DEPTH CLASSIFICATION

13. DEMONSTRATION 4

Demonstrates the application of an expressive, analyticosynthetic scheme of classification to depth classification needed in documentation work. An example worked out in Bibliographic classification is taken as the guinea-pig. CC number for "Development of radar in French Navy" is constructed and compared with BC and UDC numbers. Facet analysis, exercise of autonomy of classifier in the formation of schedules needed in deeper levels, application of Packet Notation for Subject Device are demonstrated. Shows how the BC number violates one of the fundamental qualities of a class number, namely that it should not be homonymous.

S. R. RANGANATHAN

1 ANALYSIS

Starting point :- One phase.

<table>
<thead>
<tr>
<th>Symbolic Language</th>
<th>Natural Language</th>
<th>Focus</th>
<th>CC No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MC) Main class</td>
<td>Engineering</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>[1P1] First round first level personality</td>
<td>Electronics</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>[1P2] First round second level personality</td>
<td>Radar in French Navy</td>
<td>44(945.53)</td>
<td></td>
</tr>
</tbody>
</table>

2 SYNTHESIS

Colon Class Number is D65, 44(945.53)

3 NOTES

31 In ed 1 to 3, CC did not provide the isolate 'Electronics'. But it provided for it the isolate number 65 in ed 4. The first digit denotes Mechanical Engineering. The digit following it is generally parallel to the canonical divisions of C (Physics) representing forms of energy. 66, for example, has been used for Electrical Engineering, and 64 for Heat Engineering. 65 had been left blank as we could not then think of Radiation Engineering. In electronics, the form of energy...
4 LENGTH OF CLASS NUMBER

The following table gives the length of the class number for the subject under consideration in BC, CC, and UDC:

<table>
<thead>
<tr>
<th></th>
<th>BC</th>
<th>CC</th>
<th>UDC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>8</td>
<td>14</td>
<td>17</td>
</tr>
</tbody>
</table>

41 Notes

1. When sufficient literature comes up on Radar, it may be possible to replace the 8 digits (945.53) by a shorter number or perhaps 3 digits. Then the length of CC number will be only 9.

2. UDC number is unduly long because it is obliged to use the Colon Device. This can be avoided if UDC rationalises its notation and escapes from the grip of the rigid DC core.

3. However there is no denying that the BC Number is very short—nearly half as short as the other class numbers.

4. But before we uphold its shortness, we should examine at what cost BC has secured shortness. It will be shown presently, that the BC number violates one of the fundamental qualities of a class number viz it should not be homonymous. The connecting symbol hyphen is a do-all symbol. It thus introduces homonyms. In fact the BC Number BOW-RNF can be taken to represent any one of seven different subjects.

5. A similar fault of homonym is incident in the UDC Number also. This again is due to its connecting symbol being a do-all symbol, incapable of distinguishing the various possible kinds of relations between the classes forming the two members of the colon combination.

5 SIX OTHER SUBJECTS

The following are the six other subjects represented by the BC and the CC Numbers given in section 0. Let us construct the CC Number for each of them.
51 Subject 1
510 Document
"Exposition, in France, of radar for students of naval science."

511 Analysis
Starting point: - Two phases. Bias relation.

Symbolic Language | Natural Language | Focus  | CC No
--- | --- | --- | ---
Phase 1: Radar
(1MC) Main class of phase 1 Engineering D
[1P1] First round first level personality Electronics 65
[1P2] First round second level personality Radar 44

Phase 2: Naval science
(2MC) Main class of phase 2 War Science 94
[1P1] First round first level personality Navy 5
[S] Space facet France 53

512 Synthesis
Class Number is D65, 440b(945), 53

513 Notes

1 The connecting symbol for phase is 0. The isolate number for Bias Relation is b.

2 The number of the second phase of a phased class number is always got by Subject Device. Therefore, the number of the second phase is always got by Packet Notation.

3 The context within the subject makes it obvious that the Space Facet belongs to the complex phased class and not to any one of the classes forming either phases. Therefore, the Space Facet has to be attached at the very end of the complex phased class number.

514 Length of Class Number
The class number contains 16 digits. But it is truly expressive of and coextensive with the thought-content of the document.

52 Subject 2
520 Document
"Exposition of radar for the staff of the French Navy."

521 Analysis
Starting point: - Two phases. Bias relation.

Symbolic Language | Natural Language | Focus  | CC No
--- | --- | --- | ---
Phase 1: Radar
(Same as in section 511) D65, 44

Phase 2: French Navy
(2MC) Main class of phase 2 War Science 94
[1P1] First round first level personality Navy 5
[S] Space facet France 53

522 Synthesis
Class Number is D65, 440b(945, 53)

523 Notes

1 The context within the subject makes it obvious that the Space Facet belongs to the Second Phase. This is different from what happened in the document given in section 510. The class number of the Second Phase is, therefore, 945.
53. Therefore the whole of this number has to be put within brackets.

2 There is no difference in the isolate number for phase relation, as it is Bias in this document also.

524 Length

The class number has the same 16 digits as the document of section 510. But the inclusion of 53 within the brackets makes the number truly expressive of the document under consideration.

53 Subject 3

530 Document

"Influence of naval science on radar, in France."

531 Analysis

Starting point :- Two phases. Influencing relation.

<table>
<thead>
<tr>
<th>Symbolic Language</th>
<th>Natural Language</th>
<th>Focus</th>
<th>CC No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: Radar</td>
<td>(Same as in section 511)</td>
<td>D65,44</td>
<td></td>
</tr>
<tr>
<td>Phase 2: Naval science</td>
<td>(Same as in section 511)</td>
<td>945</td>
<td></td>
</tr>
<tr>
<td>(Same as in section 511)</td>
<td>53</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2 The other notes are similar to those in section 513.

534 Length

The class number has 16 digits as in the other two subjects. But the introduction of the facet of phase relation and the use of different isolate numbers for different kinds of phase relations, has avoided the fault of homonym found in BC and UDC numbers.

54 Subject 4

540 Document

"Influence of French Navy on radar."

541 Analysis

Starting point :- Two phases. Influencing relation.

Symbolic Language Natural Language Focus CC No

Phase 1: Radar (Same as in section 511) D65,44

Phase 2: French Navy (Same as in section 521) 945.53

542 Synthesis

Class number is D65,440g(945,53)

543 Notes

1 Same as in section 533.

2 Same as in section 533.

544 Length

The class number has 16 digits. They are the same as in section 534. But, the inclusion of
the number .53 within the brackets makes the resulting number different. And it avoids incidence of homonym.

55 Subject 5
550 Document
"Influence of radar on French Navy."

551 Analysis
Starting point: Two phase. Influence relation.

<table>
<thead>
<tr>
<th>Symbolic Language</th>
<th>Natural Language</th>
<th>Focus</th>
<th>CC No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1: French Navy</td>
<td>(Same as for phase 2 in section 541)</td>
<td>945.53</td>
<td></td>
</tr>
</tbody>
</table>

Phase 2: Radar
(Same as for phase 1 in section 511) D65,44

552 Synthesis
The class number is 945.530g(D65,44)

553 Notes
Obviously, the main subject of exposition in this document is French Navy. Radar comes in only as a factor influencing the French Navy. This is not a document on Radar. But in the document in section 540, the main subject of exposition is Radar. French Navy comes in only as a factor influencing the development of Radar. It is not a document on French Navy qua French Navy. This semasiological difference in the idea plane, as indicated by the verbal plane, is implemented in the notational plane by changing the sequences of the two subjects in the arrangement of the phases.

554 Length
The class number has the same 16 digits as that in section 544. But their rearrangement makes each of the class numbers truly expressive of the thought contents of the respective documents.

56 Subject 6
560 Document
"Development, in France, of the naval use of radar."

561 Analysis
Starting point: One phase.

<table>
<thead>
<tr>
<th>Symbolic Language</th>
<th>Natural Language</th>
<th>Focus</th>
<th>CC No</th>
</tr>
</thead>
<tbody>
<tr>
<td>(MC) Main class</td>
<td>Engineering</td>
<td>D</td>
<td></td>
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<tr>
<td>[1P1] First round first level personality</td>
<td>Electronics</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>[1P2] First round second level personality</td>
<td>Radar in Navy</td>
<td>44(945)</td>
<td></td>
</tr>
<tr>
<td>[S] Space</td>
<td>France</td>
<td>53</td>
<td></td>
</tr>
</tbody>
</table>

562 Synthesis
The class number is D65,44(945).53

563 Notes
This document differs from the document mentioned in section 0, in that France is a separate facet in this document, whereas it forms a factor in sharpening the [1P2] in the other document.

564 Length
The class numbers of both the documents have the same 14 digits. But the simple device of Packet Notation implements exactly the semasio-
logical import in the thought-content or the subject-name of the respective documents.

6 FAULT IN BC

BC has taken a great step forward in emphasising the need for classification being made serviceable in bibliographical service i.e. in documentation work. But its obsession with "Economic limit" for length of class number makes it deviate from its objective. The result is that to save a few digits, it overlooks the subtle differences among subjects. These subtle differences are not the creation of classification schemes. They are already there inherent in the thought-contents of the documents themselves. Whatever difference is recognisable in the idea plane should be brought out in the notational plane. Otherwise, classification will fail and chaos will prevail in arrangement.

61 Measure of Chaos

The measure of chaos may not be recognised when we have only a few documents. The seven documents will be placed together with the same class number, if they are classified by BC or UDC. We may not feel much hardship in numbering them all alike. But suppose there are a hundred documents of each of the different subjects. All the 100 documents will have the same number. When so many documents are actually produced, specialisation would have become sufficiently intensive, for a particular reader being interested only in the 100 volumes on one of the 7 subjects. They will not be found together. To that extent, documentation service will become inefficient. Service will not be exact, exhaustive and expeditious.

62 False Alarm

It is false alarm to condemn a classification scheme, because it is able to provide a co-extensive and expressive class number for micro thought of any degree of intension. It is pathologic- al allergy to say that a scheme suited for documentation service of micro thought is not suited for ordinary library service of macro thought embodied in books, on the ground that it gives long numbers for micro thought. None of the seven subjects used in this paper is likely to get embodied in books, or at least in books to be taken by a public library or even a college or university library. There will be books, if at all, on Radar. Even that may be considered as very special. The class number for them will be merely D65, 44 in CC, BOW in BC and 621.396.9 in UDC. These numbers are not long - certainly not in BC and CC. Any properly designed scheme will similarly give short numbers for books and long numbers for very specialised articles. There will be no need to use one scheme to classify books in general libraries and another scheme to classify articles in an abstracting periodic or any other documentation list.

63 Improper Opinion

It is improper for librarians working only in public libraries and other general libraries like university libraries to pronounce judgment over the depth-capacity of a scheme of classification. They should have the modesty to remember that they had seldom done documentation service to save time and to give full satisfaction to specialised research workers. No doubt, the librarians of such general libraries come into the field many decades before librarians having to do documentation service analysing articles in periodicals. The former are also more numerous than the latter. Their voice may, therefore, be louder. This is all improper. This is creating a cleavage in the profession. It has developed to ugly and great dimensions in some countries. It also accounts to some extent for the difficulty found in the IFLA and the FID pulling together amicably. The proper thing should be for them to be sections of a single international body.

64 Limit of Impropropriety

Perhaps this is too far a cry, when there is not only so much misunderstanding about the possibility of one and the same scheme giving satisfactory results both to a general librarian and to a documentalist librarian, but people are so oblivious of their own ignorance and begin to hit others below the hilt. For an example of the limit to which impropriety can go, here are ext-
"Any one who sets out to make a modern library classification should have three major objectives in mind: (1) the system should render consultation of the shelves as easy as possible for reader, and staff; (2) it must facilitate those library routines that are dependent on it (e.g. the charging and discharging of books); and (3) its notation should lend itself to simple memorising and to accurate recording on call slips. Unfortunately the Bliss classification was not conceived along these lines, as the high-sounding title attests. — This is the high-water mark of misunderstanding.

"The work can appeal only to those few who consider classification somewhat in the light of an intellectual game and who are ready to accept bizarre relationships". — This is not true.

"Bliss has received the aid of a number of librarians and others in developing some of the schedules, perhaps in an attempt to see that the system will be maintained in years to come. Nevertheless it is likely to become an orphan scheme". — This kind of review makes one see the wisdom of some creative writers praying in their prologue that their books should be saved from falling into the hands of those without wit to understand them.

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