

The Practice of Classification: a study towards standardization

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An examination of the problems encountered by the British National Bibliography in applying a "standard" Decimal Classification notation to new books in parallel with the practice of the Decimal Classification Division of the Library of Congress; and of the implications for standardization of practice generally in this field.

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With the advent of the computer age in library science, the plea for standardization on both national and international levels is causing librarians throughout the world to reconsider many of their present practices with a view to making them compatible with proposed systems of international supply of cataloguing and classification information. Much has been said about the need for standardization—the need to suppress local practices for the greater good and for economy of compatibility and co-operation. Little has been said, however, about what happens when a "standard" has been accepted and attempts to apply it have been made. This is especially true in the area of classification. The British National Bibliography has been engaged in such an investigation, namely, the application of a "standard" Dewey Decimal classification number taken from the latest (i.e., the 17th) edition of DC to books appearing in the BNB.

Before 1969 the British National Bibliography had for some time been receiving requests to supply a classification number from the latest edition of the Dewey Decimal Classification. Although it was considered desirable to supply

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users with this information, doing so would have necessitated a certain amount of duplicated effort in classification at the BNB, and the shortage of financial resources for staff could not at the time be overcome. In 1968 the requirements of the MARC project added yet another voice to the requests for a "standard" DC number. At the same time, there was an increasing awareness of the real need for standardization of information used by libraries, and especially that supplied by the central agencies for cataloguing and classification.

Balanced against the need for standardization, the requests of BNB users, and the requirements of MARC, were the needs of the *Bibliography*. BNB had for some years rejected the use of "pure" DC numbers on the very justifiable grounds that "pure" DC classification could not meet the requirements of the *Bibliography* for the specific classification numbers which were necessary for subject retrieval.

SETTING UP THE PROJECT

However, as the pressures mounted, BNB felt it necessary to reconsider its policies, and to review any new developments which might allow it to retain specific subject retrieval in the *Bibliography*, and at the same time to move towards standardization in classification.

It was recognized that by giving a DC17 number as supplementary information for all items in the *Bibliography*, BNB could supply the information requested by its users and the MARC project and, at the same time, it could use this information to determine what would be the results of using a "standard" DC number; that is, whether for the purposes of the *Bibliography* a "standard" DC number would be suitable. It was also recognized that if the "standard" DC was found not to be suitable for this purpose, then BNB would have at hand information as to where and why it must deviate from the standard.

In order to keep the duplication of effort in classification down to a minimum, BNB at first introduced a programme of conversion. This meant that when assigning a DC17 number to an item, the classifier would use the BNB classification number and "convert" it into its equivalent DC17 number. No attempt was made to re-analyze the subject of the book. It was hoped that this could be a one-to-one conversion; that is, for every BNB classification number, there would be one equivalent DC17 number; and that eventually the assignment of DC17 numbers would be on an automatic or mechanical basis.

These converted DC17 numbers began to appear in print as supplementary information in the BNB lists in January 1969. In April 1969 Mr. Benjamin A. Custer from the Decimal Classification Division (DCD) at the Library of Congress visited BNB to discuss BNB's application of the 17th edition of the Dewey Classification. He had expressed the hope that the Library of Congress would be able to utilize the DC17 number assigned at BNB for British books. It became

apparent after a few days' discussions about the conversion programme that the resulting numbers would not necessarily correspond to DCD decisions. A number of alterations were introduced into the conversion programme to attempt to deal with the problems of difference. At that time BNB began to correspond regularly with the DCD about the difficulties encountered. This correspondence resulted in even more alterations until gradually the goal of automatic conversion became more and more remote.

Later in 1969 a major reorganization of staff allowed BNB to reconsider some of its processes and among these was the conversion programme. It was decided at that time that conversion was becoming so complicated that it would be easier and faster to simply classify the books twice: once for BNB classification and again for DC17. This was later reinforced by the decision that BNB classification itself was to be abandoned in 1971, and thus the whole basis of the conversion programme would no longer exist.

The aims of the DC17 programme were then restated and, for the purposes of the current Dewey Decimal Classification programme, it was decided to aim at the interpretation and application of the schedules in such a way that BNB would assign to any given subject the same classification number as that which would be assigned to that same subject by the Decimal Classification Division at the Library of Congress. Stated more simply: the aim at BNB was for complete compatibility with the American source of Dewey Decimal Classification numbers.

EVALUATION AND MODIFICATIONS

Having set the goal, it was then necessary to set up systems whereby the work could be evaluated. There were three major ways in which this was done.

First was the supply by BNB of DC17 numbers to the DCD as part of the information sent to the Library of Congress on the Shared Cataloguing Programme. This meant that for all British books for which BNB supplied cataloguing and classification information to the Library of Congress, the DCD had the BNB DC17 number in hand when classifying the book. If for any reason DCD disagreed with BNB's classification of the book, they sent BNB the relevant card stating where they had classified it and why. The DCD estimated that they were able to use over 80 per cent of the DC17 numbers assigned at BNB and that this figure went on increasing.

The second way of evaluation was the utilization of the LC cards which were sent to BNB. These were cards for American publications which were likely to be published in the UK. They were kept on file at BNB, and when a book came in that had been previously published in the US., or had a joint imprint, the relevant LC card was pulled, giving the DCD classification number in hand when the book was classified. It was estimated that 97 to 98 per cent of the numbers

assigned at the DCD were accepted at BNB when assigning the DC17 number.

Together these two systems ensured that one or the other of the two agencies had information as to how the other had classified a book for a large proportion of the books being dealt with.

There was, in addition, a third way of checking progress toward the goal of compatibility, and this was in some ways the most significant. A number of the LC cards which were sent to BNB arrived too late to be of use at the classification stage. These cards were checked against the BNB records and the BNB DC17 number was recorded on them. They were then analyzed to see where differences occurred and if the differences fell into patterns which would reveal unsuspected differences in classification policies at BNB and DCD, or help in avoiding any already suspected.

From this analysis emerged a somewhat appalling piece of information: that for those books where neither DCD nor BNB had knowledge of the other's classification number, there was disagreement on over half of the items classified. (It should, however, be quickly pointed out that this figure actually applies to only a small number of books.)

The most obvious difference which occurs is, of course, that of subject analysis. Both BNB and DCD realized that differences in subject analysis would occur and that these differences would be almost impossible to eliminate. In most of the cases which have occurred where the difference is truly that of subject analysis, it has been very difficult indeed to judge whether one number was better than the other. In many of the cases, the disciplines are so intertwined that neither number really fits the book. Where BNB had advance information as to what the DCD did with the type of book, they used their number if they could justify it—even if it disagreed somewhat with the BNB subject analysis.

Two further patterns of disagreement occurred which were based on subject analysis. The first of these was when either BNB or DCD failed to appreciate that a theory or generalization was presented in such a way as to be applicable only in one or the other country. What usually happened was that BNB recognized when a book should be limited to the USA, but not always when a book should be limited to the UK; and the opposite was true of the DCD. There are two instances of this in Example 1.

Example 1

Jacques, J. *Manual on Co-operative management*. Manchester: Co-operative Union, 1969.

BNB DC17: 658.916588707

DCD DC17: 658.9165887070942

Donaldson, Scott. *The suburban myth*. N.Y.: Columbia U.P., 1969.

BNB DC17: 301.3620973

DCD DC17: 301.362

This was unhesitatingly labelled a minor difference: but, nonetheless, it was unfortunate.

The second disagreement based on subject analysis came when a book had, or purported to have, a bias towards application. For example, at what point does "mathematics for mechanical engineers" become "mathematical aspects of mechanical engineering", or "obstetrics for nurses" become "obstetrical nursing"? The difference in classification numbers is shown in Example 2, and in Example 3 can be seen what all too often happened. (It should, of course, be remembered that the titles of books like these are very often misleading as descriptions of what the book is actually about.)

Example 2

510.024621	Mathematics for mechanical engineers
621.0151	Mathematical aspects of mechanical engineering
618.2002461073	Obstetrics for nurses
610.73678	Obstetrical nursing

Example 3

Crowe, Alan. Mathematics for biologists. London: Academic Press, 1969.

BNB DC17: 510.024574 (Mathematics for biologists)

DCD DC17: 574.0151 (Mathematical aspects of biology)

Dettman, J. W. Mathematical methods in physics and engineering. N.Y.:

McGraw-Hill, 1969.

BNB DC17: 530.15 (Mathematical physics)

DCD DC17: 510 (Mathematics)

Another difference which occurred at times is one over which classifiers have very little or no control. This is the difference caused by decisions made at the cataloguing stage when an item is catalogued either as a monograph or as part of a multi-volume work or series. If BNB decided that a certain item was to be entered under its series, then obviously the classification number for that item would be the classification number for the series. If, on the other side of the Atlantic, the Library of Congress decided to catalogue that same item as a monograph, then the DCD would classify it as a monograph. An example of the difference in resulting class number for the same item is given in Example 4.

Example 4

(LC entry)	Schering Workshop on Steroid Metabolism, <i>Berlin</i> , 1968 Schering Workshop . . . Oxford; New York; Pergamon Press, 1969. (Advances in the biosciences, 3.) DCD DC17: 612.39 (monograph)
(BNB entry)	Advances in the biosciences. Oxford: Pergamon. 3: Schering Workshop on Steroid Metabolism . . . 1969. BNB DC17: 574 (series)

Although the differences caused by subject analysis and cataloguing decisions were troublesome, they gave less concern than the next two problems to be discussed. These are the difficulties of BNB in determining the DCD's classification policies, and the difficulties of depending too much on BNB classification policies. It was usually a combination of both that caused the differences.

There is, of course, no official manual to the use of DC17. The latest official manual for the use of DC is that for the 16th edition. Although this is sometimes useful, its guidance for the 17th edition is limited to those areas where no major changes have been made. There are available a number of books on classification which give guidance to the use of DC, but usually these were much too general to be of real use to us.

BNB's best source of information about DCD's classification policies was their correspondence with DCD. Unfortunately, the major disadvantage of this source was that the information was received only after the mistakes had been made.

When there was no definite information from the DCD through correspondence, four other sources were available. These were the "Editor's introduction" to DC17, the instructions given in the schedules themselves, the drafts of the 18th edition, and the Library of Congress publication *Books Subjects*.

The "Editor's introduction" to the 17th edition is one of the best sources for general guidance to the use of DC17. Particularly helpful features found in the "Introduction" are the general instructions for the use of the schedules and the general principles for classifying books with compound and complex subjects. The answer to a difficult problem was thus sometimes found by turning to the "Introduction", but, of course, it did not have all the answers.

The next major source of information was the instructions in the schedules themselves. There are numerous definitions, scope notes, inclusion notes, cross references and other general instructions to be found in the schedules. Sometimes there are instructions which contradict the general instructions given in the "Introduction", but the rule is that specific instructions in the schedules are to be followed whenever this occurs. However, as good as these features in the schedules generally are, there are times when they are inadequate. To give a minor example: if you have a book which is about reptiles and amphibians, and if it stresses each equally (say 20 pages on reptiles and 20 pages on amphibians), you would follow the general principles for compound subjects and class in the number coming first in the schedules: 597.6—Amphibia. There is nothing at that point in the schedules to tell you that you are wrong. It is only when you get to 598.1—Reptiles that you find the note "Scope: herpetology", that is, the zoological study of reptiles and amphibians.

To take another instance: when it comes to the placing of (1) collections of works of individual artists, and (2) works about individual artists, the problem

becomes fairly complicated. The general principle involved concerns the use of standard subdivision—092, Persons, which has the following notes: "Critical appraisal and description of work, biography of persons associated with the subject. Observe exceptions under 180-190, 750, 809, 810-890." There is a cross reference given at standard subdivision -093-094 to tell you that persons take precedence over place or time.

Let us deal first with painters (750), as this is given as an exception in the standard subdivision -092. At 750, you have painting: 750.9 is a voided number, and you are told to class in 759. At 759.1-.9, Historical and geographical aspects of painting, you have the scope note "individual painters regardless of process, form, subject." Therefore, you would quite rightly classify a collection of the paintings of Frans Hals, or a book about his paintings, or a biography of him, in 759.9492, Dutch painting.

Now, having established the exception, let us go back to the beginning at 700. Suppose you have an artist who is not chiefly identified with any specific art form. At 709, Historical and geographical treatment of fine arts, there is a note "Development, description, critical appraisal, collections of works, biographical treatment of artists." At 709.01-.04 are the periods of artistic development, and at 709.3-.9 is geographical treatment. What you must deduce from your knowledge of the standard subdivision -092 is that works by and about individual artists are classified in 709.24, a number which does not appear in the schedules at that point.

Let us now go on to sculpture, 730. Here again you see that collections of works by, and works about, individual sculptors are placed in the -0924 subdivision, i.e. 730.924. However, you will note that, unlike the note at painting, the number at 730.92 does not take in individual sculptors who are identified with a specific plastic art, such as carving, ceramics, etc. These would be placed at the number for the specific plastic art: for example, ceramic artists would be 738, Ceramics, and then add .0924, individual persons.

So far, although we may not be too happy about the inconsistencies in classifying individual artists in the various media, we have had instructions as to how to deal with them. Let us now go on to 741, Freehand drawing and drawings. At 741.09, we find a note that tells us to class historical and geographical treatment of collections of drawings in 741.92-741.99; and at 741.092 we find Artists regardless of medium, process, purpose, subject. Now, at this point, saying for the purpose of argument that we had in hand a collection of the drawings of Beardsley, we might reason that persons take precedence over place, and with the parallel situations at 709 and 730 still fresh in our minds, classify the book at 741.0924. We would be wrong according to DCD classification policy. The book should be classified at 741.942, Collections of English drawings: only works *about* individual artists are classified at 741.0924.

Should we, by some not unthinkable chance, have a collection of works by, or a book about, an individual children's book illustrator; and should we happen to turn directly to 741.642, Illustration of children's books, we would not find any instructions at that point to tell us that collections of an illustrator's works should go at 741.9, or that works about him should go at 741.0924.

This problem is again repeated at 760, Graphic arts, where collections of individual print makers and works about them are classed at 769.924; but there are no instructions at block printing, lithographic processes, metal engraving, etc., to tell us that collections and works about individuals whose work is limited to one of the specific forms are to be classed at 769.924. If you happen to turn first to, say, 761.2 for an individual wood engraver, there is nothing there to tell you not to classify the book at that number.

All this caused a number of problems until BNB learned the system. But another and more important point can be made from this example. It will be noted that, although all of the individual schedules for the various art media are constructed along parallel lines, each is handled in a slightly different way and, therefore, no generalizations can be made from one to the other when classifying. This worried BNB, because when they lacked specific guidance at one point in the schedules, they often made decisions as to where to classify a subject on the basis of what appears in a parallel schedule. (With regard to the particular problems in art, the DCD has recognized that this is causing problems and has added instruction notes in the 18th edition to cope with them.)

To turn now to the next source of information about DCD's classification policies: the 18th edition draft schedules. These were sent to BNB early in 1969 and were, therefore, out of date. However, they were still useful, especially when handling new subjects. Although, of course, the actual numbers which appeared in the drafts could not be used, the drafts gave guidance as to where new subjects would best be placed in DC17. In cases where instructions in the DC17 schedules were lacking or ambiguous, the 18th draft schedules often gave clearer guidance, thus helping to avoid guesswork. For example, DC17 gives no guidance in classifying the sociology of Negro children in urban areas. It could go at 301.364, Sociology of urban communities; 301.4314, Sociology of children; or 301.45196, Sociology of Negroes. The 18th draft schedules have a table of precedence at this point which tells us that the correct number is 301.45196, Sociology of Negroes.

The last source of information regarding DCD's policy was the LC *Books Subjects*. This had always to be used with caution, because wrong numbers can get into print before anyone spots them. There are some examples of where this has happened in Example 5. The first two are rather sad, because the BNB DC17 number does not agree with either of the DCD's numbers; but in the last one, there was agreement on one of the numbers.

Example 5

Crowther, P. A bibliography of works in English on early Russian history to 1800.

DCD DC17: 016.914703 (American edition)

DCD DC17: 016.947 (British edition)

BNB DC17: 016.9147

LCSH: Russia—History—Bibliography

LC: Z2506.C75

Welham, P. J. Monetary circulation in the United Kingdom: a statistical study.

DCD DC17: 332.410 (American edition)

DCD DC17: 339.342 (British edition)

BNB DC17: 332.4942

LCSH: 1. Money—Gt. Brit. 2. National income—Gt. Brit.

LC: HG939.5.W43

Chedd, G. Half-way elements; the technology of metalloids.

DCD DC17: 661.03 (American edition)

DCD DC17: 620.189 (British edition)

BNB DC17: 661.03

LCSH: Semimetals

LC: TA455.S35C45

The other hazard in using *Books Subjects* was that titles of books can be misleading, and what appeared to be the same subject was not always the same. But despite these hazards, *Books Subjects* was useful.

If all sources failed, then BNB tried to adapt its own classification policies to fit the 17th edition. But, because the two systems were so similar in some areas, they at times failed to take into consideration the wide divergencies between the theories of classification by which each system was regulated. Coupled with this was the fact that those working on the project were in the habit of classifying from the point of view of the BNB classification; and, in the words of one of my colleagues, "old habits are hard to break". There were instances where a difference between the BNB DC17 number and the DCD classification number had arisen because it never occurred to anyone to question a BNB placement. For example, BNB places general computer programmes and descriptions of them in the number in mathematics for computing machines and adds appropriate letter notation for the specific subject "programmes". When assigning the DC17 number to general programmes and programming, they turned to Mathematics, found a number there for computers, 510.7834; placed their book in that number; and then were told by the DCD that the place for general computer programmes was in the number for data processing, 651.8. The subject analysis was the same, but the classification policy was different.

Instances such as this were relatively easy to sort out once DCD's classification

policies regarding them were known. There were, however, cases where the differences were more complex.

One of these concerned the type of subject which the BNB classification placed in history. Previously, whenever BNB had placed a book in history, it was the practice also to assign the DC17 number for history to that book. But then came a policy statement from DCD which laid down that the history number was limited to "narrative and analysis of events of the distant or immediate past in the life of mankind, not limited to a single discipline or subject."

Books about "man's spiritual, intellectual, material situation and progress" were to be classified in the number for civilization; general treatments in 901.9, and treatments limited geographically in 913-919, as appropriate, with the extension "03 civilization" added wherever possible.

They further explained that BNB should "class scientific investigations of a culture and changes in it, designed to discover 'what makes it tick', in 301.29 [Historical and geographical treatment of cultural processes]." But ". . . descriptions of a culture or civilization (cultural situation and conditions) [are classed] in 913-919, if general, or in 309.1 [Social situation and conditions], if limited to social aspects."

BNB then began to scrutinize all the books which would previously have been placed in history, and placed them in Civilization, Cultural processes, Social situation and conditions, or History as appropriate. However, they continued to have difficulty in assigning numbers to events such as political movements. So, for further guidance, DCD then laid down that individual components of history were to be classified where the subject was classified, and not in the general History number. Only if the discussion of a particular movement cut across the disciplines as outlined in Dewey was it to be classed in History: for example, "the history of purely political events not concerned with their non-political relationships, causes and effects would class in 320.9 [Political situation and conditions] . . ." or in an appropriate subdivision of 320, Political science.

It was the policy embodied in these statements which was now to be followed for the subjects which would previously have been called history. Unfortunately, it took some time to catch on to it all, and consequently a number of differences between the BNB DC17 number and the DCD classification number occurred in this area.

Similar difficulties occur throughout the schedules. At this stage it is hoped that BNB are at least aware of them all even if solutions have not yet been found.

At this point, it is important to emphasize how helpful the DCD has been (and is continuing to be) in their correspondence with BNB. Their co-operation in all matters and their patient explanations regarding their use of the 17th edition deserve much of the credit for the progress BNB are making towards its

goal. Should BNB decide to continue towards the goal of compatibility, then I believe there is every chance of successfully achieving it.

PARALLELS WITH LC CLASSIFICATION AND LCSH

Those who are interested in the Library of Congress Classification or in the use of Library of Congress Subject Headings will have already recognized that some of the difficulties encountered in the use of DC are also applicable to the use of LC or LCSH. LC classification and LC subject headings are at present being supplied at BNB for the benefit of the users of the MARC tapes. There is complete coverage of LCSH on the tapes, but the coverage of LC classification is limited. Compatibility of the information supplied by BNB with that supplied by the Library of Congress is restricted by differences in subject analysis, differences caused by cataloguing policies, difficulties in determining the policies at the Library of Congress for the use of the schemes, and the lack of adequate manuals and guides.

The use of LC classification has an additional difficulty in that it is an enumerative scheme which can be added to at any time by the Library of Congress. It is almost impossible to know whether LC will decide that an existing number is adequate for the classification of a book, or that an expansion of the schedules is necessary.

This same problem applies to the Subject Headings. If they decide at the Library of Congress that a new subject heading is needed, they will raise it immediately: but until a supplement is issued, other users of the LCSH are unaware of the new heading available to them. In addition to this, the use of LCSH has two unique problems. The first is, whether "standard" use of LCSH means that American spelling and terminology must be used instead of British spelling and terminology; and the second is, whether "standard" use of LCSH means that the Library of Congress forms of names must be used instead of the forms of names established by the British text of AACR. At the moment BNB solves the first problem by using American spelling and terminology, and solves the second problem by using the form of name established by the British text of AACR.

In conclusion, I would like to point out to those who may be contemplating the use of standard subject information, that their responsibility to the users of their libraries and to the library profession must not end with the acceptance and application of standards. It is imperative that it be extended to the future development of these standards. With regard to the Dewey Decimal Classification, librarians in the UK have an excellent opportunity to contribute to the future development of DC through the work of the Dewey Decimal Classification Sub-committee of the LA's Research and Development Committee. The

success of this Sub-committee depends largely on, first, the co-operation of the DCD and the Forest Press who are the publishers of DC, and, second, the co-operation of British librarians.

When Mr. Custer from the DCD and Mr. Sealock from Forest Press met in 1969 with the Sub-committee, the foundations of an excellent working relationship were established. Since that time, my colleagues in Britain and my compatriots in America have been working towards closer co-operation in the future development of DC. This work has led to what must be regarded as a major event towards the establishment of international co-operation in classification development: the recent invitation extended to the Library Association to appoint a British representative to a three-year term on the DC Editorial Policy Committee in the United States.

It is both appropriate and fortunate that the Library Association has appointed as that representative the Chairman of the British DC Sub-committee, and it is now increasingly important that British librarians make known their requirements of DC to the Sub-committee. The success of the new relationship depends on the co-operation of British librarians.

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REFERENCES

¹ Penna, C. V. Planning library services, *Unesco Bull. Libr.*, **23** (1) March–April 1967, 60–92.

² Penna, C. V. *The planning of library and documentation services*. Second edition revised and enlarged by P. H. Sewell and Herman Liebaers. Unesco manuals for libraries, 17. Unesco, Paris, 1970.

³ Sewell, P. H. The development of library services; the basis of their planning and assessment. *J. Librarianship*, **2** (1) January 1970, 33–42.

⁴ Withers, F. N. Review of: *American Association of State Libraries. Standards for library functions at the State level*. *J. Docum.*, **26** (3) September 1970, 267–269.