Guest Editorial

The Classification Research Group – Then and Now

by I.C. McIlwaine and Vanda Broughton

The genesis of the Group

In 1948, as part of the post-war renewal of library services in the United Kingdom, the Royal Society organized a Conference on Scientific Information.[1] What, at the time, must have seemed a minute part of the grand plan, but was later to have a transforming effect on the theory of knowledge organization throughout the remainder of the century, was the setting up of a standing committee of a small group of specialists to investigate the organization and retrieval of scientific information. In 1950, the secretary of that committee, J.D. Bernal, suggested that it might be appropriate to ask a group of librarians to do a study of the problem. After a couple of years of informal discussion it was agreed, in February 1952, to form a Classification Research Group – the CRG as it has become known to subsequent generations.

The Group published a brief corporate statement of its views in the *Library Association Record* in June 1953[2] and submitted a memorandum to the Library Association Research Committee in May 1955, entitled "The need for a faceted classification as the basis of all methods of information retrieval". This memorandum was published in the proceedings of what has become known as the "Dorking Conference" in 1957.[3] Of the original fifteen members, four still belong to the Group, three of whom are in regular attendance: Eric Coates, Douglas Foskett and Jack Mills. Brian Vickery ceased attending regularly in the 1960s but has retained his interest in their doings: he was present at the 150th celebratory meeting in 1984 and played an active part in the "Dorking revisited" conference held in 1997.[4]

The stated aim of the Group was

> 'To review the basic principles of bibliographic classification, unhampered by allegiance to any particular published scheme'

and it can truly be stated that the work of its members has had a fundamental influence on the teaching and practice of information retrieval. It is paradoxical that this collection of people has exerted such a strong theoretical sway because their aims were from the outset and remain essentially practical. This fact is sometimes overlooked in the literature on knowledge organization: there is a tendency to get carried away, and for researchers of today to concentrate so hard on what might be that they overlook what is needed, useful and practical – the entire objective of any retrieval system.

Classifications, special to general

At the time when the Group came into being all the general schemes of classification were suffering from neglect. Little attention had been paid to any of them since the 1930s (though the 14th edition of DDC was published in 1942) and from a British per-

1 The Royal Society Scientific Information Conference, 21 June-2 July 1948. *Report and papers submitted*. London, Royal Society, 1948, 723pp.

2 *LAR* June 1953, 187-188.

3 *Proceedings of the International Study Conference on Classification for Information Retrieval*, London, Aslib, 1957. Repr in *From classification to "Knowledge Organization: Dorking revisited, or "Past is Prelude";* ed. A. Gilchrist, (FID 714), The Hague, FID, 1997.

4 *Knowledge organization for information retrieval: proceedings of the sixth international study conference on classification research, held at University College London, 16-18 June, 1997* (FID 710), The Hague, FID, 1997.

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spective none was seen as of great use for the organization either of scientific and technical books, or of general collections with a British perspective. In those days there was no standardization or common practice of book arrangement in the UK. Many academic libraries operated on a fixed location system, there was little provision for subject access and by no means all public libraries used Dewey – the *Subject classification* of James Duff Brown had a strong following (and remained in use by some until the mid 1970s).

Nevertheless, it was to the needs of specialized, and frequently technical, collections that the Group first turned its attention. This is hardly surprising, given the institutions from which the membership was drawn – the Dept of Scientific & Industrial Research, Tate & Lyle, Metal Box, ICI, the Gas Council and the Patent Office, to name but a few. Initially, it was to special classifications that the Group turned its attention, including, throughout the 1950s and early 1960s, a series of special schemes all based on facet analysis, and concentrating principally on highly specialized, technical fields. In the mid 1950s Barbara Kyle, Librarian of the Royal Institute for International Affairs, joined the Group. She was responsible for the classification used in the arrangement of the bibliographies produced by the International Social Science Committee,[5] and her presence had the effect of extending the interests and discussions of the Group beyond discrete specialized subject fields into the much larger group of disciplines that comprise the Social Sciences. Debate now included such problems as difficulties of terminology, cultural differences and the traditions and historical background to the political and legal framework of different parts of the world.

It is hardly surprising, therefore, that within a decade, the Group widened its horizons yet again, and responded in 1962 to the NATO Science Advisory Committee's report on 'Increasing the effectiveness of Western science' which suggested that a new classification for the sciences was needed. The Group applied for and was awarded a grant to conduct a pilot project. Work on the development of a general scheme of classification occupied the members' attention throughout the 1960s and into the early 70s. The classification per se never saw the light of day, but the ideas and discussions of the Group bore fruit in the PRECIS system of indexing devised by Derek Austin[6] and used by the *British National Bibliography* until the advent of computerization brought faster, cheaper and less labour-intensive (and far less effective) approaches to subject retrieval in a national bibliographic listing.

Published work

As a Group, the CRG has published little, and it has always been the activities of individual members that have been subjected to rigorous examination at their meetings. Nevertheless, they have been responsible for a number of milestones in the development of classification theory and in the movement towards Knowledge Organization as the preferred label for the activity in which its participants indulge. The first of these was the Dorking Conference held in 1957,[7] which is regarded as a landmark in the development of the subject. A collection of papers, together with recollections from a number of participants, was published in 1997[8] to accompany the FID/CR 6th International Study Conference on Classification Research[9] (Dorking having been the first in the series). Dorking was followed in 1963 by another conference on "Some problems of a general classification scheme,"[10] financed by the NATO grant and again attended by prominent members of the Group, including some from overseas, such as Pauline Atherton (now Cochrane), de Grolier and Wåhlin. The publication resulting from this is a small pamphlet, often overlooked nowadays, but contains some far-reaching proposals. Two years previously the Library Association had published a monograph containing a number of contributions by members of the Group, *The Sayers Memorial Volume.*[11] Apart from the proceedings of the two conferences and this Festschrift, a series of Classification Research Group Bulletins has been pub-

5 These were produced between 1950 and 1955 as periodical publications covering Politics, Economics, Sociology and Anthropology. They were taken over by Unesco in 1960 and have subsequently been taken over by other publishers and have adopted a different subject arrangement.

6 Austin, D. *PRECIS: a manual of concept analysis and subject indexing*, 2nd ed. with M. Dykstra, London, British Library, 1984.

7 *Proceedings of the International Study Conference on Classification for Information Retrieval, May 1957*, London, Aslib, 1957.

8 Gilchrist, A., *ed. From classification to "knowledge organization": Dorking revisited, or "Past is prelude"*, (FID 714), The Hague, FID, 1997.

9 *Supra*, 4.

10 *Some problems of a general classification scheme: report of a conference held in London, June 1963*, London, Library Association, 1964.

11 *The Sayers memorial volume: essays in librarianship in memory of William Charles Berwick Sayers*; ed. D.J. Foskett and B.I. Palmer, London, Library Association, 1961.

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lished, numbers 4-12 appearing in the *Journal of documentation*. This collection of publications constitutes the corporate production of the Group.

It is therefore worth considering why such a small amount of literature has had so profound an influence on the thinking of later generations. Firstly, as Jonathan Furner pointed out in his paper at the Toronto ISKO Conference,[12] if one undertakes a literature search on the names of individual members of the group, the results are astronomical. Yet, a search on "Classification Research Group", in the British Library catalogue reveals five items, the papers of the two conferences referred to, a collection of papers from meetings held between 1960-68, and two other incidental items. This small group of librarians, some of whom encountered Ranganathan during World War II when they were serving in India, were profoundly influenced by him, and events of the late 40s and 50s conspired to bring them together and form a group that provided a sounding board for the diverse ideas of a number of individuals. A glance through those *CRG bulletins* (which provide bibliographies of the members' writings over the periods covered 1964-85) demonstrates the range as well as the large body of publication generated by these people.[13]

Edaucational influence

Standard works that have been used and recommended to generations of students, include Palmer and Wells' *Fundamentals of library classification* (1951),[14] Mills' *Modern outline of library classification* (1960),[15] and the three volumes in the Butterworths series *Classification and indexing* covering science,[16] social science,[17] and the humanities,[18] which appeared through the late 50s to the mid 70s by Vickery, Foskett and Langridge remain classics of the discipline. Many members of the Group were teachers, often for substantial parts of their careers – Vickery, Mills, Foskett, Langridge, Farradane, Morgan, Redfern, Hansen, Cochrane and from later generations Williamson, Svenonius, McIlwaine, Edkins and Broughton, to mention but a few. These standard works, coupled with the teaching of the fundamental principles that are embodied in them and that are the enduring feature of the Group's work, have been transmitted to students for half a century, so that today many teachers as well as students are unaware of the origin of the ground rules which they instil in their pupils.

Basis of today's theoretical principles

In an age when standardization is the norm, it is easy to forget that this was not the case in the early 1950s. Though many of the "standard" practices which have been adopted today conflict sharply with the Group's dearly held principles, nevertheless, many of the principles which they both preached and practised are taken as read and adopted almost unconsciously by the information world. Even the *Dewey Decimal Classification*, for years the butt of group discussions, recommends the implementation of the "standard citation order" in its "Tables of preference" even though it does not use the term. Indeed, DDC embodied all the basic thinking that Coates put into his *British Catalogue of music classification* in 1957,[19] in the revision of class 780 introduced some thirty years later in the 20th edition (1989). The work that Jean Aitchison undertook in devising the original English Electric classification, later developed into the Thesaurosfacet, led to the production of the standard work on thesaurus construction, a work that has gone into its 4th edition this year.[20] The *Current technology index* was the product of Coates' many years experience, just as half a century ago another member of the Group, A.J. Wells, was responsible for the inception of the *British National Bibliography*. The BC2, which might be described as the life work of Jack Mills, is the subject of the later part of this article, but it is also, in some respects, the survivor of the NATO pro-

[12] *Dynamism and stability in knowledge organization: proceedings of the 6th international ISKO Conference, July, 2000*. Wurzburg, Ergon, 2000. Furner's paper is not among those in the published proceedings.

[13] McIlwaine, I.C. "The work of the Classification Research Group", *Libraries and information services: studies in honour of Douglas Foskett*; ed. M. Humby, London, University of London Institute of Education, 1993, 11-20 (*Education libraries journal*. Suppl. 25). A summary list of the contents of these bulletins is provided.

[14] Palmer, B.I. *and* Wells, A. J. *The fundamentals of library classification*, London, Allen & Unwin, 1951.

[15] Mills, J. *A modern outline of library classification*, London, Chapman and Hall, 1960.

[16] Vickery, B.C. *Classification and indexing in science*, London, Butterworths, 1958. 2nd ed. 1959. 3rd ed. 1975.

[17] Foskett, D.J. *Classification and indexing in the social sciences*, London, Butterworths, 1963, 2nd ed. 1974.

[18] Langridge, D. *Classification and indexing in the humanities*, London, Butterworths, 1976.

[19] Coates, E.J. *British Catalogue of Music Classification*, London, British National Bibliography, 1957.

[20] Aitchison, J., Gilchrist, A. and Bawden, D. *Thesaurus construction*, 4th ed., London, Aslib, 2001.

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ject and the aspirations of the 1960s that the Group might produce a new general scheme of classification.

One of the contributors to the Festschrift produced on the occasion of Group member Pauline Cochrane's (formerly Atherton) 70th birthday[21] suggests that there is a "disconnect" between the research conducted in the 1960s and 1970s and current activity, and that the work of today is the poorer for not being aware of what has been undertaken in the past. The writer suggests that this is in part due to lack of funding and in part due to the fact that much of the work that was undertaken at that time was written up as research reports (the Aslib-Cranfield tests are a case in point) that are difficult to trace or only held by libraries in microform. Additionally, it is suggested that in the 1980s there was a reversal of opinion about the value of research carried out in the immediate past, and that much of the valuable work undertaken at that time has now fallen into oblivion.

Another factor may be closely linked with the commitment of the Group to practical applications, since the manifestation of much of their efforts is in specific systems and schemes (and indeed many of these not even published independently, such as PRECIS, and Eric Coates' work on the subject headings in *Current Technology Index*). This absence of 'pure' research may also account for the low number of publications in the form of papers and journal articles.

Bliss Bibliographic Classification, edition 2

A clear example of this kind of largely unrecorded effort occurs in the Group's contributions to the revision of the *Bliss Bibliographic Classification* (BC2). BC2 embodies many of the principles developed by the CRG in the creation of special classification schemes and indexing systems during the 1960s and 1970s, namely the organization of vocabulary using rigorous facet analytical principles, the imposition of standard citation order, schedule inversion, and the use of a fully faceted and synthetic notation.

Indeed, it is true to say that BC2, although it follows the general pattern of the original *Bibliographic Classification* and embodies many of the distinctive theoretical principles of that system, is in essence the new general classification scheme built on facet analytical theory envisaged by members of the CRG from its early days. A powerful argument against the often advanced view that BC2 is the work of an individual (Jack Mills), is the active involvement of many other members of the CRG, whether directly, as authors of individual parts of the classification, or in contributing to the group discussion of general principles affecting the classification of subjects and disciplines, and in the critical evaluation of draft schedules. The most recently published volume of BC2 confirms this, stating that "we are pleased to acknowledge the valuable contribution made by friends and colleagues in the Classification Research Group. CRG discussions have been a constant help and stimulus in designing the schedules."[22]

Embryonic BC2 can be seen in earlier work of the Group, notably the scheme for Library and Information Science constructed in 1972,[23] and used in the Library Association Library until its departure from the LA, and in *Library and information science abstracts* (LISA) until 1993. Although the notation is somewhat different in appearance, the structure of the CRG scheme is essentially that of the penultimate draft schedule for Class Z of BC2.[24]

Work on new BC2 schedules, in terms both of original research, and of evaluative feedback, has dominated the CRG during the 1990s. From within the membership, Douglas and Joy Foskett produced a third edition of Bliss Class J, Education,[25] but undoubtedly the principal focus has been on the sciences, where Eric Coates has been the major player, drawing on his experience with the *British Technology Index* (later *Current Technology Index*), and in the development of the *Broad System of Ordering*.[26] His input has been central to Classes AY/B, General Science and Physics, [27] and C Chemistry, and with the publi-

[21] *Saving the time of the library user through subject access innovation: papers in honor of Pauline Atherton Cochrane;* ed. W.J. Wheeler, Champaign, IL, Univ. of Illinois, 2000, 77.

[22] Mills, J. and Broughton, V. *Bliss Bibliographic Classification 2nd edition: Class AY/B General Science and Physics.* London; Bowker-Saur 1999 p. xv

[23] Daniel, Ruth and Mills, J. *A classification of library and information science* London; Library Association 1975 [Originally issued by the Polytechnic of North London School of Librarianship in 1972]

[24] *Bliss Class Z Documentation, bibliology, library and information science; penultimate draft schedule* London; Polytechnic of North London School of Librarianship1972

[25] Foskett, D. J. and Foskett, Joy *Bliss Bibliographic Classification 2nd edition Class J Education 1990 revision* London Bowker-Saur 1990

[26] Coates, E. J. "BC2 and BSO: presentation at the 36th Allerton Institute, 1994 session on preparing traditional classification for the future" *Cataloguing and classification quarterly* 21 (2) 1995 59-67

[27] Mills and Broughton *op.cit.* p. xv "...his contribution to this volume of BC2 has been incalculable."

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cation of Physics and the virtual completion of Chemistry, he is now working on the Technology class, which has been hanging fire awaiting the final structure of the pure science classes.

The legacy of the Classification Research Group

It could be said that the current concern with BC2 has impeded the forward movement of the Group in other directions. The desire to see the principles of facet analysis made manifest in a specific system of classification may have restricted the wider view of their applicability to a range of indexing and retrieval contexts. It has always been a primary objective of the CRG that its work is founded in practical classification, and in the application of theory to specific situations; it may be that in the 21st century the understanding of the situations to which the theory is appropriate needs re-examining and restating.

Recently the Group has sought to define its aims and objectives in the new century.[28] Current thinking on future directions seems to focus on two issues – firstly, the lack of awareness of classification and indexing theory within the wider library community, and the need both to record and to disseminate this knowledge[29]; and secondly the way in which theoretical principles can, and should, be applied to new information environments, principally the World Wide Web and the management of resources thereon.

There is evidence of a renewed interest in the theory of facet analysis, and in the work of the CRG.[30] But those who come more lately to the field of classification research, while acknowledging the enormous importance of facet analysis as the basis of modern classificatory theory, do not necessarily share an understanding of the information culture of the mid-20th century, when the compelling issues for classificationists were the physical organization of document collections and the attendant problem of representing complex subjects in a linear sequence.

The concept of 'facets' as an aid to electronic information retrieval is currently much discussed in professional circles. Indeed, faceted classification sometimes seems to be the buzzword of the 21st century; ontologies and knowledge structures proliferate, many of them constructed by individuals with little or no background in information work, and consequently no knowledge of the tradition of classification theory. All the precision and elegance of systems created in the latter part of the twentieth century seem lost to this audience, and most younger members of the library community are not equipped to rectify the situation. It is desirable that awareness of these techniques and the developed theory should be brought to a wider audience, particularly in view of the indexing and retrieval problems occasioned by electronic dissemination of information, which these techniques are so eminently equipped to address. A recent article states that "...facet analysis can be used to optimise the information retrieval interaction by taking into account both the objective characteristics of the WWW materials and the subjective needs of the searcher. ...Other information retrieval techniques may not do this..."[31]

It is therefore now appropriate to confirm that original objective of the Classification Research Group, namely, "the need for a faceted classification as the basis of all information retrieval".

[28] A recent CRG meeting sought to define the aims and objectives of the Group. These are stated in Minute 2839 Unconfirmed minutes of the 326th meeting of the Classification Research Group, held at UCL on Friday 10th November at 2.15p.m.

[29] "It was agreed that there was a need to disseminate information about classification, and in particular faceted classification, to people who are now facing the problems of knowledge organization, particularly those developing computerised systems." Minute 2837 Unconfirmed minutes of the 326th meeting

[30] Supra 12

[31] Ellis, David and Vasconcelos, Ana "The relevance of facet analysis for World Wide Web subject organization and searching" *Journal of Internet cataloguing* 2(3/4) 2000 97-114

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The Seventh International ISKO Conference
Granada, Spain, 3-6 July, 2002
"Challenges in Knowledge Representation and Organization for the 21st Century: Integration of Knowledge across Boundaries."

Call for papers

The need for a worldwide communication system that can retrieve information efficiently, regardless of national and cultural boundaries, has become more and more pressing. New electronic environments (such as the Internet, where the world is at hand, where all cultures coexist, and where quality is low) have created this need. These new environments provide significant challenges for those dedicated to the study and research on knowledge representation and organization. Similarly, the digitalization of information is responsible for increasing emphasis on the need for integrating models of knowledge representation and organization. Digitalization allows a huge amount of information to be stored and retrieved, and the challenge is to develop models to improve the management of information in this new framework. Traditional information retrieval systems face similar problems because we lack retrieval tools designed to integrate knowledge. In this situation, an in-depth examination of the integration of knowledge across boundaries is warranted.

Study of the integration of knowledge leads to other important topics. One of these is the concept of universality. New insights into universality needs to include topics geared to the revision of the concept, such as how universality was previously understood in knowledge organization, and what problems arose as a consequence of this understanding. Further, we need to move to a consideration of the concept of universality as it should be understood now, in the electronic era. How can universality be represented in conceptual structures? Integration of specialized knowledge across geographic or cultural domains can be a way to address this unsolved problem. Related to the same problem are topics such as how the integration of knowledge affects different subject domains and users, linguistic issues, and applications that support new models.

In addition, we need to look at equality in knowledge organization. This is an important aspect for supranational systems, and it means that we need a special focus on minorities so that we can represent them well in knowledge structures. At the same time, professional ethics needs to be reflected within this framework because knowledge organization affects the way people think about and perceive reality, and minorities and other similar groups may become invisible or wrongly conceptualized. Professionals need to be aware of these issues and should be attempting to solve these problems.

In light of these considerations, the integration of knowledge across boundaries is the general theme of the 7th International ISKO Conference to be held in Granada (Spain) in July 2002. The Conference has two main objectives: 1) to analyze models for knowledge representation and organization, as a state of the art departure point, and 2) to propose new models, methods and techniques of integrating knowledge across boundaries in order to improve performance in the new century.

The conference will include the following specific topics, among others:

1. Epistemological foundations of knowledge representation and organization systems and theories
2. Models, methods and concepts for knowledge representation and organization: towards integration and universality
3. Professional ethics in knowledge representation and organization
4. Users in multicultural domain-oriented and/or general systems
5. Evaluation of supranational systems
6. Internet and the integration of knowledge: artificial intelligence, data mining, and multicultural systems

Researchers and practitioners involved in knowledge representation and organization are invited to submit abstract between 500 and 1000 words by September 15, 2001 to Prof. Maria J. López-Huertas. Electronic submissions in Word or RTF format are recommended (please include ISKO in the subject line) to the following address mjlopez@ugr.es

In preparing your abstract please include objectives, methodology and results as far as possible, and relate your topic to the theme of the Conference and indicate the category above to which you believe your paper belongs. An international programme committee will review the papers, and authors will be notified of decisions by November 15, 2001. The deadline for submission of papers for the printed Conference Proceedings will be March 1, 2002. Accommodation and travel information will come later.

Venue of the Conference:

Palacio de Congresos de Granada (Spain)
Conference Chair: Maria J. López-Huertas
Mailing address: Facultad de Biblioteconomía y Documentación (Faculty of Library and Information Science)
Universidad de Granada. Colegio Máximo de Cartuja.
18071 Granada (Spain)
Fax: 34 958 243490
e-mail: mjlopez@ugr

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