

Revision of classification schemes: policies and practices

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The problems of developing subjects and changing terminology which confront all revisers of indexing tools are surveyed briefly, and the policies and practices adopted by the Library of Congress, Dewey Decimal and Universal Decimal classifications are reviewed in turn. The revision of the Bliss Bibliographic Classification is then considered in the light of the foregoing discussion of general problems and specific solutions. Some worked examples using sections of the revised Bliss scheme are appended.

Librarians making the necessary changes for the revised edition need not fear that a series of editions have begun each of which will call for such changes. The changes here submitted are the accumulation of twelve years' experience in using the system. They have all been very carefully considered, and while the first edition was in its nature tentative, this one may be considered as having the numbers settled after sufficient trial and not likely to be again altered, though of course certain subjects not yet subdivided will in due time have subdivisions added, and suggestions from specialists are invited.

With these words¹ Melvil Dewey reassured the librarians who contemplated with dismay the many changes introduced in the second edition of the Decimal Classification, and thereby firmly laid one of the corner-stones of its success. It may not have been the first statement of revision policy (Dewey-debunkers seem able to find chapter and verse for examples which antedate every one of Dewey's achievements), but it was arguably the most significant and influential.

Schemes of bibliographic classification reflect the society which libraries serve very clearly, whether this society be a narrowly-defined user group or society at large, and they reflect its development at a given point in time. As society evolves, its activities, discoveries and changing emphases are reported and discussed in broadcasts, in newspapers and journals, and in books, and in one form or another this information and commentary finds its way into libraries. For this reason, the makers of classification schemes must have a deep understanding of their society and of the ways in which it records its knowledge and achievements. Equally, other librarians need to know how the classifier and bibliographer have tried to capture and chart those records and put them into an order which, it is hoped, will match users' expectations and requirements. The work is never done, and what is done is never completely satisfactory, not only because the flow of materials and the new ideas and combinations of ideas recorded in them are always several steps ahead of the librarian, but because he is constantly forced to compromise. The arrangement of the materials (or the records of them) is an attempt to suit as many of the users as possible as much of the time as possible. Moreover, there is a conflict between the static nature of the collection and the dynamic nature of the new acquisitions which may not fit into the established pattern. Librarians want their collections to be up to date and the classification schemes which organize and display those collections correspondingly so, but at the same time they do not want to have to alter the work which has already been done.²

These thoughts have been prompted by the publication of the first four volumes of the revised edition of Bliss Bibliographic classification. To set the work of Jack Mills and his associates in perspective, it is worth considering the problems which face all revisers of classification schemes. Those who are keeping other indexing tools (e.g. thesauri) up to date are confronted by many of the same problems, but for the purposes of this discussion I propose to examine the Library of Congress, Dewey Decimal and Universal Decimal classifications (LCC, DDC and UDC) to demonstrate the wide variety of policies, practices and organization employed.

Broadly speaking, the reviser is concerned with (i) vocabulary and (ii) structure, and these are closely connected: it is one thing to find a place for a new topic, but to be able to put it in the right place

means that the structure of the scheme must be right too. Obviously, the reviser seeks to accommodate new topics and new terminology. In the longer term he may also have to find room for new approaches to existing subjects; these may reflect the needs of new user groups. If Melvil Dewey believed that new topics could be fitted into his infant scheme merely by the addition of further decimal subdivisions to his existing classes, this was the result of his observation of the monograph literature of his time: new subjects were represented by books published on narrower aspects of established topics. Today we are familiar with a vastly more complex literature: subjects which have outgrown their original contexts (e.g. in .DDC Edition 2, 150 Mental faculties, or 621.3 Electrical machines, then correctly subsumed under Mechanical engineering), many-faceted subjects (e.g. Audio-visual aids for teaching English to immigrant children), cross- or pan-disciplinary treatment of topics, and subjects which express the interactions of different areas and disciplines. We are familiar, too, with those subjects which have become permanently linked, giving rise to new areas of specialization with their own structure and methodology (e.g. Biochemistry). All these must be provided for in ways which permit the classifier to carry out his work with confidence and which do not cause the user to cry out in wrath, "This book is out of place!" For schemes of classification which were conceived at the end of the nineteenth century, these are major problems.

New terminology is often the result of the birth and growth of new topics, from whatever cause. Words are coined and borrowed to express fresh ideas and fresh combinations of ideas, sometimes of necessity, sometimes to achieve a more precise definition, and sometimes (one suspects) merely to impress. Other changes may reflect changing social values and attitudes, and in this context the replacement by non-emotive, neutral terms of those which may be considered racially, sexually, religiously or in other ways biased comes to mind immediately. Terminology is a problem with far wider implications, and is the subject of sociological studies in its own right; for the moment, this brief note of its existence as a special problem for the revisers of index languages must suffice.

The problems of subjects looked at in a new way can result from a change in patterns of education and research. Thus old schedules for botany and zoology may reflect a taxonomical approach, with detailed descriptive study of the various genera and species, whereas a modern syllabus emphasizes biological processes and a comparative approach to structures, using individual species as exemplars. Again, the requirements of particular user groups may necessitate the provision of alternative arrangements within a scheme, all of them equally and concurrently valid.

LIBRARY OF CONGRESS CLASSIFICATION

Of the three major general schemes, that of the Library of Congress is unique in that it was originally designed, and is still primarily maintained, for the use of one particular library. Although the scheme can be faulted on many counts, to lose sight of this basic fact and to indulge in the kind of criticism which consists, if not in so many words, of blaming LCC for being the classification of the Library of Congress, is one of the most futile exercises imaginable. Since the scheme is devised, applied and constantly amended within one institution, small changes can be made quickly and frequently in response to the needs of the literature received. Headings are redefined in wider or narrower terms and new subdivisions are created as soon as the appearance of a body of literature warrants them. Normally this is done within the existing framework, by using (i) unallocated numbers in the arithmetical sequences 1-9999, (ii) decimal subdivisions and (iii) alphabetical subdivisions. The results may sometimes look clumsy, and the classifier has to keep a sharp eye on the indentations of the schedules (especially when turning pages), but it is surprising what can be accommodated once the idea of an expressive, hierarchical notation is abandoned. For example, the section of the first edition of Class L, Education (1910), which read:

LB	1042	Stories and storytelling
	(1043)	Blackboard drawing, see NC 865
	1044	Use of pictures
	1045	Minor pedagogical "don'ts", "helps" etc.

has evolved into a classification for audio-visual education with 25 subdivisions ranging from LB 1042.5 to LB 1044.9, using decimal and alphabetical methods freely. LB 1044.2, Auditory aids, is in fact a broader subject than LB 1044, Moving pictures (itself a subdivision of LB 1043.5, Visual aids):

the required sequence of topics is maintained, but there is no way of spotting the subordinations from the notation. The additions and changes are published quarterly, and cumulations of these amendments are published as supplementary pages with their own index whenever the schedules for a given class are reprinted. Keeping up to date is extremely tedious, as a very large number of amendments is made each year. Happily, Gale Research Company of Detroit has come to classifiers' rescue with *Library of Congress classification schedules: a cumulation of additions and changes through 1973* – a series of volumes matching those of the basic classification together with supplementary volumes for the period 1974-1975.

From time to time new editions of the classes are published; these incorporate the amendments to date into the main schedule, and may include some more drastic revision. Let no one imagine that moves are not made within LCC schedules: they are! The moves may be very small ones (e.g. within QR 180-189 Immunology, recently) or rather more wide ranging (e.g. Electric conduction in gases and vapors, from QC 610 to QC 710-711.8) or they may result in a totally new classification. The latest edition of class N, Fine arts, includes a new subclass NX, Arts in general (i.e. the broadest class of all, encompassing M, N, P and a couple of other subclasses!), and in a different field, one result of the Library's greatly increased number of acquisitions from Asia in recent years has been the creation of a new class for Buddhism at BQ 1-9800 in place of the schedule at BL 1400-1495, which had proved inadequate in detail and structure.

There are three further points to be noted about these changes. First, there is no attempt to be "logical"; if this is not convenient: the placing and apparent subordination of NX cannot be justified on any theoretical grounds, and Buddhism has merely used a blank in the alphabetical sequence between BP, Islam, and BR-BX, Christianity. Second, for a collection the size of that of the Library of Congress such considerations are unimportant, as the total spectrum of classes can never be surveyed at a glance. Third, because the subject approach is via subject headings in the dictionary catalogues, books can be located whether they have been classified at new or old class numbers: there is no need for the Library to reclassify its existing stock every time a change is made. Another, related, effect of this reliance on the subject headings has been a dearth of helpful guidance in the schedules when classifiers have to place multifaceted subjects. (Where would you place G. Mialaret's *The psychology of the use of audio visual aids in primary education*, 1966? – LB 1043 Audio-visual education, LB 1067 Educational psychology, or LB 1513 Primary education–General special? Decide before looking up the answer.)³ To be fair, it must be said that some of the latest editions of classes have included more directions to aid consistency in classifying.

The implications for libraries which have decided to adopt LCC are obvious. The scheme is designed and maintained for the needs of one of the world's largest libraries – a library which can best be described in one of the most characteristic captions used in its classification, "general special". If others care to use it, well and good, but for the most part they must be prepared to accept it as it stands. In particular, those who wish to make use of officially-assigned LCC numbers appearing on printed cards, MARC tapes, etc., have the choice between accepting numbers which, over the years, may be inconsistent with one another, or of checking all numbers against up-dated schedules. It is difficult to estimate the number of changes. Until 1966–1967 the annual reports of the Librarian of Congress included statistics of class numbers established and class numbers changed; the figures for that fiscal year were 2086 and 174 respectively. From the following year figures are only given for numbers established (recapitulating 2086 from the previous year); the figure for 1974–1975 was 5663.

The Library of Congress has historically made few concessions to the needs of other users in its scheme. Latterly, however, it has shown greater responsiveness, a readiness to go at least a little of the way towards making provisions not necessary for its own purposes. Thus it now gives numbers for fiction in English in the appropriate period divisions of the literature classes, even though in the Library itself all this material is dumped in PZ 1–4. Similarly, the Library is slowly responding to pressures to modernize and "neutralize" the terminology of its schedules and subject headings. Autocratic, cumbersome, detailed, illogical, pragmatic, practical: it works, for the Library of Congress, and will probably continue to do so, with a guaranteed in-built mechanism for revision, for as long as book-shelving classification is needed, it would seem.

DEWEY DECIMAL CLASSIFICATION

Although DDC numbers are assigned in the Decimal Classification Office of the Library of Congress to a very large number of titles,⁴ and the machinery for revision is firmly established within the Library, it cannot be said that DDC is designed for and evaluated against the stock of an actual library: there is no collection arranged by DDC which is the editors' workshop in the way that the Library of Congress is the testbed for its own scheme. DDC numbers are provided by the Library purely as a public service. DDC lives by its use in countless public, college and other libraries around the world and its ability to sell new editions at intervals, steering a tricky course between the expectations of existing users and those of potential new customers.

"D C is not a filosofik skeme", wrote Dewey eight months before his death in 1931, "but mereli a praktikal working method to no wher to put things & then to fynd them agen. & I believ its valu wil be larjli rekt unles the Foundation stiks by the onli praktikal method, spending tym & muni on the old DC, frankli rckognyzing its faults & that it gets out of date.

"Its existence depends on constant sales of nu editions & we wil ruin this incum when we ignore the praktikal needs of the great bodi of users & try to gratify the critiks of which a nu crop springs up at least anuali."⁵

This policy was followed, with a few notable exceptions, from the second to the fourteenth edition (1942), and the scheme grew in detail and strength on the framework devised and modified between 1873 and 1885. This framework naturally reflected the literature found in a New England college library at the end of the nineteenth century. The emphasis on a West European and North American Christian and classical culture, and the provision for topics of relative simplicity at the monograph level – these were built into the scheme at the outset.

In the end, however, there had to be more radical revision, and the story of the fifteenth, "Standard" edition and its three successors to date needs no repetition. (Those who wish to study the revision of DDC in painstaking detail, with many fascinating asides and glimpses of old controversies and personalities, can thank John Comaromi for his researches.)⁶ Revision currently seems to be concerned with (i) a better balance of detail throughout the scheme, (ii) providing for new topics, (iii) providing for complex subjects, (iv) eliminating the "WASP" ("White Anglo-Saxon Protestant") bias and other features regarded as prejudiced, and (v) making the scheme attractive to users outside the English-speaking world, either in its full and abridged English editions or in translation.

New editions of the scheme normally appear every seven years. In the intervening period, amendments, mostly minor, are published in the irregular bulletin *Decimal Classification Additions, Notes and Decisions*. (The title was soon abbreviated to *DCAND*; this is, of course, far too long, and it is now known as *DC&*.) The very extensive revisions of place and period numbers for the British Isles published in this way between editions were exceptional. *DC&* also serves as a vehicle for informing users about proposed major revisions, for discussing questions of interpretation and application of the scheme, and for inviting user opinion.

The revisions are achieved, where possible, by extensions to existing numbers. The text opposite the numbers for containing (superordinate) classes may be modified – frequently broadened – so that what is true of the higher class is true of all its subdivisions; this is bound up with the editors' desire to make the notation hierarchically expressive. (Students who still quote 621.3 Electrical engineering as an example of false subordination under Mechanical engineering should look at 621 in Edition 18 and see what is actually printed there now.) Aspects of subjects are being explicitly developed in accordance with the principle of subordination to disciplines – a process which may require the relocation of books previously classified elsewhere. This is something which takes time, and the editors are aware of places where tradition still outweighs logic.

Notwithstanding Dewey's assurance of 1885, numbers *could* be reused with different meanings, but only after they had been cancelled and left unused for a "starvation" period of twenty-five years; this is still official practice. In Edition 16, however, while the library community was sighing with relief over what was regarded as the restoration of common sense following the madness of the "Standard" edition, the editors printed two sections with entirely recast schedules, reusing many numbers with

totally different meanings without any intervening starvation period. These sections for inorganic and organic chemistry, 546 and 547, were the first of what came to be known as “phoenix” schedules. A total recasting of the psychology schedule followed in Edition 17, and of the law and mathematics schedules in Edition 18. The development of knowledge had been such that the old schedules were considered incapable of classifying current literature in these areas. (The fact that the new schedules, especially for law and mathematics, have been severely criticized is another matter.) Phoenix treatment is very drastic, and plainly creates problems for existing users. Some amusing estimates have been made of the number of decades or even centuries which would elapse if the entire scheme is to be revised in this way at the current rate of progress; what does not seem to have been considered is whether every part of the scheme needs such treatment. More significant is the fact that a proposal for a phoenix revision of the life sciences has quietly receded into the background, at any rate for the time being. It is interesting to speculate whether this has anything to do with the recent publication of the French edition of the scheme: a major recasting of one of the largest parts of the classification within a very few years would not be welcome to users in French-speaking countries.⁷

Recent editions of DDC have introduced much greater use of synthesis. There is a school of thought which holds that, since classification schemes can only collect materials under the first-cited facet in a subject and must progressively scatter information in the later facets, all that is needed is a single-facet scheme for shelving purposes, with a subject catalogue which provides for a multiplicity of subject approaches (e.g. by PRECIS). When one contemplates some of the more exotic class numbers which can be achieved by synthesis, this seems attractive, but more sober reflection shows that all books on the history of Britain would be shelved without further subdivision by period or topic, all English literature without subdivision by form or period ... one could continue indefinitely. Dewey recognized this and designed several of his classes with an analytic-synthetic structure very early on (typically, indeed, history and languages). Recent difficulties have arisen where the editors have grafted a lot of synthesis on to sections of the scheme which were not designed to take it, or sections where synthesis had been allowed for but only in part, with results which are sometimes quite successful and sometimes very cumbersome (assuming the classifier can follow the instructions accurately).

A highly desirable development has been the increased provision of instructions given in the introduction and in the schedules, in particular for the consistent placing of complex subjects. Where synthesis is not possible, notes frequently indicate the editors’ recommended practice; there is, however, a long way to go yet. Thus a table of precedence under 641.5 Cookery makes it clear that Vegetarian cookery (641.5636) in Hotels and restaurants (641.572) is to be classed with the former; however, there is no guidance if the classifier has a choice between 641.5 and 641.6 (e.g. Fish dishes for children: 641.692 or 641.5622 ?). Freedom of choice for the classifier or stated editorial preference? I prefer the latter on two counts: first, it makes for more nearly consistent standard practice by the official cataloguing agencies, and second, it makes individual cataloguers think carefully about their reasons for rejecting the preferred treatment, reasons which may be perfectly justifiable for the needs of particular libraries.

A number of alternatives built into the scheme permit, for example, bibliographies and biographies to take precedence as forms of publication or to be subordinated to topics throughout the classification. A different development has been the provision of alternatives to give shorter or more prominent numbers for topics of prime interest to overseas users. Thus Japanese literature may be moved from 895.6 to 810, displacing American literature, or to 8J0 between 809 and 810, and similar devices are suggested for religion, languages etc. At the same time the place and period subdivisions for most of the countries of the world have been greatly expanded. All this is done quite openly to make the scheme more attractive to overseas users: a high proportion of the sales now go outside North America, and the editorial board is much more sensitive to the views of these users. Nevertheless, the question must be asked: despite these provisions, can DDC – or any other scheme, for that matter – be truly universal? It is one thing, for example, to move Arabic literature ahead of American literature and to provide greater detail for Islam: it is quite another to produce a classification which is fundamentally satisfactory for an Islamic and Oriental culture.

Dewey survives, supported by widespread use, familiarity, reasonable revision and basically very clear notation, despite the prophets of doom who arise upon the publication of each new edition.

UNIVERSAL DECIMAL CLASSIFICATION

The results of an explicit attempt to achieve universality in a classification designed for the indexing of documents dealing with any subject, however complex, written in any language and from any point of view, can be seen in UDC. The choice of the fifth edition of DDC (1894) as the basis of UDC may be criticized in hindsight, but no other scheme was as well developed and used a notation which was readily understood around the civilized world at that time. The alternative was the development of yet another scheme from scratch. The index to the world's learned literature was a dream doomed to failure: the classification devised for it survives.

The objectives of revision, as far as UDC is concerned, are essentially the same as those of any other scheme. The difference lies in the emphasis placed on certain aspects, notably the need to provide an up-to-date and extremely detailed scheme for indexing at the documentation level, and to try to achieve a scheme which will be in fact, as well as in name, universal. Thus the enumerated vocabulary of the scheme *in its most developed classes* goes far beyond anything in the comparable areas of LCC or DDC. Bringing the scheme up to date is not just a matter of bringing the structure of the scheme up to date and progressively eliminating faults, many of which were taken over directly from the parent DDC. The publication of the scheme in many languages helps in the process of making it more culturally neutral. (The many proposals for a complete revision, tantamount to the construction of a totally new scheme, are not considered here.)

The mechanism of revision, as seen in the schedules, is fairly simple. As in DDC, existing classes may be broadened or otherwise redefined, and true subclasses added, preferably with a hierarchical notation. Again as in DDC, discontinued numbers may be reused after a starvation period, but significantly the period is ten years, not twenty-five. Phoenix schedules are not used, but revisions and relocations are carried out with a frequency and on a scale which makes everything so far achieved in DDC look very half-hearted. (Those who are familiar only with the English abridged edition of UDC can have no idea of the number of subjects which have been revised radically since 1961.) There is also a move towards the use of more synthetic devices, for example the common auxiliary table of Persons originally developed as a special auxiliary for the social sciences. Nevertheless, despite many years' use and development of analytic and synthetic devices in the notation, the scheme remains a curious mixture, in part highly synthetic, with class numbers which have to be put together by the user in stages (e.g. 75.036.2(44).047(26) – Seascapes in the work of the French Impressionist painters), and yet to a large extent enumerative, with very detailed complex classes listed *in extenso* (e.g. 614.841.245 – Defects in electrical installations as causes of fires). Guidance for the construction of class numbers is minimal: flexibility and adaptability are seen as two of the scheme's greatest virtues. They can also be its greatest dangers, if the scheme is not applied with discipline. (I should be glad to receive further contributions to my collection of arguably "right" UDC answers for the book by Mialaret, mentioned above.)

The most characteristic feature of UDC revision, however, is undoubtedly the organization behind it. This world-wide network of UDC users, subject specialists, subject, national and central committees is the most complex, and the most responsive to users' needs, of any scheme. But like so many other organizations which are international and which try to be very fair and democratic, its workings tend to be very slow and its final promulgations the result of much compromise. The easiest way to show how a user's proposals for revision work their way laboriously through the system, being amended and counter-amended en route, and finally become an official extension after many months or years – or indeed fail to do so – is to draw a flow-diagram. Unfortunately the document which described this procedure is now out of date (and out of print); a new document is reported to be at the final MS stage.^{8,9} What is not obvious from this impressive show of organization is that it is sadly under-financed for what it is trying to do.

Users can see what proposals have been made and can freely comment on them when they are published as "P-notes", and in due course they can see which proposals have been withdrawn, and which have been approved and with what amendments. The revisions officially become part of the scheme when they are published in *Extensions and corrections to the UDC* (formerly twice a year, but now annual, cumulating over three years). In due course they are incorporated in revised volumes of

the various full, medium and abridged editions of the scheme in the several languages – but these may not appear until several years after an amendment is approved.

Because much of the revision is dependent upon the interest and efforts of user librarians, the emphasis is naturally upon those subject areas for which the scheme is most used, above all in the sciences and technologies, although some very extensive revisions have taken place in parts of the social sciences and religion. This relates to the readiness to accept a ten-year starvation period and radical revisions: librarians dealing with scientific and technical literature which dates rapidly are much more ready to close their subject catalogues (or parts of them) and to begin afresh than their colleagues working in the humanities, who look for greater stability.

BLISS BIBLIOGRAPHIC CLASSIFICATION

How, then, does Bliss's *Bibliographic classification* (BC) stand in comparison with these three great schemes? Is it the necessary and continuing by-product of the work of a great library? *No*. Is it used in a large number of libraries throughout the world? *No*. Is it backed by a large organization? *No*. Is it well funded? *No*. Is its author still alive? *No*. Is the last complete edition reasonably up to date? *No*. On this evidence one could be forgiven for concluding that Bliss's classification, conceived in the United States when DCC and LCC were already established, is past saving and can now be relegated to the textbooks, in the chapters on Other Historic Schemes with Many Interesting Features, along with Brown's *Subject* and Cutter's *Expansive* classifications.

So why will it not lie down and die? The reasons are to be found in the best features of the original scheme and in the faith, determination and vision of many of its users. The reputation of BC was firmly established on (i) a sound order of main classes (disciplines and sub-disciplines); (ii) careful attention to the best collocation of related subjects at all levels; (iii) regard for what Bliss called the scientific and educational consensus; (iv) liberal provision of alternatives; and (v) brief class marks. Bliss was well aware that, in reducing to a single linear sequence the complex network of related areas of knowledge which he had displayed schematically in two dimensions, much would be lost, but the resulting main class order is certainly as good as that in any other scheme, and better than most. On the face of it, this order may not be very significant, if the library is at all large, but in fact it can affect the sequence of subordinate classes in turn, and at any point in a scheme, where the instruction occurs to "divide like the whole classification", absurdities in the main sequence can be seen in close proximity. Whether there is, or ever was, a scientific and educational consensus regarding the ways in which subjects are organized, researched and taught, or whether this was a notion advanced by Bliss to justify the order he had arrived at, is fit matter for a medieval disputation. What is certain is that his scheme appealed to librarians working in many different academic and special libraries, not least those dealing with education. The fact that he provided so many alternative locations for subjects and so many alternative arrangements within subjects – one of the most attractive and valuable features of the scheme – shows that he recognized that his consensus was by no means of general or permanent application. On notation, Bliss was as fanatical about achieving the shortest possible class marks consistent with specificity as Ranganathan was about achieving totally hierarchical, expressive ones.

On the debit side, the scheme could be faulted for (i) lack of provision for many topics, despite the publication of a number of revision bulletins in the 1950s and 1960s; (ii) uneven provision; (iii) incomplete or inconsistent analysis; (iv) inconsistent provision for synthesis, and lack of filing order for synthesized classes; and (v) a poor general index. When the Bliss Classification Association was formed in Britain in 1967 and acquired the rights in the scheme from the H. W. Wilson Company, the members had to decide (a) whether to revise the scheme piecemeal (as had happened until then) or class by class, or in its entirety, and (b) whether to revise it with the minimum number of alterations to the existing schedules or to attempt something more radical. In the event they voted for the most radical course of all, namely applying "phoenix" treatment to the entire scheme, keeping the sequence of main classes and building a modern faceted classification on their foundations. This would provide a detailed vocabulary, full synthesis and explicit citation orders. Existing class marks would only be retained if they fell conveniently into place in the new structure. Other features to be retained would be the provision of relatively short, non-expressive class marks, and liberal alternatives.

The reasoning behind this has been well argued by the editor, Jack Mills: BC cannot hope to command large resources nor appear in profit-making new editions every seven years, like DDC; so a radical revision once and for all in line with modern classificatory thinking should produce a scheme with a sound structure which could thereafter be maintained with minimal revision for the foreseeable future.¹⁰

The work is being carried out by Jack Mills and his associates, notably Vanda Broughton, and is supported by the enthusiasm, voluntary suggestions and cash of members of the Bliss Classification Association (in the full knowledge that they are thereby creating the likelihood of total reclassification in their libraries) and by the generosity of The Polytechnic of North London and the British Library. After many delays and some changes of plan, the first four volumes are now available, and other classes will follow as they are completed. Although this pattern of publication means that the librarian who wants the complete scheme will have to wait for and purchase some twenty volumes, it has the advantages that others need only purchase the volumes they require, and that individual classes can be revised and reissued as necessary.

It is far too early to attempt an assessment of the revised scheme – the only reliable test is application to libraries' stocks – but some indication of the scope, possibilities and defects in the first volumes may be given here.

1. *Volumes available**

1.1 *Introduction and auxiliary schedules.* The introduction consists of a biographical memoir of Bliss by Dr D. J. Campbell, followed by about 100 pages by the editor devoted to a discussion of the nature and purpose of bibliographic classification (in general) and of the structure needed if this purpose is to be achieved, an examination of the two editions of the scheme (BC1 = first edition, BC2 = second edition) and their revision, and a statement of rules for subject analysis and application of BC2, with numerous examples. Although some sections tend to repeat, sometimes more fully, what has been said in others, this is a classic exposition of the case for a modern bibliographic classification, and much of it is worth reading by practising librarians and students, whether or not they are concerned with BC. The introduction has its own index.

* Bliss, Henry Evelyn. *Bliss bibliographic classification*. 2nd ed. [by] J. Mills and Vanda Broughton, with the assistance of Valerie Lang. Butterworths, 1977–. *To bc in 20 vols.*

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| [Vol. 1] | Introduction and auxiliary schedules. xiv, 209p. £15.00.
ISBN 0-408-70821-2 |
| [Vol. 9] | Class J, Education. xvi, 21p. £6.00
ISBN 0-408-70829-8 |
| [Vol. 12] | Class P, Religion, The occult, Morals and ethics. xx, 43p. £6.00
ISBN 0-408-70832-8 |
| [Vol. 13] | Class Q, Social welfare. xxiii, 36p. £6.00
ISBN 0-408-70833-6 |

The auxiliary schedules consist of common form subdivisions, common subject subdivisions, and common subdivisions of persons, places, languages, ethnic groups and periods, all worked out at considerable length. The volume is completed by three outlines of the classification (cf. 1st-3rd summaries in DDC).

1.2 *Class volumes.* The first three to be published are J, *Education*, P, *Religion, The Occult, Morals and ethics* (three main classes, closely related) and Q, *Social welfare*. Each volume contains an introduction which discusses the structure and problems of the class and mentions significant major changes for the treatment in BC1. To a certain extent they duplicate and enlarge on the general introduction, but the former is still absolutely essential reading if the scheme is to be fully understood. Particular alternatives provided within each class are mentioned, and worked examples of books and articles classified by the scheme are given. Each volume has its own relative index: a general index will be published when the scheme is complete.

2. Retained from BC1

The overall sequence of disciplines and main classes and the general collocation of subclasses has been kept. All single-letter divisions are the same, except Z, which is now kept only as an alternative location for P, Religion, etc. (Library science, formerly Z, will go in class 8.) It is difficult to tell at this stage how many of the two-letter classes will be unchanged (or undergo only slight redefinition) : half? more? Bliss's original allocation of notation has therefore been left substantially as it was, even if it seems superficially "unfair" (e.g. W/Y for languages and literatures, with Y for English or favoured language, and PN/PU for Christianity): the possibilities for making *specific* class marks for other languages and religions are perfectly "fair". Very often, Bliss's choice of primary (first-cited) facet has been found to be consistent with current thinking, and last but not least, the numerous alternative arrangements and locations have mostly been retained, and several new ones are being provided. (It should be noted that the 1969 Memorandum on revision of BC, reproduced in the general introduction, states in section 2.526, page 13, that alternatives will be removed from the main, "preferred" sequence of classes. In the event, this has not been done: alternatives are very carefully inserted in their correct places.)

3. Discarded from BC1 or totally changed in BC2

3.1 General considerations have already been mentioned, but some specific changes should be noted. Apart from internal relocations resulting from the reconstruction of classes according to their facets, there are a number of major relocations of whole classes. For example, from Class Q in BC1 QX, Socialism and QY, Internationalism are being moved to Class R, Political science, while QV, Children in general, and QW, Women in general, are being moved to the new phenomena classes.

3.2 The anterior numeral classes in BC1 which were used, if at all, for special collections in libraries, have been scrapped, and the notation (which preceded A) reused for the generalia classes 2, Physical forms of documents, and 3, Forms of arrangement and presentation – these parallel the common subdivisions 2 and 3 – and for the phenomena classes 4/9. These last include, apart from pervasive subjects such as research, communications, documentation, library science etc., provision for multidisciplinary treatments. Where in LCC, DDC or UDC does one classify a volume of conference proceedings dealing with every conceivable aspect of childhood? Brown could do it, but only at the expense of impoverishing the various disciplines. Sometimes one can find designated places for comprehensive treatments, but these are often inconsistent. BC2 will provide for these subjects, either in classes 4/6 or in the most appropriate disciplinary class A/Z. If the latter alternative is chosen, the classifier will be given rules to help him determine placings for such works in a consistent and predictable way. This question is discussed at length in the introduction, but further consideration of it must await publication of classes 2/9.

3.3 The common subdivisions bear little resemblance to those in BC1. In particular, the lower-case letters for places have been replaced by capitals following the numeral 8 (e.g. JTC 8ER, Professional education – Wales). Bliss's inexplicable quirk of using one sequence of continents and countries for these divisions and a totally different one for the history classes M/O has, however, been retained, although the detail under any one country will be compatible in both schedules.

4. Brickbats

4.1 Reduced and printed from camera-ready copy, the type-size is minute. The print is also (in my copies) rather uneven in depth, tending to greyness. Obviously the Association cannot afford the best letterpress printing, but there is no denying that the schedules are not as easy and pleasing to read as they might be. Moreover, there is very little room for making notes and amendments.

4.2 Apart from a summary index of places, there is no index to the auxiliary schedules, which are very extensive.

4.3 Despite the editor's notes on indexes and index construction, those in classes J, P and Q are by no means perfect. Consider:

Accommodation	(no entry)
Rate rebates	QHQ V
Rebates	
Rent	QHQ U
Rent increases	QHQ X
Rented accommodation	QHO
Rents	QHQ

4.4 The instructions for the application of the scheme, especially for the synthesizing of classes, need very careful reading indeed, whether they occur in the general introduction, introductions to the individual classes or in the schedules. There are still places where these instructions are inaccurate or confusing. (Here I must confess that I have read through most of these schedules at a fairly late stage in their development, but in a scheme of this size and complexity it is very easy to overlook slips and inconsistencies, as I am still discovering.)

Thus at PNK under Church organization & administration, there should be a note to “add to PN the letters K/X following PF in PFK/PFX (of which the following is a selection)”. This in turn affects the instruction at JLC G, Religious bodies, denominational schools: Sunday schools should be JLC NQO. In Auxiliary Schedule 1, the note under 9J, Influence by another subject, must surely be wrong: the alternative not recommended is to subordinate to the influencing subject, using 9K.

Most serious, the instructions for synthesis using intercalators (I shall not attempt to explain them here) can be very tricky. It is therefore doubly unfortunate that there is a meticulous explanation of one of the problems at section 7.454.8 (pages 79-80) of the general introduction which shows two alternative methods and recommends the second in the interests of consistent practice – a recommendation which is flatly contradicted in section 8.2 (page xiii) of Class J, using the same part of the scheme for its example.

4.5 Is the scheme too British? Much of it is based – often explicitly – on British usage and British social and administrative structures. The extensive schedule at QFC/QFM, Social security, is a good example. It recognizes the fact that such things vary greatly from one country to another (so much for a universal classification), but puts the onus squarely on others to elaborate corresponding schedules for their own home countries’ needs.

The revision has made much use of recent developments in special subject classifications, many of them British, and this is fair enough. Thus Class J acknowledges its debt to Douglas and Joy Foskett’s *London education classification* (2nd ed., 1974),¹¹ and indeed the family likeness is marked, even though LEC2 is not followed slavishly. The limitation in LEC2 is quite explicit in its subtitle “A thesaurus/classification of *British* educational terms”. Therefore “credits” for American degrees is not to be found in LEC2, nor are many other terms common in the non-British literature, but this does not mean that users of BC2 should not expect to find them. (I have not had time to pursue this line of thought, but I suspect it might be instructive to make a comparison between BC2 and, say, the ERIC thesaurus,¹² particularly if one could obtain frequency lists for the terms in the ERIC database).

Auxiliary schedule 2, Places, is generally very well conceived and expanded, with frequent correspondences with the BC1 schedules, but I regret that administrative areas are often crudely translated into English equivalents without giving the vernacular for reference. (What are the Hungarian and Swedish terms which have been translated as “county” ?) Similarly, several place names are only given in their Anglicized forms – Brunswick, Tuscany etc. – whereas travel and television (to say nothing of programmes of Universal Bibliographic Control) are making the local forms more familiar.

4.6 The lack of diacriticals is excusable, but there are still too many misprints, from Anfon (Arfon) and Badapest in Schedule 2 to JVE V Refugess in the Class J schedule, or Delinquents JVY X in its index, which should read JVR X. This last is by far the most serious: errors in the index, or in cross-references, instructions and examples in the text can be extremely time-wasting.

5. Bouquets

Notwithstanding the criticisms expressed in the last section, I believe the scheme promises great rewards for those who are prepared to take the trouble to study it and to apply it with professional skill and understanding. Those who dislike alphabetical or non-hierarchical notations will no doubt dismiss it without further consideration, believing that JUV, PER and QTO mean Children's literature, Periodicals and Oversize respectively, whereas, of course, everyone else knows they really mean Adults as the educands in adult education; Rites, symbolic acts, ritual & liturgy; and Types of juvenile offenders.

But what are the selling points of BC2 (or what should they be, once the scheme is complete), compared with those of its competitors?

- (a) a structure which is up to date in its general conception, and which is relatively consistent throughout and stable, capable of taking revisions and extensions without major upheavals;
- (b) an up-to-date enumerated vocabulary of terms and classmarks which, together with
- (c) provision for complete and regular synthesis, will permit
- (d) very precise classification;
- (e) many alternative locations and arrangements;
- (f) phenomena classes;
- (g) relatively short classmarks; and
- (h) classification which can be applied broadly, for shelving, and precisely, for information retrieval.

Some of these points call for comment. The detail and precision which can be achieved, taken overall, go far beyond anything in DDC or LCC – somewhere between the medium and full levels of UDC, perhaps. For example, DDC lists all the counties in the states of the USA: these are not in BC2, which goes to an intermediate level between state and county. On the other hand, BC2 goes much further than DDC in most other schedules.

LCC scores where it has been able to assign specific classmarks to well-established complex topics (e.g. BS 2343, New Testament commentaries in French). BC 2, requires the user to synthesize this number, but offers the user a choice between keeping all Bible texts in one sequence and all commentaries, etc., in a second, parallel sequence, or collocating all commentaries, etc., with the texts to which they refer. (The BC2 classmark for this subject using the first option is PMW AD 2XV). Conversely, LCC is forced to use very cumbersome methods to specify, for example, critical writings about major modern authors whose importance could not have been foreseen.

Alternatives in BC2 are invaluable, although at first sight they do complicate the schedules. Once they have been assessed and the best ones selected for the needs of a particular library, the remainder can be deleted, leaving the classifier with a simple structure and clear citation order in each subject. An option to appear later will at last give geographers a single place for all aspects of their subject, DT/DY at the end of the Earth sciences.

BC2 can certainly produce exotic classmarks, but Mills's recommendation in the general introduction (section 7.46, page 81) should not be overlooked: analyse the subject and record the full classmark somewhere (for future reference, if not for immediate information retrieval), and use a shorter classmark if necessary for shelving. "A six-character classmark can be assumed to be a tolerable maximum in any context."

Let the scheme speak for itself. The following titles and their DDC numbers were taken from issues of the *British national bibliography*. It would be instructive to rearrange in BC2 order substantial cumulations of items in DDC classes 133, 200, 360 and 370, but this is not possible here.

Example 1. Craigie, J. *A bibliography of Scottish education, 1872-1972.*

BC2: J 8ES 7PRP 5V

DDC: 016.3709411

This example shows several features of BC2. (i) There are three ways of dealing with bibliographies: (a) subordinate to subject, like DDC's alternative treatment, (b) collected by form in class 8, like DDC's preferred treatment, and (c) broad subject – bibliographies – specific topic. Method (c) would give J 5V 8ES 7PRP in this example. (2) There are three ways of specifying periods in table 4: (a) standard, shown here, where 7PRP = 1870 (7PR)+ 100 years (P), (b) broad classification, consistent with BC1, and (c) very precise classification. (3) Following the editor's advice, dropping the period would give

J8E S5V = Education – Scotland – bibliographies
or J5V 8ES = Education – bibliographies – Scotland

either of which would be perfectly adequate for most purposes. (N.B. recommended practice is to group the characters in threes, as here.)

Example 2. Directory of whole-time hospital chaplains ... in Great Britain. (Church of England.)

BC2: QER EMB XPS E3F DQ3 J DDC: 362.104255

This shows (a) that it is possible to classify very precisely – “whole-time” is happily assumed, but that, too, could be included – and (b) that a little common sense and discipline is required. The classmark represents Hospitals, welfare aspects (QER EM) + Social welfare personnel, by specialist occupation (QBX) + Church of England (PSE) + Clergy (PFD Q) + Directories (3J). Suppress redundant P's and Q's, add a 3 according to instructions, *and then cut it all hack* to QER EMB, Hospital welfare personnel (plus XP, Religious staff, if wanted), for shelving.

Example 3. Brocklehurst, J. Old people in institutions: their rights.

BC2: QLV ELA EM8 EA DDC: 362.6150941

Old people (QLV) + Residential care (QEL) + Welfare rights (QAEM) + Great Britain (8EA). One character longer than DDC, but the latter does not specify welfare rights. Cut to QLV EL?

Example 4. Archbishop's Commission on Christian Doctrine. Prayer and the departed.

BC2: PSE 3EV ENR DDC: 265.855

This illustrates the fact that classifiers must still make decisions which cannot be settled by rules in the scheme. The classmark means Church of England – Prayer – For the dead. As this is an official statement, the religious activity is subordinated to the particular church. But would this analysis also hold good for a book on prayer for the dead by one whose personal standpoint is Anglican? Or should that be Christian Church – Prayer – for the dead (PNG VEN R)? There are many such examples. Cf. Common subject subdivision 9F, Author's viewpoint.

Example 5. Zafrulla Khan, Sir M. Islamic worship (= prayer).

BC2: PVE T DDC: 297.38

Islam (PV) + Prayer (PET). There are some simple ones.

Example 6. Mialaret, G. The psychology of the use of audiovisual aids in primary education.

BC2: JMI EE

This brief classmark is absolutely specific, and demonstrates the standard form of retroactive construction, taking the facet of the subject which is cited last in the schedules and adding to it those which preceded it, working steadily backwards: Primary education (JM) + Audiovisual aids (JIE) + Educational psychology (JE). The two superfluous J's are dropped, and the whole classmark fits together neatly and unambiguously. It took a little over a minute – if only they were all as easy. (The DDC number is not given, as BNB had its own practice and LC were using an earlier edition of DDC. 3721335?)

Well, the proof of the pudding is in the eating (it will surely be possible to synthesize a classmark for *that* in due course), and we shall watch with interest the reactions of those libraries which apply BC2, notably the Tavistock Institute of Human Relations and Tavistock Clinic Joint Library, which has received a grant from the British Library to reclassify from BC1 to BC2. It is too much to hope that

every library in the United Kingdom which would like to reclassify will receive similar generosity: word might get back to the British Library that here is a scheme it should adopt for its own use.

REFERENCES

1 Dewey, M. *Decimal classification and relativ index ...* 2nd ed., rev. and greatly enl. Boston: Library Bureau, 1885, p. 46.

2 See, for example, the contribution by J. R. Haylock, In ignorance of Bliss, *New Libr. Wld*, **77** (917), Nov. 1976, 207 and 209, with rejoinder by Roy Payne, Ignorance and bliss, *ibid.*, **78** (920), Feb. 1977, 27-8, and reply by Haylock, On the aiming of bricks, *ibid.*, **78** (923), May 1977. 87-9. Despite the titles, this exchange is not so much concerned with Bliss as with revisions in DDC, their adoption in BNB, and their implications for libraries.

3 The Library of Congress assigned LB 1067 Educational psychology – apperception. I can find nothing in the schedules to indicate why this placing should be preferred to either of the others.

4 The annual total exceeded 100 000 for the first time in 1974-1975, and in the nine years 1967-1975 almost as many titles were assigned DDC numbers as in the preceding 26 years. See Appendix 3 in the Annual reports of the Librarian of Congress, which give full details for 1930-1967 in the 1967 report, and annual figures thereafter.

5 For the complete memorandum, and another one, see Melvil Dewey on change in DC, *Libr. J.*, **81** (11) 1 June 1956, 1363-1365.

6 Comaromi, J. P. *The eighteen editions of the Dewey decimal classification*. Albany, NY: Lake Placid Education Foundation, Forest Press Division, 1976.

7 Dewey, M. *Classification décimale de Dewey et index ...* 1ère version française intégrale d'après la 18e édition ... Lake Placid Club, NY: Lake Placid Education Foundation, Forest Press Division, 1974. 2 vols.

8 International Federation for Documentation. *Universal decimal classification (UDC) revision and publication procedure*. The Hague: The Federation, 1968 (FID 429.)

9 *FID news bull.*, **27** (6) June 1977, 8.

10 For a full statement see the introduction to BC2 and also Mills's contribution on Bibliographic classification in Maltby, A., ed. *Classification in the 1970s: a second look*. Bingley, 1976, 25-50.

11 Foskett, D. J. and Foskett, J. *The London education classification: a thesaurus/classification of British educational terms*. 2nd ed. [University of London Institute of Education Library], 1974. (Education libraries bulletin. Supplement 6.)

12 Educational Resources Information Center. *Thesaurus of ERIC descriptors*. 9th ed. New York: Macmillan Information; London: Collier Macmillan, 1975.

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