relations and labour relations has been made to recognise the significant aspects at higher and lower level.
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