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**Basic Subject.**

(Universe of subjects. 4). (Classification problems.  
(Design series. 32).

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[This is an introductory paper to the ideas discussed in Papers G to M in this issue. Some of the relevant technical terms are defined. The implications of and helpfulness of conforming to, the postulates about Basic Subject of the General Theory of Library Classification are discussed. Revision of the concept and the terminology of Basic Subject is proposed.]

**1 Scope of the Paper**

This paper gives the definition of the oft-used technical terms in Papers F to M in this issue, and discusses the implications of and helpfulness of conforming to, the postulates about Basic Subject of the General Theory of Library Classification (6). A revision of the concept and terminology of Basic Subject is also suggested.

**2 Terminology**

For convenience of reference and communication, a few of the technical terms used in this and succeeding papers are defined below. Other terms are used in the sense in which they are defined in the *Prolegomena* (6).

**20 IDEA**

An idea is the product of thinking, imagining, etc, got by 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 (2).

**21 SUBJECT**

A subject is an organised or systematic account of an idea or body of ideas whose extension and intension are likely to fall

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coherently within the intellectual competence and field of inevitable specialisation of a normal person (3).

Thus, "Conduction of heat" is a subject; and so would be "Properties of matter" and "Physics." But, not all that is embodied in the McGraw-Hill *Encyclopedia of Science and Technology*, taken as a whole, is a subject; for, the totality of the subjects embodied therein cannot form an inevitable and convenient field of specialisation of a normal person.

Similarly, "Cultural practices among Hindus," "Social pathology," and "Sociology" is each a subject. But, not all that is embodied in the *International Encyclopedia of Social Sciences*, taken as a whole, can be a subject, in the manner defined above.

## 22 ISOLATE

An isolate is an idea or idea-complex fit to form a component of a subject, but does not by itself constitute a subject (4).

Thus, "Automobile," is an isolate; it does not by itself constitute a subject. But it is fit to be a component in such subjects as "Production of automobiles in India," and "Repair of automobiles."

Similarly "Child" is an isolate; it does not by itself constitute a subject. But, it is fit to be a component in such subjects as "Care of child," "Psychology of child," and "Education of child."

## 23 SUBJECT-FIELD

The term 'Subject-field' will be used as a generic name denoting a division or chunk of the universe of subjects in which a specific subject may be deemed to fall, or a particular activity or pursuit is carried on.

Thus, the specific subject "Production (manufacture) of paints and varnishes" may be deemed to go with the subject-field "Chemical technology."

The specific subject "attenuation of sound under water" may be deemed to go with the subject-field "Physics of sound."

The specific subject "Treatment of tuberculosis according to the Ayurvedic system of medicine" may be deemed to go with the subject-field "Ayurvedic system of medicine."

The specific subject "Development of social science institutions in Europe in the twentieth century" may be deemed to go with the subject-field "Social sciences."

The specific subject "Bibliography of South-East Asian studies" may be deemed to go with the subject-field "Area Studies."

It will be noted that the subject-fields mentioned in the above examples are not all of the same kind. They are different. Each of the variety of subject-fields will be discussed in the later papers in this issue.

### 3 Postulate about Basic Subject

#### 31 UBIQUITOUS NATURE OF BASIC SUBJECT

A postulate of the General Theory of Library Classification states that every subject, as defined in Sec 21, has a Basic Subject as a component idea (7).

A Simple Subject consists of a Basic Subject only.

A Compound Subject consists of a Basic Subject with one or more isolate ideas attached to it.

A scheme for library classification usually postulates a set of Basic Subjects and either enumerates all of them in its schedules or enumerates some of them only and provides instructions on how other Basic Subjects may be formulated. Here are examples of some subjects, using the Basic Subjects postulated for use in the Colon Classification (= CC).

#### 311 For Simple Subject

1 The subject embodied in the document *Elements of Physics*, taken as a whole, is "Physics" only. "Physics" is deemed to be a Basic Subject and enumerated as such in the CC schedules. The subject of the document is, therefore, a Simple Subject as it consists of only of a Basic Subject component.

2 The subject embodied in the document *Basic Thermodynamics*, taken as a whole, is "Thermodynamics" only. "Thermodynamics" is deemed to be a Basic Subject and enumerated as such in the CC schedules. The subject of the document is, therefore, a Simple Subject as it consists of only of a Basic Subject component.

3 The subject embodied in the document *Quantum Theory of Thermodynamics*, taken as a whole, is "Quantum Theory of Thermodynamics" only. "Quantum Theory of Thermodynamics" is deemed to be a Basic Subject in CC and instructions are given in its schedules on how to derive the Basic Subject. The subject of the document is, therefore, a Simple Subject, as it consists of only of a Basic Subject component.

#### 312 For Compound Subject

1 The subject "Development of Physics in the Twentieth Century" consists of the Basic Subject Component "Physics" and the isolate components "Development" and "Twentieth Century" attached to it. Therefore, it is a Compound Subject.

2 The subject "Conduction of Heat" consists of the Basic Subject component "Physics of Heat" and the isolate com-

ponent "Conduction" attached to it. Therefore, it is a Compound Subject.

<sup>3</sup> The subject "Evaluation of the Quantum Theory of Heat" consists of the Basic Subject component "Quantum Theory of Heat" and the isolate component "Evaluation" attached to it. Therefore, it is a Compound Subject.

### 32 FIRST COMPONENT

Another postulate of the General Theory of Library Classification prescribes that in structuring and linear representation of a subject, the first component, reading left to right, should be the Basic Subject for the subject concerned. In a Simple Subject, of course, there will be the Basic Subject only.

## 4 Implications of the Postulates

### 41 DELIMITATION OF SUBJECT-FIELD

In Sec 21 a Subject has been defined as a systematic account of an idea or a body of ideas that can form a convenient and inevitable field of specialisation of a normal person. The concept of Basic Subject and its being the first component in a Compound Subject helps in the rough delimitation of a homogeneous group of ideas with fairly easily recognisable affinity among them, fit to form a convenient field of specialisation of a normal person.

Consider, for example, the idea "Child." It is not usually possible for a normal person to be a specialist in the totality of the following subjects taken together:

Child medicine	Cost of raising children
Child paining	Sociology of child
Child education	Social work among children
Child labour	Law relating to delinquent children.

However, using the concept of Basic Subject, each of the subjects can be marked off and delimited as convenient fields of specialisation for normal persons, as indicated below:

Medicine (Basic Subject)	Child
Painting (Basic Subject)	Child
Psychology (Basic Subject)	Child
Education (Basic Subject)	Child
Economics (Basic Subject)	Human resource Child Raising Cost
Sociology (Basic Subject)	Child
Social Work (Basic Subject)	Child
Law (Basic Subject)	Delinquent Child

### 42 HELPFUL GROUPING OF SUBJECTS

Conforming to the prescriptions of the postulates also facilitates subjects falling in a field of specialisation being grouped

together in a helpful way. For example,

Medicine (Basic Subject) Child  
 Medicine (Basic Subject) Child New born  
 Medicine (Basic Subject) Child One year old  
 Medicine (Basic Subject) Adolescent  
 Medicine (Basic Subject) Adult  
 Medicine (Basic Subject) Old age

Also:

Education (Basic Subject) Child  
 Education (Basic Subject) Child Pre-school  
 Education (Basic Subject) Child Primary School  
 Education (Basic Subject) Child Secondary School  
 Education (Basic Subject) Adult.

Such a grouping of subjects obviously helps browsing. In a majority of cases, it helps to reduce the range of search for information on a specific subject to a relatively smaller spectrum of entries in a classified catalogue. This saves the time of the user of the system.

#### 43 ANALOGY IN BIOLOGICAL CLASSIFICATION

The function of Basic Subject in structuring subjects has an analogy with the function of categorisation in biological classification. A biological classification is expected to serve the heuristic function of generating hypothesis or making useful predications about the entity concerned. Pratt (5) points out that "unless the biologist is able to think of the individual organism he is studying as a representative of a group, his results cannot be anything other than particular statements, asserting truths about individuals". The limitation of such a predicament will be obvious. For science to be possible at all individuals must be referable to categories, and the categories must be such that a scientist must be able to think that when certain circumstances obtain in establishing facts about particular individuals he is thereby establishing facts about members of the category in general.

"Inferences of this general kind must have a place in every science — their justification of course constitutes the celebrated problem of induction — and to recognise the central role of induction in biology in particular is to recognise the central importance of assigning organisms to groups such that induction is, in certain circumstances at least, reliable within them."

In an analogous manner the assignment of a specific subject to a particular subject-field or Basic Subject helps in predicating about the properties shared by the group of subjects deemed to go with that subject-field of Basic Subject.

#### 44 ANALOGY IN ORGANISATION OF MEMORY

Collins and Quillian (1) point out that "Among the semantic properties of concepts, there are several special property relations that are commonly found. They are special because they permit certain kinds of inferences to be made. A frequently used kind is the *superset* or super-ordinate relation. All properties of a superset ... also hold for the instances of that superset ... unless otherwise indicated ... In many cases, the superset is the most accessible property of a concept, though not always."

A function of a subject-field or a Basic Subject is that of a superset for the set of subjects deemed to go with it. The human memory is one among the more efficient information storage, processing and retrieval systems. However, because of its limited capacity, it is necessary to supplement it by some form of external information storage and retrieval system. The combination of the human retrieval system and the mechanical external system will function in a more integrated and efficient way, if the external system stores, process and retrieves information in a manner analogous to that of the human memory system. Considering this feature of an external mechanical information retrieval system in relation to the information processing mode of the memory mentioned above, the concept of a subject-field or Basic Subject and its being the first component in a linear representation of each subject, helps to make the external system a little more like the human memory system. And therefore, it is a helpful procedure.

#### 5 In Practice

Experience has shown that structuring a subject as prescribed by the postulates about Basic Subject is helpful in

- Classifying;
- Designing schemes for library classification;
- Deriving subject headings;
- Browsing among subject entries in a catalogue, and among the documents on the shelves;
- Reference service in formulating and structuring the subject of the reader's query; and
- Reducing the range of search for documents on diverse subjects.

Most of the general schemes for library classification covering the whole or a large part of the universe of subjects — such as, the Library of Congress Classification, Dewey Decimal Classification, Cutter's Expansive Classification, the Universal Decimal Classification and Bliss's Bibliographic Classification — have found it helpful to conform to the postulates about Basic Subject, whether each one of them has explicitly so stated or not. In

most of the cases, the design of the scheme implements the prescription of the postulates.

It will also be remembered that the value of a postulate is judged on the basis of its helpfulness in achieving a given objective. The attributes "true" and "false" do not apply to a postulate.

#### 6 Variety of Basic Subjects

Consider the following specific subjects and the respective subject-fields with which each of them may be deemed to go:

1 The specific subject "Ecology of Thallophyta" may be deemed to go with the subject-field "Botany." Therefore, it will be helpful to place "Botany" as the first component in the linear representation of the subject mentioned above.

2 The specific subject "Geometry of quartic surface" may be deemed to go with the subject-field "Geometry." Therefore, it will be helpful to place "Geometry" as the first component in the linear representation of the subject mentioned above.

3 The specific subject "Treatment of tuberculosis according to the Ayurvedic system" may be deemed to go with the subject-field "Ayurveda system of medicine." Therefore, it will be helpful to place "Ayurvedic system of medicine" as the first component in the linear representation of the subject mentioned above.

4 The specific subject "History of institutions doing research in the physical sciences in Europe" may be deemed to go with the subject-field "Physical sciences." Therefore, it will be helpful to place "Physical sciences" as the first component in the linear representation of the subject mentioned above.

5 The specific subject "Prospects of space sciences in the 1980s" may be deemed to go with the subject-field "Space sciences." Therefore, it will be helpful to place "Space sciences" as the first component in the linear representation of the subject mentioned above.

Since each of the subject-fields

Botany,  
Geometry,  
Ayurvedic system of medicine,  
Physical sciences, and  
Space sciences

is fit to form the first component in the structuring and linear representation of the specific subject concerned, each of them could be deemed as a Basic Subject.

#### 7 Revised Terminology

In the General Theory of Library Classification and in CC based on it, the subject-fields fit to form the first component

in structuring and linear representation of subjects going respectively with them, have different names. The subject-fields mentioned in the five examples given above are designated respectively as follows:

“ Botany ” is a Main Subject.

“ Geometry ” is a Non-Main Basic Subject or a Basic Subject.

“ Ayurvedic system of medicine ” is a Compound Basic Subject.

“ Physical sciences ” is a Partial Comprehension.

“ Space Sciences ” is a Subject Bundle.

The following terminology will be used in future in naming the subject-fields:

Existing Name	Proposed Name
Main Basic Subject or Main Subject	Primary Basic Subject
Non-Main Basic Subject or Basic Subject	Non-Primary Basic Subject
Canonical Basic Subject	Secondary Basic Subject
Compound Basic Subject	Compound Basic Subject
Partial Comprehension	Agglomerate Basic Subject
Subject Bundle	[See annotation (c) below]

#### 71 ANNOTATION

(a) The term ‘Primary’ in the name ‘Primary Basic Subject’ denotes that the Secondary Basic Subjects, Compound Basic Subjects, and Agglomerate Basic Subjects—collectively named ‘Non-Primary Basic Subjects’—are generated on the basis of the Primary Basic Subjects. It does not indicate any hierarchical relation or an estimate of the helpfulness or value of the different varieties of Basic Subjects.

(b) The generic name for “Primary Basic Subjects” and “Non-Primary Basic Subjects” taken together is ‘Basic Subject.’ The present practice of using the term ‘Basic Subject’ to denote “Main Subject” and “Non-Main Basic Subject” taken together and also to denote a canonical division of a Main Subject, will be discontinued.

(c) It is now found that a ‘Subject Bundle’ (8) 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.



**8 Conspectus**

The succeeding papers deal with the topics as indicated below:

- Paper G : Primary Basic Subject by Fission
- Paper H : Primary Basic Subject by Distillation
- Paper J : Primary Basic Subject by Fusion
- Paper K : Primary Basic Subject by Clustering
- Paper L : Non-Primary Basic Subject
- Paper M : Agglomerate Basic Subject.
- Paper N : Basic Subjects and their Arrangement: A summary
- Paper P : Basic Subjects in CC, Edition 7
- Paper Q : Basic Subject: A Selected Bibliography.

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