# The Bliss Classification Bulletin

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AGM of the Bliss Classification Association

(Douglas J. Foskett)

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E IS FOR E	DITORIAL
A is for	Abstractions and Algebras (and Almost ready)
_	r Blinded by science
	r Chemistry and Carbon and Catalysts
	r Down to Earth (and up in the sky)
•	Enzymes and Energy metabolism
•	Figs, Ferns, Fungi and Fuschias
	r Goats, Gnats, Gorillas and Gastropods
•	r Human Hormones, Health and Hospitals
I is for	Intelligence, Inkblots and Inborn characteristics
_	Juveniles aged 1-100, education of (and Just revised)
K is for	Kinship and Kingship, and Kissing and Keening
L is for	Long barrows, Longships, Long ago and Localities
M is fo	r MY land (or the one you prefer)
N is for	<sup>r</sup> New world and old
~	r Bi <b>0</b> graphy and Opening diaries
<del></del>	Priests and Prophets and Precepts
	r Queueing for welfare (and revision!)
_	Representation of the people, Regimes and Repression
J	· Silence in court!
•	Takeovers, Taxes and Trading
_	r Useful arts (and Unused headings?)
	·Very many Various technologies
	r Wagner and Watteau and Wren
	cs the spot for language and literature
~	Yeats, Yevtushenko You-name-them
•	your favoured language to fill
with	Zola, Zweig, Zamyatin or Zangwill

A is for Alas and yet more Apologies. We had hoped to have Class A in your hands by now, but this has taken longer than expected. The year has seen not only the completion of this complex class, but also the revision of Class J, Education (Douglas Foskett's article about this project appears later in these pages), the virtual completion of the vocabulary of Classes R and S, Politics and Law, which now await refinements to their notation and input to the computer system, and work in other areas, including the production of a (regrettably, much needed) replacement index to Class T. Nevertheless, a volume in hand is worth two in committee, and we are painfully aware that we have a long way to go yet if we are to fulfil our obligations to our users. Reiterated excuses, even though perfectly valid, are only an irritant.

To complete the task we have set ourselves, we must have adequate funds. Many members of the Committee give a lot of their own time and energy for nothing (or bare expenses), but our professional research assistants, computer consultants, keyboarders and the rest cannot be expected to subsidise the classification, and must be paid reasonable fees and honoraria. The sums received from our earlier fundraising campaign are now running low, and the Committee is therefore launching a new campaign this autumn. Please support us -- and help yourselves and your fellow users -- by sending information about possible sources of funding to the Hon. Secretary. (Money in lieu of information will not be refused ...) The Appeal Document is enclosed with most copies of this issue; if you have not received one and feel you can help, please write to him at the Cambridge address at the foot of this page.

Keen-eyed readers may notice that there are no Additions and amendments to BC2 in this issue. This is deliberate; there was a lot to cope with last year, and this time you can have a rest. However, this does not mean that the work of revision has been halted. We suspect that many librarians make their own extensions to the schedules and the vocabularies: please share them. Ad hoc? Amateurish? "Unimportant"? -- rubbish, it's vital! Don't be bashful: you are the people who are in daily contact with the literature and are actually applying the scheme. Users of Class Q, in particular, are being invited to send their suggestions to Madeleine Carrington, who is coordinating the revision of this well-used class.

Night thought: U is a Useful literal mnemonic -- but does anyone, other than a librarian, talk about Useful Arts these days?

A.G.C.		
Bliss Classification Associa (Registered charity no. 27058 Telephone 0223 332042		

Hon. Editor, The Bliss Classification Bulletin: Mr A.G. Curwen, c/o Department of Information and Library Studies, University College of Wales, Llanbadarn Fawr, Aberystwyth, Dyfed, SY23 3AS

#### BLISS CLASSIFICATION ASSOCIATION

MINUTES of the ANNUAL GENERAL MEETING of the Bliss Classification Association held on Friday 16 December 1988, at the King's Fund Centre, London.

Present: Jack Mills (Chair, and Editor of BC2)

Ken Best (Personal member)

Peter Boaden (University of London Library)

Robin Bonner (Personal member)

Madeleine Carrington (Personal member)

Keith Cheyney (Haberdashers' Aske's Boys School)

Tony Curwen (College of Librarianship Wales)

Ed Dua (DHSS Library)
Frank Emmott (Barnardos)

Douglas Foskett

Joy Foskett

Angela Haselton (Tavistock Joint Library)

Roger Hughes (Commonwealth Institute)

Marion MacLeod (Fitzwilliam College, Cambridge) Kim Meacher (National Institute for Social Work)

Colin Neilson (City University Department of Information Science)

Helen Oliver (Tavistock Joint Library)

Helen Parker (Cheshire County Council Research Library)

Chris Preddle (Personal member)

Caroline Ray (OPCS Library)

Angela Rennie (Barnardos)

Hilda Stoddard (Chester College)

Alan Thomas (Ealing College, School of Library and

Information Studies)

Geraldine Turpie (Bowker-Saur Ltd.)

Apologies: Suzanne Burge (OPCS Library)

Susan Bury (Haddon Library, Cambridge)

Eric Coates Jean Garriock

Elizabeth Russell (King's College, Cambridge)

- 1 The minutes of the annual general meeting held on 14 December 1987 were approved.
- 2 Matters arising
- 2.1 The Treasurer reported on the short course on Class T, 'Bliss means business', held at the Polytechnic of North London on 15 December 1987. It had attracted about twelve people, who had found it helpful, though it had not made a profit.
- 2.2 Tony Curwen, the editor of the bulletin, brought up to date the information on new members of the Association published in the 1988 bulletin. The Chairman congratulated him on the style of the bulletin.

- 2.3 The Chairman paid tribute to John Campbell who died in November 1987. John had been a longstanding and loyal friend and forthright supporter of BC2. He was Secretary of the Association for nine years, and had made a very generous covenant for the completion of the natural science classes.
- 3 Progress of BC2: Editors's report
- 3.1 The Editor introduced his written report which had been circulated to the meeting. He mentioned the few areas not yet scheduled in Classes U/V Technology, and the speed with which the new edition of Class J Education had been completed.
- 3.2 After a question from the floor the meeting discussed the bad index in Class T Economics and Management. Alphabetical blocks of terms and some very common terms were missing because of a fault in the index generation programs. The publication of amendments in bulletin would be laborious; a complete corrected index could be produced instead from the machine-readable schedules. It was agreed that the committee would consider the production and distribution of a complete corrected index. Action: JM, CP, CN.
- 4 Production of BC2
- 4.1 Colin Neilson introduced his written report which had been circulated to the meeting. The delay in production of Class A was due to delays in input. The Association could now offer a schedule production service.
- 4.2 The Chairman added that Colin had had to cope with a great deal of work, but that there would be less delay in future, as all schedule compilers now input their own data and he too would be doing so soon. Class A would be much better than T in both index and layout.
- 5 Membership, finance and fundraising: Treasurer's report
- 5.1 The Association had ninety-six members. The loss of members among library schools and university libraries, and the recruitment of smaller libraries, was changing the Association into one of BC2 users.
- 5.2 The Treasurer introduced the accounts for 1987-88, and sales figures for 1983-88, which had been circulated to the meeting.
- 5.3 The committee had decided to make a new appeal for funds, aimed initially at corporate donors and sponsors. The target would be the realistic cost of completing BC2, about £125,000. An appeal letter and supporting documents were being drafted.
- 6 Ken Best was elected auditor for 1989.
- 7 Publicity
- 7.1 The Publicity Officer welcomed Geraldine Turpie, the Managing Editor responsible for BC2 at Bowker-Saur, to the meeting.

- 7.2 There had been few reviews of BC2 during 1988, but some mentions in professional journals. Journals and reviewers that might review Class A would be suggested to Geraldine by the committee.
- 7.3 The Secretary reported the impertinent choice of the acronym BLISS for the British Library Information Sciences Service. He and Eric Coates had written letters of protest to the Library Association Record (Oct 1988). The meeting expressed clamorous indignation at the British Library and agreed to write deploring what it had done. Action: CP.
- 8 Chris Preddle was elected to the committee for 1989-90-91.
- 9 Third edition
- 9.1 The Editor reported that the second edition of Class J would not be reprinted, as the third edition was almost complete. A revised edition of Class Q Social welfare, a widely used class, would be prepared during 1989, and the existing volume would not be reprinted. Class P Religion needed revision, but no plans for this could be made yet.

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BLISS CLASSIFICATION ASSOCIATION CONSOLIDATED RECEIPTS AND PAYMENTS FOR THE YEAR ENDING 31st JULY 1988

<u>1987</u>	RECEIPTS	1988	1987 PAYMENTS	1988
	Balances forward 1st August 1987		228.50 Committee & AGM expenses	322.40
2113.63 13050.05	General accounts (adjusted) 2634.04 Appeal account 6740.52	9374.56	126.92 Stationery & Postage	223.49
25.00 25.00 617.28 337.85	Subscriptions Personal 36.00 School 30.00 Other institutions 844.88 Butterworth's royalties on 2nd edition		2nd edition expenses 4124.94 Research assistant 5063.55 101.20 Work on Class T 00.00 $1394.11 \begin{cases} \text{Work on Class A} & 713.15 \\ \text{Work on other unpublished} & 100.77 \\ \text{classes} \end{cases}$	5877.47
86.80	Distribution from M & G (Charibond)	86.78	4981.23 Computer & other equipment	2993.75
3000.00	BCA Appeal contributions Sale of supplementary schedules	1500.00 6000.00	00.00 Class T Short Course, Dec. 1987 117.17 Other Payments	153.16 257.62
159.83 986.19 55.00	Interest payments Deposit account 176.92 Appeal account 489.79 Other receipts		Balance in hand at 31st July 1988 58.11 General current account 70.80 2583.93 General deposit account 2648.08 6740.52 Appeal account 6858.46	9577.34
20456.63		19405.23		19405.23

Marion MacLeod		Current assets at 31.7.88	
Hon Treasurer 6 Gilbert Close Cambridge CB4 3HR	1987 800.13 2642.04 6740.52	Charibond (at cost) Cash in general accounts Cash in Appeal account	1988 800.13 2718.88 6858.46
	10102.09		103//.4/

#### Auditor's Report

I have examined the books, bank statements and other relevant papers of the Bliss Classification Association and find the above statement of accounts to be correct.

K. Best Hon. Auditor 25.11.88

2 Greendale Ilminster Somerset TA19 OEB

# CLASSIFICATIONS AND INFORMATION LANGUAGES

# Thoughts on Revising a Bibliographical Classification Scheme

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Discusses some principal problems involved in developing classification systems for use in modern libraries and information centres. Examples are based on practical experience in preparing a revised version of the Class J Education of the Bliss Bibliographic Classification, 2nd ed. Several specific advantages of BC2 for users are shown. Special attention is paid to the relationship between general classifications and more detailed schemes for special subjects, as well as methods for using the facet approach.

Although Bibliographic Classification of the H. E. Bliss is not widely used throughout the world, nevertheless it represents a high peak among schemes of classification designed for use in general libraries. First produced as the life's work of one man, it has a sound intellectual base in Bliss's two major theoretical works, The Organisation of knowledge and the system of the sciences and The Organisation of knowledge in libraries and the subject approach to books. When first published in 1935, the scheme was welcomed in Britain, and has been applied in many university and college libraries as most suitable for a scholarly community concerned with detailed subject analysis. The bibliographical record of the publication of BC is somewhat complicated, but need not concern us here, as a revision of the whole scheme is well advanced and is being published in England by Butterworths as BC2. The Prefaces by Bliss himself, with a short biography by D. J. Campbell, can be found in the volume Introduction and auxiliary schedules, by J. Mills and V. Broughton [1].

Several of the librarians who had applied or studied Bliss's works joined the British Classification Research Group (CRG), founded in 1952 on a suggestion from J. D. Bernal after the Royal Society Scientific Information Conference of 1948, and now well past its 250th meeting. The CRG members came mostly from industrial special and academic libraries and information centres, and many of them were actively engaged in conown collections, having concluded that none of the published schemes provided a satisfactory system, either in arrangement or in depth of detail.

The early discussions centred, therefore, more on method, leaving individual members to work out specific applications. Agreement was quickly reached on the necessity for both analysis and synthesis in schedule construction. This had been used in several major schemes, even from the first edition of Melvil Dewey's Decimal Classification in 1876. The originators of the UDC, Otlet and La Fontaine, had considerably extended the synthetic element, improved over the years by the FID, with the auxiliary signs and symbols. Bliss provided 'Systematic Auxiliary Schedules' in BC1. All of these

schemes, however, were enumerative, in that the basic method of schedule construction consisted of analysis from genus to species, exemplified by the classificatory sciences.

A revolutionary breakthrough was made by S. R. Ranganathan with his theory of facet analysis. While considerable doubts were felt by CRG members as to the validity of his theory of Five Fundamental Categories, we concluded that the technique of facet analysis itself offered the best method available, and in 1955 Unesco published our manifesto to that effect, written by B. C. Vickery, the first Secretary and a prime mover in the discussions [2]. Our progress has been charted by the publication of a series of CRG Bulletins in the Journal of Documentation, and each Bulletin contains a bibliography of books and articles by CRG members, now amounting to a formidable total, well-known all over the world. From the beginning, the discussions have influenced the structure of the British National Bibliography, whose first Editor, A. J. Wells, was the founder member originally approached by Bernal.

Through the sponsorship of Aslib, the CRG was able to convene a Conference at Dorking, England, the first International Study Conference on Classification for Information Retrieval [3]. Three more such Conferences have been sponsored by FID: in Elsinore, Denmark in 1964; in Bombay, India in 1975; and in Augsburg, Federal Republic of Germany in 1982.

As expected, several factors affecting the construcstructing schemes for arranging and indexing their tion of specialised schemes emerged from these early discussions. Prominent among them were: questions of vocabulary, the collection of terms likely to be sought in information retrieval, and the necessity for including in special schemes many terms that did not strictly belong to the particular subject speciality. In a scheme for Container Manufacture, for example, there was need for a facet for terms dealing with the product to be packaged — 'from aspirins to battleships'; in Education, there was need for a facet for the subjects of the curriculum --- any subject may be taught. Thus, alongside the research into methods of construction, there developed an acute awareness of the lack of a good general scheme, based on these methods and covering the whole of knowledge, a sort of 'ur-classification', which could

be used as a reservoir of terms from which specialised schemes could draw lists in marginal subjects as required, thus avoiding the obvious danger of a facet containing marginal terms far outweighing the core facets in size, producing a cumbersome structure with corresponding problems of notation.

Careful consideration was given to the UDC, but this was rejected by most as being shackled to its DC foundation, basically an enumerative scheme; but it has, of course, proved very useful in providing lists of specialist terms and also giving some indications of the places assigned in that scheme to newly-developing subjects by experts in those subjects. The CRG members interested in BC1 then advocated a revision of that scheme on two main grounds: (1) its basic outline of subjects was the most scientifically sound; and (2) it provided better scope for implementing a faceted approach than any other of the major schemes.

Concurrently with these discussions, Unesco had been developing the work that led to the Broad System of Ordering (BSO) in association with the UNISIST programme [4], and with FID; this work was led by E. J. Coates, another founder member of the CRG [5]. The revisions of BC1 have proceeded in close connection with BSO, and Coates, together with J. Mills, another founder member and a teacher of classification, has been one of the most important influences on, and contributors to, BC2; Mills has been Editor from the beginning.

The decision was made to publish BC2 in separate fascicules, like UDC and the Library of Congress Classification, and the first to appear was Class J Education [6]. This Class is widely used in Britain in Colleges of Education, and a modern fully-faceted scheme was already available in the London Education Classification, of which the second edition, LEC2, appeared in 1974. This scheme was experimental in two ways: (1) it was based on a single, or unit-term entry; and (2) it used a three-letter pronounceable notation based on the roman alphabet, which had in LEC2 to be modified to include four-letter symbols precisely in order to accommodate more 'marginal' terms. In the University of London Institute of Education Library, it was used together with a multi-entry classified catalogue, and the rationale on which the structure was founded was described in a paper for the Council of Europe [7]. An example of the multi-entry catalogue can be found in a research report submitted to the British Office for Scientific and Technical Information in 1973 [8]. There was already, therefore, a considerable body of classification research directly relevant to a new edition of Class J.

The system of pronounceable notation did not offer any advantages, because it was completely different from that used in BC1 and would have resulted in much extra work in libraries wishing to use the revised edition. Fortunately, a 'Bliss-type' notation using facet principles was available in the British Catalogue of Music. Devised by E. J. Coates, this introduced an ingenious use of roman letters on a 'retroactive' principle. Each facet begins at a particular letter or combination of letters; the subdivisions of the facet continue by adding letters which occur later in the alphabet. This enables this facet to be subdivided by earlier facets simply by adding their notation letters. Thus:

D	Choral music (first facet here)		
DK	Anthems (subdivision of first facet)		
EZ	Unaccompanied choral works (another subsivision of D)		
G	Male voices (second facet here)		
GEZ	Unaccompanied male voices (facet G divided by D)		
GEZDK	Anthems for unaccompanied male voices (G divided by two subdivisions of D).		

While the practical use of this form of notation requires careful study in compound subjects, it provides great advantages in short symbols and reduces the bulk of the schedules. As with all faceted classifications, it also gives freedom for the greatest possible flexibility in compounding symbols in order to give a unique identification for highly specific topics.

Because the LEC2 was already published, it was no surprise that BC2 Class J Education was the first to appear of the new edition, along with a second volume containing a new Introduction and Auxiliary Schedules. This met with a favourable reception from users and reviewers, and since 1977 a succession of new Classes has appeared from Butterworths, in separate volumes. Many improvements have been made, both in the schedules and in the presentation, typography and layout. Several of these Classes are marginal subjects for Education: Class I Psychology; Glass K Society; Class Q Social Welfare; Class T Economics and Management. An outline of the whole scheme is given in the volume Introduction and Auxiliary Schedules. Besides, additions and amendments to Class J itself have been published from time to time in the Bulletin of the Bliss Classification Association. With the original edition of BC2 Class J becoming out of print, a new edition was called for, which would also incorporate such revisions, and this is now expected in 1989.

The first step was to compare the alphabetical index of BC2J with several existing thesauri and indexes: LEC2, EUDISED Thesaurus, Unesco thesauri, and the latest annual volume of the *British Education Index*. Several points emerged from this simple but lengthy operation, and were brought to attention of the 266th CRG Meeting on 26 April 1988.

- 1. Because of the use of a 'chain procedure' in making the alphabetical index of BC2J, some terms not found there were, in fact, later found to be included in the schedules. Thus, while J. Mills forcefully advises users not to classify by the index, nevertheless the majority will find that they have to do so in practice, at least until they become very familiar with the schedules. Also, critics of BC2J have pointed to omissions on this very basis, using only the index. In BC3J, all scheduled terms will be included in the index.
- 2. The index to BC2J uses 'See' references from one term not used to the term used, that is between synonyms like the USE reference in a thesaurus, without giving a notation symbol. 'See' references are unnecessary if the notation symbol is given in both places, as is

done in the alphabetical thesaurus section of LEC2, and there is also a space saving.

- 3. Many of the terms found in other thesauri are not single or elementary concepts, but compounds. In a faceted scheme these would be enumerated only very rarely. The ERIC Thesaurus is generous to the point of prolixity in this respect, even to the extent of listing many compounds beginning with the word 'School ...', or 'Educational ...'; surely this is hardly ever necessary in a thesaurus/classification for the subject Education itself. Nevertheless, it does suggest that, to secure the widest possible acceptance, a faceted scheme musimake absolutely clear to all users that such terms will not be enumerated, but must be identified by combining terms from the facets as each document requires, or as specifically as the classifier wishes. In BC3J, we propose to give examples in the introduction, in the hope that users and reviewers will actually read it!
- 4. The most important single factor, at this stage, was the operation of bringing the schedules of BC3J into closer connection with the other new Classes containing the marginal terms, particularly Classes I, Q, K, T. This had created an opportunity to take a fresh look at the whole question of marginal subjects, as well as adjusting the wording of the instructions to conform with the newly standardised form, at places where borrowing from those other Classes would be required to classify to a higher degree of specificity.
- 5. The problem of one peculiar marginal facet, that of curriculum subjects, was quite easily solved. As we had argued from LEC1 onwards, there are only a few curriculum terms that are actually core subjects in Education, such as the concept of 'basic subjects' and terms that define types of curriculum structure. Yet, because every subject may be taught, a method had to be found to ensure that any curriculum subject document could be classified and indexed. We propose to include in the Education facet a selection of the mostsought terms and to derive them from the Third Outline printed in the Introduction volume. We shall print in BC3J the entire Third Outline, plus more detailed outlines of Classes I, K, Q and T. This will provide a method for classifying in as much detail as required, with explanations as to how to find more specific topics in the other Class volumes, without bulking out the schedules of Class J itself. It is, of course, a simple example of synthetic classification, of the type begun in elementary fashion by Melvil Dewey even from the first edition of DC in 1876, but without the need for a combining device such as the colon in UDC.

The first selection of new terms was made by listing on cards those not found in BC2J but found in one or more of the other publications. Those found in more than one of these sources were obvious candidates for inclusion, but it was something of a surprise to find how many apparently well-known terms appeared in only one source. The several sets of cards resulting from this exercise were then combined into one file and each term allocated to a provisional place in the new BC3J schedule. This step revealed another factor not quite so unexpected: the different ways in which the same concept could be classified in the different schemes, as shown by their collocations and RT thesaurus references. This applied particularly to marginal topics like sociology and management, and illustrates one of

the main areas of controversy over the subject of Education, particularly in the light of the relationship between a special classification scheme and the general classification of which it forms a part. Can, or should, a scheme devised for one given subject field be an integral part of a general scheme covering the whole of knowledge? At the Bombay Conference, some members certainly thought that such a 'do-all' scheme is impossible.

The editors and revisers of BC2 do not share this view. In Ranganathan's Colon Classification, the first fully-faceted scheme, he makes frequent use of schedules from different classes: Class F Technology and Class H Geology borrow from Class E Chemistry; Class G Biology borrows from Class I Botany and Class L Medicine; Class J Agriculture borrows from Class L Medicine; and there are many other instances. The first revision of Bliss, that is BC2J, borrowed from Class K and Classes P to U, and this method has been followed as far as possible in BC3J. In doing this, of course, we have been able to use the new editions of other Classes not published in time to be available for BC2J. In order to give a satisfactory demonstration of the method, we have given several more actual examples; this is at the expense of economy in the printed schedules, but should make the task of classifiers and indexers more straightforward.

In the first schedule, which consists of J 4/6 Common subdivisions, BC2J has only a single entry for Comparative Education at J6P; but there are several well-recognised methods of study in the field of Comparative Education, and all of them can be derived from Auxiliary Schedule 1. BC3J gives these:

J6P NF Case studies

J6P NH Problem studies

J6P NL Area studies

J6P Q Cross-cultural studies

J6P T Historical studies

By using the retroactive principle, Case studies using the Historical method will be classified as J6P TNF, but knowing the method means that this need not actually be enumerated in this schedule. This is a simple demonstration of the value of synthesising, in that the new subdivisions already existed in a published volume, the Introduction.

A real problem arises when a schedule that has been enumerated in one volume, as in BC2J at JCP Personnel, does not coincide with the more detailed schedule subsequently published in the Class where that area is a core study, in this case in Class T Management. The principles and practice of Personnel Management are not at all specific to Education; here, indeed, they form a classic example of a 'marginal field' that has expanded rapidly, far beyond its original range. In order to make the best use of this type of rapid development of such a marginal field, the specific subject, in this case Education, must bring its own enumeration into line with the new enumeration in Class T, in order to make the newly available expertise. If this is not done, then Class J will either have to face the prospect of continually having to publish amendments and additions to its own inadequate schedule, or remain content with the published schedule, which becomes increasingly out of date and unable to cope with the new

literature. Thus, the original schedule, here in Class J, will lose the advantage of an enumeration, here in Class T, compiled by specialists in Management and kept up to date by them. The problem is to weigh the advantages to be gained from the maximum use of synthesis against the necessary work involved in re-classifying and indexing the stock already classified by the old scheme.

This always provokes a hostile reaction. Yet experience shows that it can be done, if necessary in stages, without too much expense or upheaval. Many American universities have re-classified their libraries, from DC to Library of Congress — exchanging one nineteenth century scheme for another. Experience also shows that authorities appear to be quite happy to spend very large sums of money to provide new and elaborate buildings, and to invest very large sums in machines for automation which have to be replaced, at even larger sums, in a relatively few years. By comparison, the labour and cost of re-classifying a library is small; and it should not be forgotten that here we are dealing with the progress of information and knowledge, and that the provision of these is the prime motive for having a library at all. The objective of making a revision of the most up-to-date of all the general bibliographical classifications is to give library users an opportunity to see a spectrum of the universe of information displayed in an order that makes sense, which enables them to discover how the experts in each field think it best to arrange their information.

In the Class Personnel Management, for example, the schedule in BC2J was very thin, and was split between two places: one as a sub-facet of Administration, the other as a sub-facet of the Teaching Profession; the subheadings and even the notation were partly different. The revision, BC3J, is able to include a much more detailed expansion taken from the new Class T Management, with the possibility of adding other detail from that Class wherever necessary for the most detailed subject specification. Thus for Personnel Management in general, the following extracts from Class TU are included at JCP:

```
Management of personnel
JCP AQ
              *(note) Add to JCP letters A/U follo-
JCP
              wing TU.
              A selection of prominent concepts is
              given here:
              Flexibility in personnel resources, rede-
JCP BMW
              ployment
JCP E
              Personnel relations
JCP G
               Disputes
                Industrial action
JCP H
                Conditions of service
JCP ORY
JCP P
                  Salary, pay
                  Working conditions other than pay
JCP RB
                    In-service training
JCP RJ
                    Recruitment and selection
JCP SB
JCP SJ
                      Selection
JCP SU
                     Appointment
                       Probation
JCP SVT
JCP TB
                    Leaving
JCP TC
                     Dismissal
JCP TP
                    Hours
JCP TU
                    Leave
```

Health and safety of personnel

JCP U

The same schedule, with the same notation, can be added to Class JH to apply specifically to Teaching Staff.

As with the previous editions, the notation used in BC2 is non-expressive, and the relative subordination of Classes and Divisions is shown by the indentation of the terms in the schedules.

The same procedure has been followed for other main areas of Management, the Administration of Educational Systems and the Management of Institutions; for family relationships; for health, medical and welfare services; for psychology; for vocational and professional education; and for special categories of persons such as the mentally, physically and socially handicapped.

Another main feature of BC must be mentioned: the provision of alternative places in the schedules for several subjects. These alternative places must not be confused with alternative ways of classifying a single document. They offer to the individual user the opportunity to make a choice between placing a whole subject in one part of the scheme or in a different part, according to the needs of the individual's own library. Yet once that choice is made, all documents must be classified at the preferred place, and the non-preferred place becomes vacant. BC2 has adopted a standard procedure, explained in the Introduction volume: the details are set out at a recommended place, with a note directing the user to any other, thus:

JCD L

Functional spaces, areas, rooms

\*The preferred arrangement is to subordinate buildings and equipment serving special functions to their function.

\*An alternative (not recommended) is to collect here all material on buildings and equipment, using JCE/K for those serving special functions.

These alternatives are found not only within one Class; whole Classes are given alternative places in the main array of Classes. The preferred place for Religion is at Class P, collocated with Class L History and Class PY Morals and Ethics, and the alternative is at Class Z, following Class YU Literature (general and comparative). Technologies based on Physics may be collocated with Physics at Class BR, or with Technology at Class UG. There are many other instances throughout the scheme.

There are those who argue that, in this age of computers and information technology, libraries will soon become redundant and there will be no further need to revise bibliographical schemes of classification. This view flies in the face of all the evidence: more books and journals are being published than ever before, and 'book hunger' is one of the outstanding features of Third World and developing countries, as well as in countries with an advanced technology. The reason is not far to seek.

Apart from the continuing need of libraries to cope with this vast number of publications in all fields, and to arrange them in an order that makes sense to users, knowledge itself progresses ceaselessly through the interactions between various events and phenomena. It cannot be divided up into separate and independent classes as in the enumerative schemes, nor is the genusspecies relation the only form of interaction. As John

Ziman, in his influential book Public knowledge, points out, the intellectual structure implicit in library catalogues, indexes and bookshelves, gives meaning to the research of the past and motive for research in the future [9]. This has to be achieved by using a scheme of classification covering the whole of knowledge, with an integral facility by means of which schedules designed by experts in each field are made available throughout the scheme, as with Management in Education. Research into these techniques can only be carried out on the basis of practical testing in real life, in libraries using bibliographical classifications.

In his interestingly entitled article, 'Historical note: information retrieval and the future of an illusion' [10], Don R. Swanson cites the famous Weinberg Report on Science, Government and Information, which argues that Science can flourish only if every branch of Science interacts with other branches: 'The ideas and data that are the substance of science and technology are embodied in the literature; only if the literature remains a unity can science itself be unified and viable'. Swanson defines two sets of postulates: 'Postulates of impotence', statements about what it is impossible to achieve, and 'Postulates of fertility', statements about what it is possible to achieve in using the literature as a unity to advance the progress of science.

In discussing Postulates of Impotence, Swanson refers to the difficulty of matching the terms of users' requests with the terms used by indexers to index the documents which would satisfy those requests. The enquirer has a gap in his mental picture of a subject, but does not know its size or shape; as in a jigsaw puzzle, this gap may be filled by pieces, of information, which may themselves vary in size and shape.

Each piece exists in a particular context, and to complete the missing part of the picture, these pieces have to be taken from their several contexts and intersected with one another. Now, this is precisely what happens when using a faceted classification, because it is based on analysis of data given by the description of a subject, as it exists in totality, into a set of categories, each containing one series of data, which can be combined as required to produce the right intersections. It is a lattice system, and not simply a Porphyrean hierarchy. It can easily cope with new and unforeseen intersections. An enquirer can consult the separate categories and put his mind into the same matrix as the indexer, because neither begin by formulating the total concept as a full subject specification in one preconceived statement. They both begin by identifying the separate elements, each in an established and well-

a piece already in place.

By building up a computerised file on facet prin-

recognised context, just as in the jigsaw puzzle, where

one looks for separate pieces, each of which fits with

ciples, it will be a simple matter to discover which intersections have not yet been made, or whether a particular idea for research into the reaction between separate concepts has yet been tried.

This is, in fact, relatively obvious within one Class, where all the items in each facet have an established relationship with one another because they belong to the same field, the same context in the real world. It has not so far been investigated with a complete general scheme, because it would clearly be an impossible labour using an enumerative scheme. A faceted scheme like Colon or BC actually depends, however, on the synthetic principle, depends on using intersections between Classes and not simply within Classes. It is, in fact, the very tool required for exploring Swanson's Postulates of Fertility, in that it not only enables, but also requires, the user to look beyond one particular context in specifying the subjects both of documents and of enquiries. Therefore, research into the construction of general classification schemes will always be an integral part of the progress of knowledge, not as an intellectual exercise, but because that progress itself insists on careful and detailed articulation of the elements that contribute to it.

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## First steps in classification and indexing

Subject analysis: principles and procedures / D.W. Langridge. - London [etc.]: Bowker-Saur, cop. 1989. - 146 p. - ISBN 0-408-03031: £18.00

I have headed this review "First steps" advisedly, for Derek Langridge's new book really does deal with those first stages which are so often omitted or glossed over in our professional textbooks. Take, for example, this passage from Derek Austin's *PRECIS*: a manual of concept analysis and subject indexing, 2nd ed., 1984:

"We shall start our overview of the indexing operation by assuming that the indexer, after examining a document, has reached a point where its subject (and also, perhaps, its form) could be expressed in a summary phrase... The words in ... these phrases form what is called a *subject statement*." (p. 8-9)

or this unimpeachable extract from the introduction to *Dewey Decimal Classification*, Ed. 19, p. xxxix, with its hilarious final sentence (I thought the British were supposed to be the masters of understatement):

"7 Analysis of a work. Before he can fit a work into the system, or class it, the classifier must know exactly what its subject is, and from what point of view and in what form that subject is treated. To discover this is not always easy."

There are many excellent guides to the application of various indexing systems, and some of those systems themselves do indeed provide quite a useful framework which can help the indexer achieve some degree of consistency in subject analysis. Nevertheless, implicitly or explicitly, they all take as their starting point the assumption that we *know* what the subject of a document is, having been trained to identify and categorise it fully, accurately and logically.

Derek Langridge makes no such assumptions. Subject analysis: principles and procedures is, as far as I know, the first textbook for library and information science students to tackle these fundamental questions. He has looked at them before, to a limited extent, in Classification and indexing in the humanities (Butterworth, 1976), but now he has given us a rounded treatment independent of any disciplinary boundaries. "Subject analysis" is retained as the preferred term for reasons of familiarity, although, as he says, "content analysis" is a better description; many of the characteristics which may be identified in a document are not "subjects" in the usual sense of the word.

Langridge distinguishes forms of knowledge, topics and forms of writing. The first of these looks at first sight to be a consideration of disciplines or main classes, but his list of twelve forms of knowledge only partly matches the disciplines an academic might recognise, ignoring some, combining others and introducing a few concepts of his own (or borrowed from other thinkers): Prolegomena, the instruments of knowledge; Philosophy; Natural science; Technology; Human (behavioural or social) science; Social practice; History; Moral knowledge; Religion; Art; Criticism; and Personal experience. These are the ways in which we perceive subjects: the ways in which knowledge (in the widest sense) is obtained, investigated, created and applied. He maintains that the failure to recognise these distinct forms of knowledge lies at the root of much bad indexing, "classification by attraction" and other.

Topics are the phenomena which are described or investigated. Many of them are characteristic of particular forms of knowledge, typically forming classes within them in traditional classification schemes, but by no means exclusively so: topics may be the focus of investigation for many forms of knowledge. Forms of knowledge and topics, taken together, define subjects, narrowly, but do not exhaust the indexable characteristics of a document. The third aspect, Forms of writing, deals with viewpoints, schools of thought, intellectual level, aims (description, analysis, prediction, evaluation, etc.), imaginative forms and textual characteristics (bibliographic form, language, text/picture, etc.). A chapter is devoted to each of these three aspects of documents, illustrated by abundant examples.

Langridge then goes on to discuss summarisation in theory and practice, followed by depth analysis. In the chapter "Subject analysis of systems" he points the difference between impartial subject analysis and the translation of that analysis into a specific index language. He uses DDC Ed. 19 and BC2 to exemplify old and modern classified systems, usually much to Bliss's advantage. Neither matches his ideas about fundamental forms of knowledge, their disciplines and main classes being based on virtually the same traditional assumptions, to a large extent, although displayed in different orders.

At the level of analysis within main classes, however, there is no doubt about the winner. He classifies four examples discussed in earlier chapters by both DDC and BC2. While it is pleasing to see that BC2 can specify many things fully and accurately, it can do the scheme no good in the eyes of readers to see classmarks such as IKW9FIAO9EPBMDEH and KQJOGFDANW23WKQJKSN8EC offered as models of good analysis and specification: they are presented as unbroken strings of characters, with no suggestion that such excessively detailed specifications are not recommended for the arrangement of library materials. (The fact that his use of BC2 in three of the examples is questionable and sometimes inaccurate should not, however, detract from their use as a demonstration of the method).

Many of Langridge's analyses would lead, if translated directly into an indexing system, to results which might seem strange at first. This is particularly true of what Ranganathan termed the "tool phase", that is, the use of the techniques of one subject in the investigation of another. For example, a psychological study of some aspect of art would be classed in BC2 (and many other schemes) under the subject investigated. Langridge maintains that psychology is a human behavioural science, with its own methods of working and its own specialised vocabulary, while art is the realm of imaginative creation (Art = works of art, music and literature, not the writings about them, which fall into the category of Criticism). These are distinct forms of knowledge, so he would prefer such a work, if written by and for people with a psychological education and training, to be classed with psychology. Nevertheless, he makes it clear that the first task is the sound analysis of the subject: only then can it be placed, however imperfectly, into the framework of the particular indexing system in use. The analysis reveals the subject: it does not change the system.

Despite occasional quirks and some views which may lead to heated arguments - or perhaps because of them - this is undoubtedly one of the most important books in our field to appear for many years. It should be read by all of us, not just by students. But why did it have to wait until I had just retired from teaching? - I needed it twenty years ago!

Tony Curwen

### Bliss for beginners

How do you introduce someone to the Bliss Bibliographic Classification, be that person a student or a new member of staff who has not used the scheme before? We should be most interested to hear how members have tackled this problem, and useful suggestions will be published in later issues of the *Bulletin*.

To start the ball rolling, there follows a set of classroom exercises used at the (former) College of Librarianship Wales. They required the use of Classes J, P and Q and the Introduction & Auxiliary schedules (which had been purchased in multiple copies). What is missing from this is the introductory lecture, with its visual aids showing the characteristics of the facet analysis, the notation and the method of synthesis. The intention is that students should gain understanding and confidence by working from very straightforward examples to progressively more complex ones.

The disadvantages are obvious: there are no documents which can be examined, so that titles have to be taken at their face value; there is, therefore, no proper initial subject analysis as Derek Langridge would wish; one is not adding to an actual classified collection; and the titles have been concocted to demonstrate the system, whereas everyone knows that the titles encountered in real life take a perverse delight in not fitting neatly.

There is a longer, earlier version, based solely on Class J.

### PRACTICAL EXERCISES IN THE APPLICATION OF THE SCHEME

- A. Simple subjects. These can normally be found directly from the index, but the class number should always be confirmed from the schedules.
  - 1. Coeducational schools
  - 2. Mysticism
- B. <u>Two-faceted subjects</u> (standard procedure). Where both elements are found within the same main class, take the classmark occurring <u>later</u> in the schedule and add to it the earlier one, omitting the repetition of the main class letter.

Example:

Dreams (IJR) in the psychology of childhood (IM):

IM + IJR = IMJR

- 3. Ill-treated mentally-handicapped persons (as a welfare problem)
- 4. The Koran [ = Islam + Sacred book]
- C. Three-faceted subjects (standard procedure). Similarly, take the classmark occurring last in the schedule and add to it in turn the next-to-last and then the earliest, omitting both repetitions of the main class letter.
  - 5. Course-assessed work for blind students at university
  - 6. Consecration of bishops in the Roman Catholic Church

The same procedure is used as required for subjects with four or more facets: begin with the one occurring last in the schedule and work steadily back to the earliest.

6A (for enthusiasts!). Counselling of children of armed services personnel by welfare staff in boarding schools

D. Adding from another main class, as instructed. Follow the instructions in the schedules precisely - but note that the index may not direct the user to the exact subdivision of the class where the addition is to be made. Note also that the instruction may be to add from the whole classification or from a specific part of it.

Example: Conceptualisation (as a psychological process) (IFP)

of sin (PYN M) = IFP PYN M

- but note that the index leads to IFO, not IFP

7. Religious instruction [ = Christianity, here] in the school curriculum

8. Islamic voluntary welfare bodies

E. Adding from another main class and subdividing further from the first. Follow the instructions as given in D, above, and then add the digit '3' before adding further subdivisions from the original main class, omitting the main class letter.

Example: Case studies (IBL M) in the conceptualisation (IFP)

of sin (PYN M) = IFP PYN M 3 BLM

Here '3' indicates that the addition from Class P is complete, the following facet being taken from Class I again.

Note that this is the standard procedure: the instructions may or may not be given explicitly in the schedules.

- 9. Advisory centres for unemployed teachers [cause of need=unemployment + teachers + advisory centres]
- 10. Governing bodies of Church of England denominational schools
- F. <u>Intercalators</u>. The use of the digit '3' in the section above is an example of the use of an 'intercalator': it has no meaning, but serves to maintain the correct order and permit full synthesis without creating ambiguous classmarks.

Letters are used similarly, particularly to extend the notation available for subclasses.

For example, under the 'standard' system, the first subclass to be enumerated under JV, Education of special groups and persons, would be JVV (or JVW), leaving JVA/JVU free for addition from earlier facets (e.g., JVL H, Special education at the pre-school stage, from JV and JLH). However, this would leave only JVV/JVZ for all the types of persons requiring special education. Therefore JVA is reserved as the notation to which earlier facets are added (e.g., JVA LH, Special education at the pre-school stage), freeing JVB/JVZ for the handicapped, minority groups, child prodigies, etc.

Note: the instructions are usually explicit, but may be found right at the beginning of the facet concerned; sometimes two or more letters are reserved for notational adjustments of various kinds: follow instructions!

- 11. Administration of institutions for vocational (non-professional) education
- 12. Zoroastrian religious ceremonies

At any time when it is evident that addition from an earlier facet in the normal way would produce a classmark which would clash with one enumerated already, use 'A' as an intercalator and proceed as above.

- 13. Protestant doctrinal theology
- 14. (What would the classmark mean without the 'A'?)

#### Auxiliary schedules

These subdivisions, introduced by numerals, can be added to any classmark. (They can sometimes be added directly, without the initial numeral, or may be specially elaborated in a particular class: follow instructions).

Auxiliaries may themselves be synthesised retroactively.

Examples: Security classified (2WO C) case studies (3U) = 3U 2WO C Humorous (3RS) quotations (3LW): 3RS + 3LW = 3RS LW

Note! The auxiliary schedules lack indexes in the Introductory volume. Use the summary outlines on pages 115 (Common subdivisions), 127 (Places) and 175 (Languages) as guides. There is a <u>summary</u> index to places on p. 172.

- G. Common form subdivisions 2/3 (Auxiliary schedule 1)
  - 15. Directory of witches
  - 16. Cassette recording of a conference on education
- H. Common subject subdivisions 4/9 (Auxiliary Schedule 1)
  - 17. History of industrial injuries compensation schemes
  - 18. A bibliography of educational research
- J. <u>Places</u> (Auxiliary schedule 2). These divisions are added to Common subject subdivision 8 unless there is an instruction to add them directly to a classmark. They can themselves be combined retroactively.

Example: Urban areas (8BC) of Spain (8GB): 8GB + 8BC = 8GB BC

(Exceptionally, the second '8' must be repeated after 8E, 8F, 8K, 8M, 8V, 8X and 8Y. This does not apply to their subdivisions)

- 19. The Anglican Church in South Africa
- 20. Voluntary social service organisations in rural Wales.
- K. <u>Periods</u> (Auxiliary schedule 4). These divisions are added to Common subject subdivision 7, History, unless otherwise instructed. Separate tables are provided for standard (4A), broad (4B) and very precise (4C) specification. Use Schedule 4A, p. 190-191.

The classmark for the period is in two parts and represents

- (i) the actual (or nearest <u>earlier</u>) starting date, and
- (ii) the actual (or nearest longer) duration.

Examples: 1950-1959: RO (1950) + Y (10 years) = ROY

1948-1962: RN (1945) + X (20 years) = RNX

1981: RV (1980) + Z ( 5 years) = RVZ

Use common sense: 1798-1901 = 19th century! MTO (1789 + 200 years) is strictly more "correct", but NP (1800 + 100 years) is normally better.

- 21. Curriculum design between the wars, 1919-1939
- 22. Quaker pastoral work, 1759-1900

## CHEAT-SHEET (you don't need this)

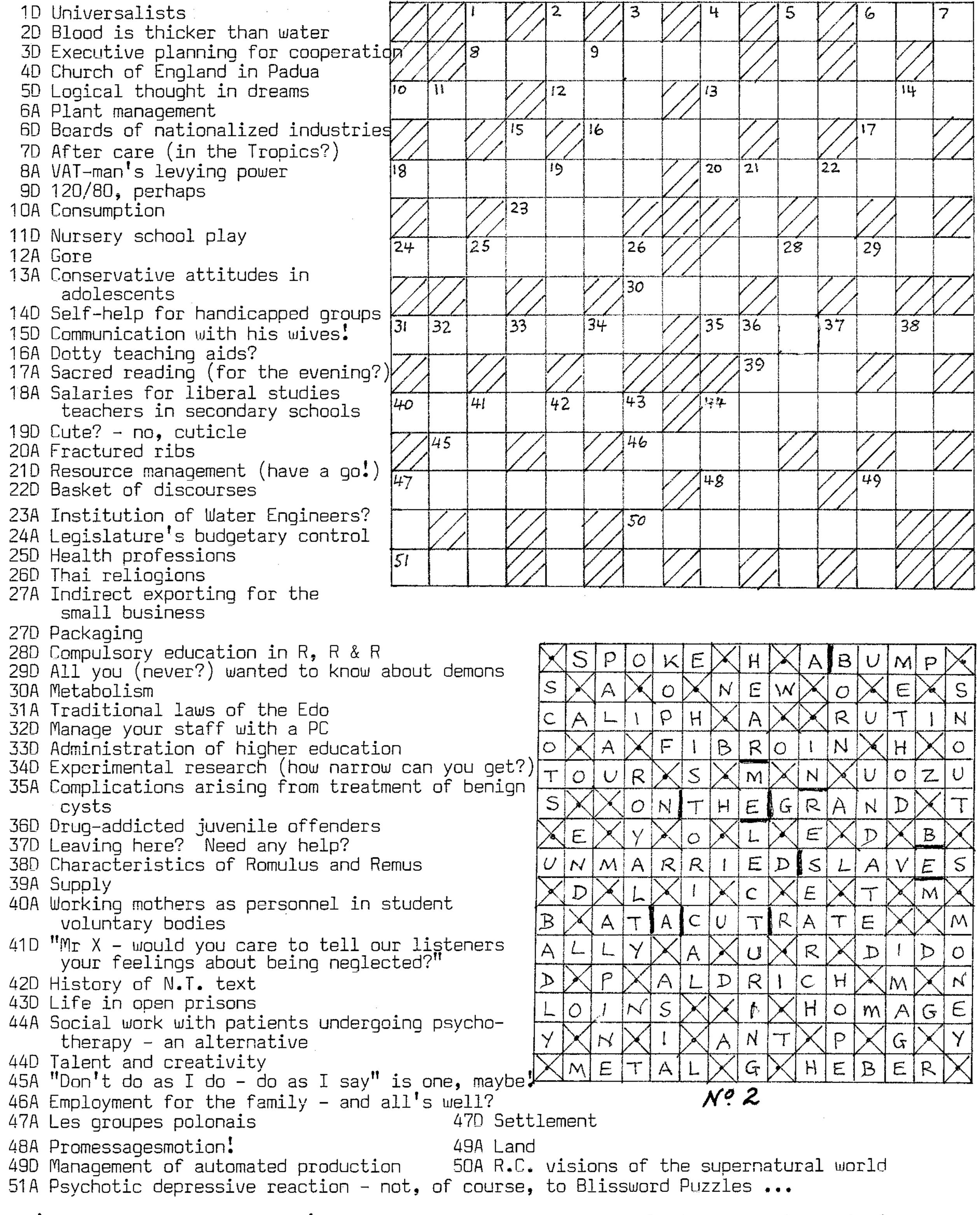
1.	JLD H	12.	PHK NSC
2.	PBY	13.	PTA BO
3.	QMP JE	14.	Other Lutheran churches
4.	PVB K	15.	PXR BD 3J
5.	JVV RM FKG	16.	J 3LR 2SVX
6.	PR FDT EQD	17.	QFH 7
7.	JKT PN	18.	J 6C 5V
8.	QCP V	19.	PSV Q
9.	QGYJHB 3EQ	20.	QCM 8ER BB
10.	JLC SE 3DE	21.	JKA BC 7REX
11.	JQA C	22.	PUF FP 7MKO

and for the enthusiasts, 6A:

JVE UWL DMF SCV

# BLISSWORD PUZZLE No. 3

This puzzle reverts to the pattern of No. 1. The answers are all BC2 classmarks -- no numerals, no unattached auxiliaries.



It's a good thing I don't have to churn out six of these each week for The Daily Bliscellany. Would someone else like to submit something for 1990?

A.G.C.