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Universal Classification System and FID*
(Classification problems. 47).

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[The major ideas emerging from the FID/CR Seminar
on UDC in a Mechanised Retrieval System, convened
in 1968 in Copenhagen, are mentioned. The impli-
cations of a universal classification system and the use
of electronic machinery in a system for document finding
are examined. The attributes of the universe of subjects
and the psychology of readers are considered as the
major factors influencing the design of a system for docu-
ment finding. The need for a General Theory of Classifi-
cation constituted out a hierarchy of general normative
principles, laws of library science, and postulates, canons
and principles for classification form the rational founda-
tion for the design and use in practice of a universal
classification system. The capacity of UDC for being
developed into a universal classification system are exa-
mined from this point of view. The different state-
ments contained in the FID/CR Report about the
particular attributes of UDC for its development as a
universal of scheme for classification are examined from
the angle of intrinsic and adventitious merits of a classi-
fication system. Concludes with suggestions about the
need for change in attitude and about the new role, of
FID as an international organisation promoting the
development of a world information network based on
a universal classification system].

0 Introduction

This paper examines some of the points raised in the papers
included in the FID/CR report (9) (1969). In particular, the
ideas relating to a universal scheme for classification for use in
a World Information Network and developing UDC into such

* A note on FID/CR report (9) (1969)..

a scheme, are discussed. This discussion is followed by some observations on the role of FID in promoting research and development in classification.

1 Ideas Emerging from the Seminar

The First Seminar on UDC in a Mechanised Retrieval System, convened in 1968 in Copenhagen by the FID/CR, helped to bring together, for exchange of ideas, persons who had experimented using UDC in computer-aided systems for document finding and those interested in learning about and developing, such systems. In the course of the presentation and discussion of papers, there emerged a few ideas which are perhaps intended to guide the future line of approach and action of the FID in general and FID/CR in particular, in relation to classification and documentation. These ideas may be summarised as follows:

1 Matters concerning the structure, development, and management of a World Information Network;

2 Use of electronic machinery in the development and operation of systems for document finding;

3 Helpfulness of classification in non-conventional systems for document finding;

4 Need for examining the theory and practice of some of the existing general classification systems; and of existing classification-based, computer-aided systems for document finding;

5 Consideration of the attributes of a universal classification system;

6 Adapting and developing UDC into a universal classification system;

7 Establishing compatibility and "concordance" between different classification systems; and

8 Cooperation of FID with other bodies in their programmes for developing a universal classification system with a view to using it in the World Information Network.

2 Definition of 'Universal' and 'System'

Of the different topics mentioned in Sec 1, the proposed universal classification system and Unesco's project on an International Classification System (*Seminar report*, Page 5) are of immediate interest to FID/CR. It would therefore be useful to consider its implications.

21 'UNIVERSAL'

The term 'Universal' may imply the following attributes of the classification:—

1 It can helpfully classify all subjects — subjects of the past, of the present, and of the future;

2 Its use is equally helpful in conventional as well as non-conventional systems for document finding;

3 It is independent of the natural language in which the idea embodied in a document are formulated;

4 Its efficiency in document finding is not appreciably affected by the language, the educational, and social background, and the subject of specialisation of the user;

5 It permits the classification of subjects to any predetermined degree of precision; and

6 It permits the selection of documents according to various degrees of relevance and exhaustiveness to suit the needs of any reader.

22 'SYSTEM'

Generally, a system has the following attributes:—

1 An explicitly stated overall objective;

2 One or more components, the design of which is determined by the overall objective of the system;

3 Each component has its defined functions formulated in conformity with and for the purpose of, achieving the overall objective of the system;

4 A defined set of conditions within which the system operates at optimum efficiency;

5 Methods for controlling the performance of the system from deviating from the stated norms;

6 Methods for correcting error or deficiency in the system, if it occurs;

7 A built-in mechanism for the integrated development of the system according to the changing demands of the environment in which it may have to operate from time to time; and

8 An agency for ensuring the continued operation and development of the system.

3 Universal Classification System

Taking into account the implication of the use of the terms 'Universal' and 'System', the attributes of the Universal Classification System may be formulated as follows: It should

1 Structure each subject in such a way that

11 Each component idea in it is recognised and represented;

12 The relative degree of interrelation between the components is recognised and represented, and

13 The components of the subject are arranged in a sequence helpful to the majority of the specialists in it;

2 Give the same pattern of arrangement of the

21 Components of one and the same compound subject,

22 Components of different compound subjects having one and the same Basic Subject, and

23   Components of compound subjects having different Basic Subjects.
3   Arrange the compound subjects so as to facilitate browsing as an aid in the proper specification of the reader's query and the choice of the most relevant documents;
4   Explicitly indicate the conditions under which it will work at optimum efficiency;
5   Recognise and explicitly state the factors likely to affect it — for example, the attributes of the Universe of Subjects and the psychology of readers;
6   Provide the means — for example, in the form of explicitly stated postulates, canons, and principles — for checking and correcting any inadequacies in it due to the pressures of the Universe of Subjects;
7   Provide a built-in mechanism — for example, in the form of guiding principles — for its integrated development and self-perpetuation in the context of the dynamic changes in the Universe of Subjects and needs of readers; and
8   Have an agency to manage its continued use and development.

4   Influencing Factors

We may now consider the context in which a classification system with the attributes mentioned above, is to be designed, developed, and operated. The two major factors influencing the design, development, and use of the classification system are:—
1   The attributes of the Universe of Subjects; and
2   The psychology of readers.
The different attributes of the Universe of Subjects to be taken into account by the classificationist have been examined elsewhere (2, 5, 6). Also, the psychology of readers in their search for and use of information embodied in documents has been mentioned (4, 16). The problems of designing a scheme for classification to meet the dynamic development of the Universe of Subjects and meeting the different psychologies of readers have also been considered in other papers (3, 6, 7, 10). Therefore, they are not repeated here.

5   Helpful Approach
51   RATIONAL FOUNDATION

The primary objective should be to have a rational foundation on which the design of the universal classification system is to be based. This may take the form of a general theory of classification constituted out of a hierarchy of general normative principles, laws of library science, postulates, canons and principles for classifictaion. The postulates, canons, and principles should,

in turn, be formulated on a consideration of the relevant attributes of the Universe of Subjects and psychology of readers.

52 HOLISTIC DEVELOPMENT

An integrated, holistic development of the system should consider a proper division of the roles to be played in library service, by the different library tools and techniques — such as classification, cataloguing, and reference service. This implies a clear definition of the functions of each of the tools, designing each of them to perform its function efficiently, and leaving to each of them that which it is capable of doing efficiently — that is, without overlap so as to avoid the resulting confusion of responsibility (15).

6 Developing UDC

A few of the papers discussed at the Seminar deal with the adaptation and development of UDC into a universal classification system. Some of the points raised are considered in the succeeding sections. The citations in parenthesis refer to the particular sections in the papers of the FID/CR report.

61 THEORETICAL FOUNDATION

There is a realisation of the lack of an adequate theoretical foundation on which UDC might be said to have been based and which is guiding its development (Freeman and Atherton, *Seminar papers*, P 7, Sec 4.1; Caless, *Seminar papers*, P 2; Lloyd, *Seminar papers*, P 5, Sec 5). As if to remedy this deficiency, there are attempts to formulate a theory for UDC (Perreault, *Seminar papers*). This does not appear to be a correct scientific approach. As has been mentioned in Sec 5 above, a scheme for classification should be based on and guided by the findings of a rational general theory of classification. The latter should itself be based on and continuously developed from, a study of the attributes of the changing Universe of Subjects and psychology of readers. It is inexpedient to fit a theory merely to suit or explain away or account for the deficiencies of a scheme. The theory should keep moving ahead and the scheme should continuously try to implement every new indication of the theory.

62 PHASED DEVELOPMENT

If the nature of the development of the Universe of Subjects and the changes in the psychology of readers are taken into account, it becomes obvious that it is practically impossible to design a scheme for classification in its final form with the capacity to meet adequately all future requirements. And yet the object of the classificationist should be to design a scheme for classification

that approximates to the ideal as best as possible. Looked at from this angle, a few adaptations here and there, and an *ad hoc* shifting of a few Classes in the schedules from one place to another, will not be helpful in the longer run of the life of the scheme. It is necessary to dive deeper to the near-seminal level to recognise the modes of formation of subjects, a subject being a systematised body of ideas. It will help to get at a more stable and consistent pattern of formation of subjects than what is recognisable at the more phenomenal level of isolates. Then alone can the methodology for the design of the scheme — and not merely of the schedules of the scheme — be fitted for phased development and change in accordance with the demands of the Universe of Subjects, without the basic structure of the scheme being subjected to violent alterations and with the least change in the ordinal positions of the already existing subjects. It is well known that the design of the basic structure of UDC is not founded on such an approach. Some of the papers contributed to the Seminar mention or imply this. Therefore, the attempts at additions and changes at the level of the schedules would give only temporary satisfaction and be only stop-gap arrangements at best for a short duration. The gap between what is required by the theory of classification and the performance of UDC in practice, may continue to widen unless some drastic redesigning of the basic structure of the UDC is done.

63 UNIVERSAL *vs* SPECIAL SCHEME
There appears to be an obsession about an apparent incompatibility between the attributes of the universal scheme for classification covering the whole or nearly the whole of the Universe of Subjects and special schemes for classification for smaller chunks of the Universe of Subjects (Lloyd. *Seminar papers*. P 3, Sec 4·1). Another statement runs thus "··· it is clear that such a general scheme with a hierarchic structure can never become a free-faceted scheme, while its notation obviously cannot be as concise as that of a special scheme tailor-made to suit narrower interests" (Lloyd. *Seminar papers*, P 5, Sec 5). This statement may imply the following assumptions:—
1 The mode of thinking and subject-approach of specialists in a particular subject are different from those in other subjects; and therefore.
2 The design of a universal scheme for classification applicable to subjects going with a particular Basic Subject is impracticable.
Working up UDC on this basis has naturally led to unhelpful results and incompatibility between UDC becoming a universal scheme for classification and its detailed development for subjects going with a particular host subject. It has already been pointed

out that the general theory of classification should preferably be based on the postulate that there is an Absolute Syntax of Ideas among a majority of intellectuals, unaffected by their differences in linguistic syntax, cultural background, and subject of speciali- sation (9, 14).   Then the methodology for the design of the uni- versal scheme for classification and that for a special scheme for classification for subjects having a particular host subject need not differ (8, 13).

631   *Notation*

The assumption that the notation of a universal scheme for classification "cannot be as concise" as in a Special Scheme for Classification of Subjects having a particular host subject overlooks the fact that the only cause for a longer notation will be that the host subject is a relatively deep one itself involving a facet structure.   There can be no other way in which the notation can be longer.   The simple device to get over this difficulty is for the specialist library or documentation list on a specific subject to replace the host class number by a single digit.   When the entries in the different subjects are to be thrown into a single sequence, and then alone, this single digit will have to be replaced by the full host class number.   This provision to throw the entries into a single sequence will not be possible with special schemes and the need for having them in a single sequence in certain circumstances cannot be denied.

64   UNHELPFUL APPROACH

Consider also the further statements in Sec 4.2, Sec 4.3 and Sec 5 of Lloyd's Paper, emphasising the administrative facility available to update UDC, its production in different language editions, and the results obtained using UDC in computer-aided document finding systems.   These statements taken along with the one quoted in Sec 63 above can imply the following:—

1   There can be no explicitly stated general theory of classi- fication based on the relevant intrinsic attributes of the Universe of Subjects, no model of a universal scheme for classification based on it, and no workable scheme for classification based on the model; and therefore.

2   Let us use some other factors in the choice of a scheme. The logic appears to be that the non-universally applicable Uni- versal Decimal Classification, which is currently used for "Inter- national exchange" and has the support of an organisation should be adequate to meet the pressures of the Universe of Subjects and psychology of readers now and in the future, and therefore, it should be accepted as the universal classification system.

Without going into details here, we may point out that

1 A rational explicitly stated set of postulates, canons, and principles constituting a general theory of classification, that takes into account the relevant intrinsic attributes of the Universe of Subjects and psychology of readers, is available (11);

2 The freely-faceted classification is the nearest approximation to the findings of this general theory (2); and

3 Such a classification system can be of considerable help in computer-aided systems for document finding (1).

Ignoring these facts and starting afresh to develop either a general theory of classification or a theory merely suited to a particular scheme for classification, is likely to be wasteful now and in the long run. Again, in relation to the usefulness and life of the scheme for classification, to place emphasis on an already existing administrative convenience, when the more relevant factors to be taken into account are known and recognised, and forgetting that these too can give administrative convenience, is not in conformity with the scientific attitude.

7 Role of an International Organisation

The discussion in the preceding sections of this paper raises the question what should be the appropriate rôle of an international body, such as, the FID, in developing a universal scheme for classification. This question may be further divided into the following ones:—

1 What should be the criteria for choosing one or the other of the existing schemes for classification for developing into a universal scheme for classification, if there be already no such one:

2 What should be the scale of priority for the different items of work in the design and development of a universal scheme for classification;

3 Should the international body look for and make use of, if available, an existing general theory of classification based on sound postulates and principles and promote further research for the development and refinement of such a theory; or

4 Should it merely try to find or develop a theory to suit an existing scheme for classification that has intrinsic deficiencies in relation to the relevant attributes of the Universe of Subjects; and

5 What should be the extent of centralisation/decentralisation of the work involved in developing the universal scheme.

Some of these points are considered briefly in the succeeding sections.

8 Observations: Merits of Scheme for Classification

80 TWO SPECIES OF MERITS OF A SCHEME FOR CLASSIFICATION

The papers, the passages to which the above annotations

pertain, imply a comparative study of the merits of schemes for classification. Two species of merits can be recognised in these studies;

1 Essential intrinsic merit; and
2 Adventitious merit.

81   ESSENTIAL INTRINSIC MERIT
811   *Idea Plane*

1 The essential intrinsic merits, in respect of the Idea Plane, relate to the capacity of a scheme to keep pace with the development of the Universe of Subjects in such a way as to give the most helpful place among the already existing subjects to each new subject as and when it emerges. This should not disturb in any way the relative position of the already existing subjects.

2 The class number, given by the scheme to a new subject among the subjects already provided with class numbers, is a place satisfying the canons in the idea plane relating to the helpful sequence of subjects.

3 The pattern of sequence of the components of compound facets is similar in all subjects.

4 The pattern of sequence of the facets in compound subjects is similar in all subjects.

5 The pattern of sequence of the phases in complex subjects and complex facets is similar in all subjects.

812   *Notational Plane*

The intrinsic merits of a scheme, in respect of the Notational Plane, relate to the quality of the notational system of the scheme. It should be able to

1 Interpolate, in the array of main subjects, at the place indicated by the idea plane, any new main subject. The number designed by it should be coordinate with the already existing numbers in the array. So also in respect of array isolate in any array in any facet.

2 Provide for any subdivision of a main subject into basic subjects, or an isolate, as the case may be, a number subordinate to the number of the host main subject or of the host isolate, as the case may be.

3 Provide for any new facet being interpolated in the already existing facet structure for compound subjects going with any basic subject. This is necessary to provide for hospitality in array and hospitality in chain without violence to the sequence of subjects demanded by the Idea Plane.

4 The class number, viewed as constituting a classificatory language of ordinal numbers, should be homonym-free and synonym-free.

82 ADVENTITIOUS MERIT
   The adventitious merits of a scheme are
   1 The provision of an organisation to keep it growing conti-
nuously so as to keep pace with the new subjects emerging from
time to time;
   2 The class numbers or isolate numbers, as the case may be,
should have their equivalent terminology in different languages
of the world and there should be schedules published for each
of these languages; and
   3 It should be supported by a manual — of course, being
kept up-to-date — to help the classificationist in keeping the
scheme up-to-date and to help the classifier in constructing class
numbers according to the scheme.

**83 RELATIVE VALUE OF ESSENTIAL INTRINSIC AND ADVENTITIOUS
       MERITS**
   The adventitious merits require only an organisation to
ensure maintenance of a scheme. This can be done for any
scheme for classification. On the other hand, the essential intrinsic
merits will depend on the scheme being science-based or not.
The scheme should have built into it, as it were, the capacity to
develop continuously, in a consistent way. This is the implication
of a scheme being based on a dynamic theory of classification.

84 MERITS AND DEMERITS OF UDC
   Some of the extracts from documents given in Sec 6 recognise
the demerits of UDC in respect of essential intrinsic merits and of
the provision already made in respect of the adventitious merits.
In advocating the universal use of UDC, the authors give full
weightage to the adventitious merit and recommend the over-
looking of the intrinsic merits of UDC.

85 FINDINGS ON THE NON-UNIVERSALITY OF UDC
   It is not desirable that the International Federation for
Documentation should be asked to spend its resources on pro-
viding all the necessary adventitious merits for a scheme whose
essential intrinsic merits are becoming inadequate to meet the
nature and rate of development of the Universe of Subjects. Some
of the papers in the document under consideration are driven by
despair to throw up their hands, as it were, and declare, that a
universal version of UDC applicable to compound subjects going
with any basic subject is not practicable. Their arguments are:—
   1 It is impossible to prop up the UDC to be universally appli-
cable to all compound subjects, whatever be their depth or
intensity, going with any basic subject; and
   2 A special scheme for classification should be designed for

each subject field, in spite of this proposal doing violence to the name Universal Decimal Classification.

851 *Emotional Attachment to UDC*
    How can this be explained except by the hypothesis that
1 The FID has developed rightly or wrongly a vested interest in UDC;
2 It makes the promotion of the universal use of UDC having been almost a matter of prestige for the FID; and
3 The FID shuts its eyes to the mistake of adhering to a tradition of many decades and somehow trying to maintain UDC in spite of intrinsic and irremovable demerits.
    Such a sentimental attitude is not conducive to the development of a tool designed to help intellectual work. A scheme for classification is such a tool; it is an intellectual tool. Intellectual workers must be prepared to give up an unequal fight in maintaining such an intellectual tool up-to-date; and to start afresh in designing a more competent and versatile new tool. Some of the papers made the plea that a specially paid staff should be provided by the FID to build and to maintain up-to-date, several special schemes under the nominal umbrella of UDC. According to them, this is the only way to make classification of real value in "Retrieval Work", whether done by electronic Doc-Finder or by the conventional classified catalogue fitted with adequate alphabetical index.

86 CHANGE OF PURPOSE NECESSARY
    The FID should not any longer continue to plough the old sand. It should boldly shake off every sense of possession, prestige, or tradition. It should change its purpose and policy.

87 NEW POLICY FOR FID
    On the other hand, any man-power that FID can secure should be spent first on the formulation of as sound and as dynamic a theory of classification as is possible on the basis of past experience and of anticipatable future. Secondly, a universal scheme for classification should be developed in conformity to such a theory. The time has come for this. The FID should lead the profession
1 To rethink;
2 To realise that the expectation of life of the UDC has expired;
3 To design a fresh universal scheme for classification, to meet the requirements of the Universe of Subjects; and
4 To make the expectation of life of that scheme longer than what had been achieved in the past by any scheme.

88　MOTTO OF FID
　　The motto of FID in respect of the universal classification
system to be promoted and maintained by it, should be "EVER
BECOMING EVER NEW".

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