NOTES ON

Subject Bibliography

Ronald Staveley

of University College London

DEUTSCH

BOOK

For several years now Mr Staveley has been distributing his *Notes on Subject Bibliography* to his students at the University of London School of Librarianship and Archives. The value of the *Notes* has been repeatedly demonstrated by the recurrent requests for copies which the author has received from libraries and schools in countries throughout the world.

Mr Staveley has now extensively revised and added to his original work and the result is a volume which must become a standard text-book for library students everywhere. In addition these *Notes* will provide a valuable aid to booksellers both in the study and the administration of their trade.

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by

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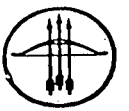

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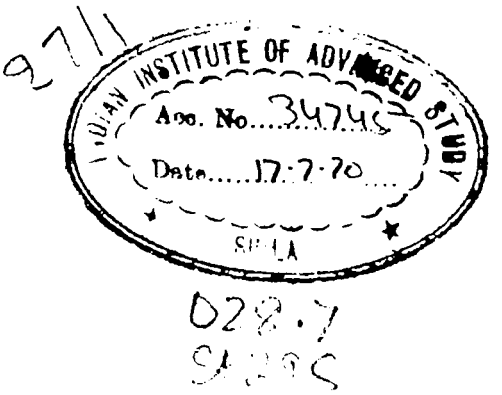
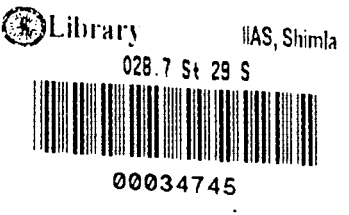




CONTENTS

PREFACE

This material has taken shape during tutorial work at the University of London School, and owes much to my students' own subject studies. For some years, notes of this kind have been issued in duplicated form to accepted students, as long as possible before the new session, to reduce the need for instruction in methodology during the course itself. The practice has given students more time for their work in the appropriate general and special libraries, where the value and the rewards of subject bibliography are to be found. I hope that the material may now be of some such help to other students.

I am indebted to my colleague Douglas Foskett for many helpful suggestions and imperative corrections.

R.S.

University College London
May, 1962

INTRODUCTION

These notes are intended to illustrate some of the ways in which important literature of special subjects is made available to people who need it. The material is introductory to the practical subject study that students carry out individually and write up in weekly essays. It is presented in this form to enable the practical work to start early in the session and to proceed more thoroughly, taking in topics that are not mentioned here. During the course, lectures, group work, demonstrations and exhibitions deal with special classes of material, going parallel with students' own programme of work.

The programme takes the form of a systematic study of the bibliography of two dissimilar subjects, chosen by the student and approved if they offer adequate introductions to recognised areas of research. The student may thus re-examine familiar subjects in a way he has probably not yet tried, or turn to a new field that appeals. If subjects are well chosen, he will also gain some insight into problems in wider studies.

He will encounter the problems of bibliography in much the same way as research workers and other purposive readers do so. Speaking generally, each of these is concerned with one special subject, and with a few others which are, from his point of view, at the circumference. He is only interested in a comprehensive national bibliography if it opens up his own field of literature conveniently. By taking our stand alongside him we can see which problems in bibliography are truly important. It is because more librarians have adopted this viewpoint that their attitude towards bibliography has changed since the immediate post-war years. Librarians are still concerned, as they

always have been, with national, regional and international bibliography. But their concern is now more severely practical. Minimum requirements have been laid down for the good recording of national literatures, and these were decided by realistic studies of the needs of the new generation of research workers. The dominant modern interest of bibliographers is the listing of material by subject, and selection and evaluation of titles on the basis of their value to subjects' workers.

The current situation, therefore, is that librarians, research workers, their professional societies, and a number of official organizations that are sometimes part of government machinery, are helping in the improvement of bibliographical services. The problems require this cooperative treatment, for they are large. Yet much has been achieved in recent years, in most countries that have significance. Progress has usually consisted of many small steps that are separately unspectacular but in aggregate really impressive. In a process like this there is always some danger of unsystematic development. It is therefore a good thing that the recommendations of bodies such as the Royal Society and Unesco should be known and referred to from time to time as a subject's bibliography takes shape. There is a short account of the chief recommendations in my *Notes on modern bibliography*, and they are readily accessible elsewhere. These help in measuring progress in a subject or in a particular country. They provided the framework for a series of volumes recording current developments in many countries since 1950, *Bibliographical services throughout the world*. A ten-year survey has the same title and arrangement and the same editor as the later volumes, R. L. Collison. This Unesco series has now been discontinued.

There are clear advantages when subjects can conform

with a common bibliographical pattern, but this is often too much to hope for. Particularly in a developed country, bibliographers can seldom retrace their steps, and new work must build on the old. Only with new small subjects can bibliographers here really follow the detailed post-war recommendations. In other cases they can do no more than maintain or expand existing services, removing incongruities and wastefulness, concentrating on the urgent, cooperating and compromising.

Subjects differ not only in the quality of their past and present bibliography, but also in the forms these take. Some possess a series of services that are independent and can be neatly labelled. In others, a number of functions are performed by a single service. A few subjects remain that are small and sufficiently compact to be dealt with by a single society or institute. In these the bibliography takes on a domestic flavour. Two such subjects are symbolic logic, which is well served by the American Association for Symbolic Logic, and the history of British art, long attended to by the Courtauld Institute, though lately the bibliographical burden has been proving too heavy.

There are subjects that need little in the way of independent bibliographical aids, being part of larger subjects. Historical studies offer several examples. Medieval philosophy is frequently treated as part of general medieval history, and thereby forfeits separate bibliographical existence. Other subjects set special problems because they are pervasive or eclectic, with a scattered literature. The geographer is often concerned with the work of the social scientist, but must be watchful of work in physics and geology too. There are a few research subjects that have a strong popular appeal, and the amateur and the professional both make demands on the bibliographer. This is seen in

astronomy. Architecture shows up another kind of difficulty. It is unusual, though not unique, in possessing both a background that is deeply technical and an intimate connection with questions of art and aesthetics. A divided subject may have to take a subordinate place in several bibliographical services.

Non-book, non-literary materials set special problems in bibliography, no less than in classification and cataloguing. We are familiar with the maps and globes of the geographer, the illustrations, slides and drawings of architects and artists, and maybe a little less familiar with the tables of the mathematician. These, like the pharmacist's chemical formulae, set considerable indexing problems, and so do patents and trade marks. The new subject of nuclear instruments is one among the many in the technical field which make life exacting for the bibliographer and indexer, for the same kind of reason.

Many problems in bibliography are caused by subjects' faulty terminology. Here is another big difference between subjects, for some are affected very seriously, others scarcely at all. The most common problem in bibliography is the array of synonyms that must be allowed for, and the obsolescence of terms or headings that sufficed in the past. The difficulties are seen very clearly in the literature of medicine, and similarly with chemistry. Bibliographers cannot remove the problems, but they can help by compiling aids like the detailed lists of synonyms in the sections of *Excerpta medica*. Many subjects urgently need such help. Anthropology is one, an example of a study that is rapidly growing, in a framework of imprecise terminology.

With terminology thus suspect, it is obvious that guides which foolishly classify works by their titles can be misleading. One meets this practice in commercial press

guides, and it also spoils some non-commercial bibliographies. It was one of the disappointing features of an earlier edition of the *Index bibliographicus*, where one found *l'Annee philologique* listed unhelpfully under philology and omitted under classical studies.

INTRODUCTORY GUIDES

As subjects grow more complicated, their material and sources more varied, some form of introductory guide becomes necessary. These works are now quite common. Since few studies are now contained by national boundaries, the need is increasing for guides that are international in scope. The International Federation for Documentation (FID) has for some time been considering ways of encouraging the preparation and publication of them. Several other bodies, among them the Deutsche Gesellschaft für Dokumentation, have shown interest in this matter in recent years.

Some introductory manuals, but too few, are produced by librarians or library associations. A splendid model is the *Handbook of medical library practice*, edited jointly by Doe and Marshall for the Medical Libraries Association in the U.S.A. Peter R. Lewis's introductory survey and guide, the *Literature of the social sciences*, has quickly become a welcome short cut into subjects of growing complexity. The excellent Bibliography Series of the Special Libraries Association provides titles like *A guide to metallurgical information*. More commonly, library journals offer bibliographical introductions. Everett's *Documentation of mechanical engineering* and Veasey's *Sources of information in automobile engineering* are examples from *Aslib proceedings*. Kimmance's *Guide to the literature of education* appeared as a supplement to *Education libraries bulletin*, the journal of London's Institute of Education, and useful contributions have appeared as supplements to *Library news*, from the World Health

Organization. There are numerous other examples, yet this source is too often overlooked.

Most introductions however are published for the professional student or potential research worker. They are often very limited in scope, though the majority have some value for our purpose and some are of great help in reference librarianship. An example of the restricted type is *Aids to educational research*, produced by the Scottish Council for Research in Education. The more comprehensive kind is typified by *A guide to the literature of chemistry* by Crane, Patterson and Marr. Medical students have been served better than most with both kinds of guide. Postell's *Applied medical bibliography* is an efficient work from the U.S.A. Koest and Franck's *Notions élémentaires de bibliographie medicale* puts its emphasis on the literature, and both can usefully be compared with the older guides by Gottfried Krickner and L. T. Morton. Physics too is well served in this as in most other aspects of bibliography, and history students have several good bibliographical manuals. Hockett's *Critical method in historical research and writing* and Clark's *Guide for research students working on historical subjects* are typical, of real though unintended help to librarianship students. It is becoming conventional in such guides to use the categories and language of post-war bibliography. This is an added convenience for us; we soon feel at home with Dalton's *Sources of engineering information*, with its arrangement by form, by indexes, abstracts, location lists and the like. To lay emphasis on type of material rather than on individual works has the further advantage of avoiding rapid obsolescence. Parke's *Guide to the literature of mathematics and physics* shows this trend.

Professional associations are well placed to offer guides to their subjects' resources, and they publish some of the

most efficient. A good example is *A geographer's reference book*. This offers first a survey of the range of published reference material available to geographers. There follows a narrative account of contemporary developments in the subjects. A third section provides information on societies and institutions, libraries, museums and research facilities generally. Works of this standard effect our introductions quickly and in a very satisfactory manner. One or two similar guides are prepared by international organisations. The *International guide to educational documentation* is a typical venture being prepared by the Department of Education of Unesco. The World Meteorological Organization goes so far as to address a work specifically to librarians. This is the *Guide to meteorological library practice*.

SECTION 2

SOCIETIES

In a subject study we soon feel the need to get to know the societies and similar bodies that work in it. They usually prompt research, publish the most important current information, and nowadays show a care for the recording of the subject's literature. They hold regular meetings and discussion groups, hear papers, criticise and referee them, and sometimes award prizes, grants or scholarships for outstanding work. Some direct their publications at two or more reading levels, with a view to serving general readers as well as their specialist members. Thus the *Journal* of the Royal Anthropological Institute is a typical erudite medium offering original papers essentially for the specialist, whilst *Man* is published by the same body for the less advanced reader. Sometimes readers of both levels are catered for in the same journal. The Royal Geographical Society of Scotland adopts this policy in *The Scottish geographical magazine*, in the effort to serve the interests of its varied membership. This policy requires an unusually good editor, for there is no justification for lowered standards or less authoritative contributions for the layman.

Societies vary greatly in the editorial standards they maintain, and also in the value they set on the bibliography of their subjects. The growing importance of editorial explanation can readily be traced in any long-established series, such as those of the Early English Text Society. They also show considerable fluctuations in standards. Besides such literary editorship, there is another kind of editorial work that is practised in journals. This pays considerable attention to matters of typography and general lay-out, of

citation and indexing, and in all respects studies the convenience of readers, not overlooking the advantages of consistency of practice among journals. Editors who are keen to be helpful find many ways of being so, in matters large and small. The aggregate value of work of this kind is considerable for the specialist.

We quickly appreciate the value of bibliographically minded societies after examining the work of a few good ones. The American Psychological Association, for example, is a body that is admirable in most of its many activities. The bibliography of chemistry would be impoverished without the services of the American Chemical Society, whose new *Journal of chemical documentation* must excite envy in other subjects. The debt of symbolic logicians to one society has been mentioned already. Classical studies provide a magnificent example in the Société de Bibliographie Classique. This subject shows perhaps the most complete bibliographical dependence on the work of learned societies. The Royal Geographical Society has also a strong sense of bibliographical responsibility. We find that important subjects have a surprisingly large number of active societies and institutions. Many have very restricted functions and avoid foolish competition with the others. The large field of chemistry illustrates this well. The Royal Institute of Chemistry, the chemist's professional organization, has its proper and fairly general area of interest. The Society for Analytical Chemistry and the Society of Chemical Industry, are two of many with restricted interests. Their names are sufficiently descriptive, but this is not always the case. As a hint of the part played by bodies not strictly societies, one might mention the Chemical Research Board, with its important laboratories at Teddington.

There is a tendency for the organizational framework

of a subject to be similar in most developed countries, though political or historical factors have sometimes prevented this. Another development is towards more frequent contacts with related subjects, and also towards periodic conferences representing the whole hierarchy of a wide subject field. At the national level this is more common in scientific than other fields. Here we discover societies with the important duty of keeping liaison between varied kinds of specialists. This explains many of the activities of the Royal Society, the Royal Institution, and the British Association for the Advancement of Science. French examples of the same kind are the Académie des Sciences, itself part of the Institut de France, and the Association Française pour l'Avancement de la Science. The latter, with its many sections in all branches of science, is rather similar to the British Association. In Germany, serving both east and west, is the Deutsche Akademie der Wissenschaft, which again supports many sections as well as several laboratories, and has a long history of important publication. By no means restricted to science subjects, it provides study in language, literature, art, philosophy, history and law. The story is well told in Dunken's *Die Deutsche Akademie der Wissenschaften zu Berlin in Vergangenheit und Gegenwart.*

Influential bodies such as these are naturally strong factors in the direction of research in their countries; but there are others which have this as their sole or chief function. These are less often societies proper than government supported agencies, but they merit a comment at this point. The familiar names here are the Department of Scientific and Industrial Research, the Medical Research Council and the Agricultural Research Council. The case for a similar council for the humanities and social sciences

is currently being considered, but one should not overlook the value to the social scientist of some of the work prompted by the existing research councils. A hint is supplied by the DSIR title *Investigations supported by the Human Sciences Committee*. A recent change of policy by the Ministry of Education will also have useful consequences; the Minister is now to commission research directly or through bodies such as the National Foundation for Educational Research in England and Wales.

In France is the Centre National de la Recherche Scientifique et Technique, reorganised at the end of 1959, which both directs the general development of research and examines specific problems of general national interest. Like the DSIR it maintains laboratories and institutions, and makes grants to other bodies and to individuals. Its Centre de Documentation, founded in 1940 as a clearing house for scientific publications, has been the model for a number of national 'documentation centres' since established.

The Deutsche Forschungsgemeinschaft is the West German equivalent, save for the fact that it does not maintain research establishments of its own. There is also a German foundation that has done much to direct research in most parts of Germany and in a wide range of subjects, not only the natural sciences. In its present form it is the Max Planck Gesellschaft zur Förderung der Wissenschaften. It controls a large number of institutes and research departments from its headquarters in Göttingen.

Russia has its Academy of Sciences and the U.S.A. its National Science Foundation. These are bodies with complex though dissimilar structure; both are of great international importance, and the Russian example has set the pattern for many of its country's allies. Certainly the

trend in all developing countries is towards official recognition of the need for encouraging, directing and subsidising research in all the fields of study that have social significance. *Britain: an official handbook* is a Central Office of Information publication that quickly reveals the importance of state-sponsored organizations in this country. Cardwell's *Organisation of science in England* is perhaps even more convincing. This new development affects the programmes and policies of the private and learned societies. It also affects the volume and nature of research publication, and influences the progress of bibliography.

There can be few important societies which do not maintain contacts with similar bodies abroad, and few subjects not represented by an international society. We thus get sectional, national and international bodies in most areas of study, with increasing opportunities for cooperation. There are advantages in this for bibliography. For one thing, it is more likely that a subject's bibliography will be studied as a whole, as well as in its separate sections. For another, cooperative projects can be planned, to fill gaps or to ease the burden on some hard-pressed national society. The history of the *Bibliographie de la philosophie* illustrates the latter advantage. The fruitful cooperation between the principal national historical associations does the same on a larger scale.

Like national bodies, international ones vary a great deal in their regard for bibliography. Generalizations are discouraged when one discovers how numerous these are, and that sixty or seventy more can be expected as each year passes. But many do set aside a portion of their income for bibliographical purposes, and not uncommonly they support uneconomic projects for the advantage that researchers will gain. Newer bodies are often unexpectedly helpful, and

are by no means content to provide bibliographies of their own publications. Thus the Secretariat of GATT produced and supplemented a *GATT bibliography*, 1947-1953, of which one considerable value was the listing of material *about* GATT in other very scattered sources. It is nowadays easy to illustrate official recognition of the value of bibliography in the economic and scientific traffic among nations. Currently one might mention the French government's establishment in Milan of a Centre Français d'Echange et de Documentation Techniques, aimed at increasing French contacts with Italy in technical subjects generally.

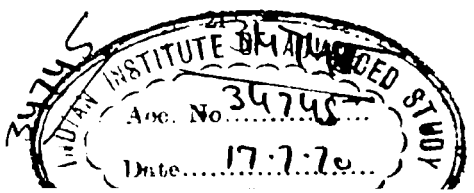
One cannot discuss international societies and subject bibliography for long without referring to the massive aid and encouragement offered through the post-war period by Unesco. For this body's current activities, the most convenient guide is its bulletin *Bibliography, documentation and terminology*. It will not be inappropriate here, however, to take a quick look at each of the three fields represented by the humanities, the natural and the social sciences, to gain at least some hints of Unesco's scale of help. This will serve the further purpose of showing how, at the international level, the process of grouping of subjects into very large organizations has continued.

Thirteen international bodies in the humanities now comprise the International Council for Philosophy and Humanistic Studies, a body established under Unesco auspices in 1949. Some of these thirteen are themselves federations of societies, e.g. the International Federation of Societies of Philosophy, the International Federation of the Societies of Classical Studies, the International Federation of Modern Languages and Literatures. The total number of societies represented in the ICPHS is therefore consider-

able. Although only the international aspects of subject studies come within the scope of the Council, its activities cannot safely be overlooked by anybody interested in the bibliography of a humanistic subject. The Council's own work is supplemented by that of national committees in some thirty countries.

The organization corresponding roughly with this in scientific subjects is much older and does not owe its existence to Unesco, though it cooperates very closely with that body. It is the International Council of Scientific Unions, and it has a most unusual constitution. It does not consist only of international unions or societies; it has also members called National Members. Some legations or embassies are members, directly representing their governments; sometimes a government department, e.g. the Indian Department of Scientific Research, is the official national member. Other countries are represented by a national scientific academy, examples being the Royal Society and the Académie Royale de Belgique. The international unions that are in membership represent general and specialized interests. General are subjects like astronomy, biological sciences, mathematics and geology. Specialized subjects include radio science, crystallography, theoretical and applied mechanics.

The ICSU maintains numerous bibliographical interests, and has many achievements to its credit. Among these the work of its Abstracting Board ranks high, and shows that the cooperation of specialist bodies with Unesco can have very desirable practical consequences. For its part, Unesco recognizes the union as the appropriate coordinating and representative body for science, and that it is playing an ever-increasing part in the establishment of international scientific programmes. Decisions of this kind



are often reached at the joint annual ICSU/Unesco conference.

There are organizations in some ways comparable with the ICSU at work in the medical and engineering sciences. They are the Council of International Organizations for Medical Sciences and the Union des Associations Techniques Internationales. These are frequently the channel for Unesco assistance to important societies in these fields, and their own programmes of liaison and publication are supported in the same way. Membership of both bodies is limited to non-governmental international organizations.

Perhaps the most rapid bibliographical progress in recent years has occurred in the social sciences, in subjects which for lack of cooperation and finance had been long neglected. Improvements date in the main from 1950, the year in which the Department of Social Sciences in Unesco set up an International Committee for Social Science Documentation. A very large programme of work has since been undertaken, consisting of sponsored, subsidised and cooperative bibliographical work and study. The later establishment of the Social Sciences Clearing House provided a convenient centre of activity.

A body that has worked for many years in the service of bibliography and librarianship is the International Federation for Documentation (FID). Its effectiveness has for most of its life been severely limited by inadequate finances, but its prospects in the sixties are brighter, with increased revenues, wider membership, better premises in The Hague and the direction of a full-time Secretary General. A programme for the future was adopted after a study of the results of the International Conference on Scientific Information held in Washington. This *Outline of a long-term policy* was published as *FID Publication* 325 of

January 1960. It shows the Federation's interest in both primary publication of research information and in secondary publication such as abstracting and indexing services. The problems are large, some needs are imperative, and the challenge to FID is considerable—there can be little hope of speedy results.

It is not always easy to trace the bodies that are active in a particular subject's development. The usual means are directories, general or special, or other works which include directory-type information. All are selective to some extent, either in coverage or in the details concerning bodies listed. Some do little more than identify societies, saying nothing about their publications or activities. Subjects are unequally served. Most problems disappear with a guide like the *International directory of anthropological institutions*. This is unusual in its comprehensive and equal treatment of all relevant countries, its hospitality to borderline subjects, its generous details about institutions, and in giving the national research background of the countries in which they are located. The indexer, unfortunately, has supposed inquirers to possess either the name or location of a wanted institution. Another favoured subject is education. This has at least two international directories to show, one on adult education and a later and more comprehensive *International directory of education associations*. Both are the result of Unesco interest and activity in this subject.

Very few studies are so favoured. Sometimes the speediest approach is a chapter or two of an introductory guide or handbook, where select lists are usually offered. In other cases there are national directories or yearbooks to turn to. The *Directory of natural history societies* is typical. Among the best is the *Geographisches Taschenbuch*, which, probably exhaustive for Germany, goes on to give

considerable help for other countries too. Another type of source is illustrated by the *Kalendar* of the Royal Institute of British Architects, which provides excellent lists of societies at home and abroad. Published reports of congresses can often contribute lists of permanent value. This source therefore also deserves to be remembered.

Both national and international lists have become more common in subjects concerned with science, industry and commerce. The *Directory of international scientific organisations* is familiar, and a recent example is the National Science Foundation's directory, *Specialized science information services in the United States.* Here we find that the sources of current information and literature are less often societies of the traditional kind, and more often research stations, trade associations, productivity centres and technical information bureaux. Technology and trade are compelling more efficient listing of such sources. Aslib's work in this country is familiar. For member countries of OEEC a series of guides was compiled by the European Productivity Agency. They were consolidated and indexed in a single volume, the *International guide to sources of technical information.* Subjects bound up with formal social activities tend to produce formal directories. There are many in religion, for example the *Directory of religious orders, congregations and societies of G.B. and Ireland,* and *La France protestante.* Such guides serve the reference librarian better than the bibliographer, who is called on to do a lot of unprofitable sifting.

Trusts, foundations and non-governmental research councils strongly influence study and research. There is ample evidence in librarianship itself, where the recent influence of the Ford Foundation, through the Council on Library Resources, has been considerable. Brief examination

of such national lists as the British *Trusts and foundations*, *American foundations and their fields* and *The foundation directory* shows the surprising number and variety of these organizations. Closer study will reveal the dominant role they have played in the social sciences, a fact also demonstrated in the Unesco series called *Reports and papers in the social sciences*. There, several international selections have been published, including *Foundations with social science activities* and *Research councils in the social sciences*. The former in particular is so highly selective that it is only of occasional value, but it is a reminder of the value of its subject. So too is a third title in this series, *International organizations in the social sciences*, now in a revised edition, which lists non-governmental organizations specializing in the social sciences, consulting with Unesco.

Tracing the existence of international organizations has not always been easy, and the recording of their activities and publications was till lately deplorable. The Union of International Associations has done much to rectify this and is planning more. We are now familiar with the *Yearbook of international organizations* and *International institutions and international organization: a select bibliography*. There is in progress a four-volume work *List of international congresses held since 1681*, which will be of immense help for the whole period up to 1940. An *Annual bibliography of proceedings of international congresses* starts with a coverage of 1957 and is to proceed with both new and retrospective recording. The most up to date guide is the monthly *Bibliographical current list of papers, reports and proceedings of international meetings*, and an annual calendar of events is also published as the *International congress calendar*. This now indicates any plans for publication of reports, most usefully. With generous help also given

in the Library of Congress monthly *World list of future international meetings*, and the DSIR *Forthcoming international scientific and technical conferences*, this particular area of documentation has been deprived of most of its difficulties; and the occasional appearance of subject lists such as the *Bibliography of international congresses of medical sciences* improves the situation further. One complaint still justified, however, is that most conference proceedings that are issued continue to lack indexing. The truth of this was shown in the *Journal of documentation*, June 1960, in an inquiry by the Research Department of Aslib. While it is far from certain that all international conference proceedings merit an index, some certainly represent a major contribution to subject bibliography. The Fourth International Congress of Biochemistry was of this kind, and fully justified the extensive (and expensive) reporting, abstracting and indexing it received.

We need an occasional reminder not to limit our search for directory information to separately published lists. A journal's editor, if mindful of bibliography, can give the same kind of service. *Education abstracts* often shows this kind of helpful editorship, for example in an article on 'Research in Education' which provided a good directory of principal research organizations. C. A. Toase, who has helped bibliographers in a number of ways, has produced useful general notes on directories in contributions to the *Library Association Record* for May 1959 and January 1961. It can also be useful to remember that records of actual research papers and projects are sometimes supplemented by lists of the bodies which produced or directed the work. The National Institute of Social and Economic Research added a valuable directory of institutions to its *Register of research*, before the whole work had to be suspended.

If subject directories and lists are lacking, one must rely on more general sources. Many countries can offer a national list covering major subjects and the better known societies and institutions, and Unesco has prompted some regional directories such as the series *Scientific institutions and scientists in Latin America.* Even in these works there is usually some subject limitation, such as the exclusion of social sciences from *Scientific and learned societies of Great Britain. The Encyclopedia of American associations, Scientific and technical societies of the U.S.A. and Canada, Vademecum Deutscher Forschungsstätten* and the series of *Recherche documentaire en France* are further examples of this kind of directory. Other lists may be appended unexpectedly to works of a different nature. Thus *Canadian universities and colleges* has a useful list of learned and professional societies: *Who's who in Switzerland* assembles, classifies and indexes a large number of organizations.

The most general services of all are the international directories such as *Minerva, Index generalis* and the various Europa publications. There is much duplication between such works, and omissions are often serious, while mistakes and mistranslations seem inevitable. Yet they are not always inferior to the national directories. It is possible, for instance, to find important British societies listed in *The world of learning* that are not in *Scientific and learned societies of Great Britain.* Duplication between large works evidently must be endured, for the sake of their unique material. Most entries in *British commonwealth* are also to be found in the three other large Europa works, but a residue of information remains that can be very welcome indeed. It is also true that the rival services have substantial differences in policy. The *Minerva* volumes conflict less with others than a reading of the preface would suggest.

For they do in fact emphasize bodies with university connections, and are much less efficient in their other claimed interests. Another point to remember is that a number of these works lack a subject index. Some rely on an alphabetical arrangement by title, others classify by title, and yet others arrange by location; but wherever a subject index is wanting the work's usefulness is halved. Users of older *Europa* and *Orbis* volumes know this. Partial help may be better than none, but it introduces the element of uncertainty. It is so with the *Index generalis*. This, for example, is unhelpful under 'Scientific institutions' where one finds British material listed only by location, though 'Learned societies' are classified by subject, and unexpected findings under 'Généralités' introduce more uncertainty. *Minerva* volumes, which have gained greatly in usefulness since their indexing was improved, can still be tiresome and unrewarding, and can fail to bring information together. *World of learning* shows inconsistencies of subject headings as between different countries. By and large, the deficiencies of works of this type are so varied, as regards both coverage and presentation, that librarians are obliged to spend disproportionately on them. Even so, the conscientious man is often compelled to maintain his own supplementary index, of additional bodies or ampler information.

LIBRARIES

Many of the guides to societies and similar bodies also offer information about libraries important in the fields dealt with. Other guides record only, or principally, libraries; they may be formal directories or narrative descriptions, and a number have appeared as journal contributions. None is comprehensive, the common bases of selection being type of library, subject, or location. There are regional guides such as those prompted by Unesco in Asia, Africa and Latin America. There are general guides to individual countries, such as the *Libraries, museums and art galleries yearbook*, the *Aslib directory*, the *American library directory*, the *Répertoire des bibliothèques de France*, and the *Handbuch der öffentlichen Büchereien*. Subject lists may be illustrated by the *Directory of medical libraries in the British Isles* and the *World directory of agricultural libraries*. An example of guides to special types of libraries is the *Guide to government department and other libraries and information bureaux*. Lists based on the location of libraries are illustrated by Smith's *The libraries of Great Manchester*, and *Library resources in the West Midlands*, by Staples.

The principal shortcoming of most lists, from the specialist's point of view, is the lack of effective subject indexes, indexes that is to the special collections and strong emphases in stock of the libraries listed. The general directories are particularly weak in this way; no country yet possesses a comprehensive guide to the special collections in its libraries. *The American library directory* always went further than most in this direction, by indexing some special

collections. A few years ago this material was extracted, amplified and issued as a separate work *Subject collections*, edited by Lee Ash. The American librarian or researcher also gets subject help from Robert Downes' *American library resources*, and from the recent *Guide to archives and manuscripts in the United States*. He can count himself lucky.

The subject specialist must learn more about his libraries than the quality of the bookstocks they offer. Many undertake considerable bibliographical work, either independently or with help. The bibliography of medicine cannot be understood without reference to the work of the National Library of Medicine in the U.S.A. In this country, the bibliography of the subjects of building and architecture is dominated by the work of the libraries of the Royal Institute of British Architects and the Ministry of Works, along with the service of the Building Research Station. Much of this kind of work does not aim at conventional publication. Only a small amount of the extensive periodical indexing carried out in the RIBA, for example, is printed in the library bulletin. But the very large subject index maintained on cards is available to workers who know of its existence. Other examples from the same library are the card index of illustrations of the work of British and Commonwealth architects, the index of firms and the index of types of building. When indexing on this scale is allied with an efficient classified catalogue, the library user can penetrate with ease into the literature likely to be of interest. Equally, the staff of the library can prepare good bibliographies and reading lists for a much wider circle of users, at home or abroad. Since architecture lacks a comprehensive retrospective bibliography, the aggregate value of these small compilations is great, though only to

users who know that this library retains copies of its lists for future use.

The more one learns of the services of good special libraries, the clearer it becomes that advanced study of a subject demands this knowledge as a prerequisite. Unfortunately it remains true that the average postgraduate worker preparing for a higher degree sadly lacks this preparation, to the considerable detriment of his work.

Some special libraries demand attention because of their comprehensive services in a wide subject field. Such a one is the British Library of Political and Economic Science. Another, though its subject field is narrower, is the library of the Royal Geographical Society. This is a good example of a more compact library stock, enriched by a number of important special collections, of books, maps, photographs, atlases and slides, which make it widely important to specialists. This importance is increased by the bibliographical, interlending and photocopying services available. The Society's resources are more accessible to the public than might be expected, partly as a condition of a useful Treasury grant.

A comparison in the same subject will illustrate how another library may also become important by virtue of severe specialization. Such is the library of the Scott Polar Research Institute, at Cambridge. Here are unique collections of diaries, log books, equipment, prints, drawings, etc., of the subject, with the expected periodical coverage, published journal, and quarterly bibliography of the literature. The geographer or student of exploration should also be aware of the growing microform collection of scarce material available there. This is a way of extending their services that most keen special librarians have seized.

Libraries which serve many subjects from one particular

angle are sometimes overlooked in subject study. The Library of the British Scientific Instruments Research Association is of this kind. Though its stock is not freely accessible, it is probable that a number of librarians and researchers who might benefit are unaware of its resources. The National Buildings Record is another collection of specialized material, rich in photographs, slides and drawings, that has wide potential usefulness and is easy of access. The Wiener Library, authoritative and active in its field of German-Jewish life and culture, can effectively supplement more general collections in history and sociology. In a different way, though no less truly, the richness of the India Office Library is not sufficiently understood. Thanks to eighty years of copyright privilege, this collection can not only help the historian to a degree that might surprise him; the wide acquisitions policy that created it ensures its present abundant usefulness to many other subjects of study. A still longer period of copyright enjoyment contributed to the growth of Sion College Library, another source that is effectively hidden even from many specialists.

Examples like these underline the need for good directories of library resources. They also suggest that even elaborate subject indexing will not entirely remove the need for the researcher to survey the library field widely and intelligently in the early stages of his work. In this he can justly expect careful assistance from the librarian to whom he first turns. Librarianship students also need this help.

The complexities of inter-library cooperation are a further preparatory study, where the practical librarian's help is essential to the specialist researcher. There is no common pattern of library groupings within subjects, and methods of joint service are so varied that each subject field

is different from every other. The influence on their services of the National Lending Library for Science and Technology, for example, may be great or non-existent. The work of sections and branches of the Library Association is, for most, considerable and important. Many published guides and lists, many special facilities, much joint stock-building are the tangible results. The same can be said of the seven Subject Groups within Aslib. Special and independent groupings have appeared, such as the Association of British Theological and Philosophical Libraries, and new international groupings on a subject basis regularly appear. Post-war developments on lines like these have been very rapid, with results often excellent, and bibliographers need to know the situation in detail.

LIBRARY CATALOGUES

When good libraries are able to publish their catalogues they are doing a considerable service. Subject study must certainly take account of any that are of special importance, either as records of rare material or convenient location guides for the ordinary run of literature.

It is no bad plan to begin by examining the catalogues of national libraries. More than superficial testing is required before the helpful features and the hazards are discovered. A comparison of the Library of Congress catalogues with the current and older volumes from the British Museum, and with the general catalogue of the Bibliothèque Nationale, will progressively reveal the problems that major catalogues create, and the compulsion towards compromise in almost all respects. Is promptness more important than accuracy ? How can periodic revision of rules be prevented from causing material to be overlooked, or found only slowly and with difficulty ? How can the subject approach be provided most efficiently ? Can any classes of material reasonably be omitted ? What is the essential minimum of bibliographical description ? Should any special classes of material be published independently ?

Very reasonably, the other British deposit libraries do not accept the burden of a printed catalogue like that of the British Museum. Thereby they are able to publish restricted catalogues, which are often of great value to subject study. An example is the National Library of Wales' *Bibliotheca Celtica*, a unique annual list of books, periodicals and articles relating to Celtic countries.

Published catalogues of the large special libraries in a

subject might be examined next; that is if any exist, for too many subjects lack them. Other subjects can show only very elderly catalogues, even of important collections. Law exemplifies this, and many catalogues of learned societies in other subjects are no better. But in subjects better served one can find enough variety in methods and policies to make an interesting study. There is sometimes one dominant catalogue on which many other libraries depend. One such, before it was abandoned, was the catalogue of what is now the National Medical Library of the United States. This showed the great help that a special library catalogue can give to all kinds of readers, when it tries to record not only its books but also its pamphlets, theses, and periodical literature, and to indulge in analytical cataloguing on a generous scale. It also showed the immensity of this kind of task in the case of a really large library, the virtual impossibility of preventing such a catalogue from falling into arrears, and the increasing economic obstacle of conventional printing for catalogues. The Science Museum Library is circumventing this problem in an interesting way. A start has been made, in the subject of engineering, on the printing of subject catalogues prepared from the library's closely classified index. After engineering comes the biological field. A more conventional response to cataloguing burdens is shown by the British Museum (Natural History) Library. Printing is restricted to author catalogue volumes, subject help being limited to duplicated lists of classified accessions, supported by an annual index.

Among important special libraries, the Royal Commonwealth Society has managed to produce a general catalogue of the familiar kind. It is worth attention for a number of points. Firstly, because of its general arrangement, with the first four volumes covering geographical areas and the

projected fifth to cover biography. Secondly, for its generous and most valuable analytical entries, not only for many hundreds of periodicals but also in many instances for books. Thirdly, for its readiness to duplicate entries under several specific headings where readers' convenience would be served. Fourthly, for the decision to exclude a quantity of obsolete material available in a catalogue prepared last century. In most respects this newer catalogue is a very considerable achievement, all the more noteworthy since so many other important libraries, like that of the Royal Geographical Society, offer mainly obsolescent printed catalogues.

There are catalogues in education libraries that show the older and newer ideas in catalogue publication. That of the London County Council Education Library is conventional in a number of ways, unusual in others. It is classified, with subject and author indexes (the latter including personal subjects of books) and it offers useful brief annotations. Because this excellent basic catalogue exists, other libraries can put their emphasis on easy and promptest publication. Hull's Institute of Education has for some time been publishing its catalogue, one class at a time, in duplicated form. It dispenses with an index to subjects, despite using the Bliss classification. It therefore demands of its users, in return for its up-to-date publication, a knowledge of the general arrangement, and some patience and care in consultation.

The advantages to be gained by cooperation are worth noting. Where an adequate catalogue exists for retrospective bibliography, and where librarians are anxious to cooperate in serving their bibliography most effectively, there may be little or nothing to gain by the publication of other library catalogues. The publication of lists of accessions, monthly

or quarterly, probably selective, might satisfy most needs and leave staff free for other kinds of work, such as the subject indexing of periodicals, the preparation of catalogues of any special collections that are held, or including in the catalogue entries for new literature of interest to the users, though it may not be bought for the library. Illustrating the last possibility, the catalogue of the Geological Society gains added usefulness by containing all the new titles that are recorded in the important *Bibliography and index of geology exclusive of North America.*

Where obstacles to library cooperation exist, or the need for it is felt less urgently, the burden of published catalogues becomes ever more severe. One cannot fail to see this in the libraries of theology and philosophy. Independent catalogues are rare, and the maintenance of a catalogue such as that of Dr. Williams's Library is very difficult. Abbreviation of details, indexing that is not comprehensive, and infrequent cumulation of supplements, are the usual price to be paid. Too often, an old-fashioned and unsatisfactory arrangement must also be endured.

Two other points may be made. One is the importance of union catalogues in a subject. These can be of exceptional value in the case of older literature, and material in libraries that are small and not professionally administered. This partly accounts for the research value of Miss Hands' catalogue of pre-1700 books in cathedral libraries of this country. Similar in kind but much larger in scope is the *British union-catalogue of early music*, which must have accelerated research by many music students, for it opens up for them the stocks of more than a hundred libraries important in the field, including the British Museum. But where books are concerned, union catalogues are frequently not published but maintained in card index form. Education

libraries, new and ready to cooperate, have an example of the card index type to show, at Birmingham. Among printed catalogues, the *London bibliography of the social sciences* is to a limited extent a union catalogue, and in these days of easier international lending it is worth remembering that the U.S. National Union Catalogues, the successors to the Library of Congress author catalogues, are now a joint enterprise of more than four hundred North American libraries. Their value to subject bibliography is immensely enhanced. Other new union catalogues, principally on cards, and often abroad, are mentioned by Miss Piggott in her contributions to *The five years' work in librarianship.*

The remaining point to mention is the particular value of accessions lists from some libraries. Important in its subject is *Current legal bibliography*, from the Harvard Law School Library. An example in art is the service from the Victoria and Albert Museum. Its prompt recording of the considerable foreign material reaching this library is a very helpful feature, which turns the list into an essential current bibliography. It also illustrates the growing practice of enabling librarians and research workers to cut up these lists and mount and file items as desired. Another valuable example is *New technical books*, a bi-monthly from the New York Public Library, while it is well to remember that accessions lists often appear in a body's official journal. The Patent Office uses this method.

Accessions lists that can appear no more than half yearly or annually are of course a great deal less useful. Such is that of the Royal Geographical Society, that compares rather badly, in this respect and in its severe selectivity, with the monthly lists from the American Geographical Society, which have the further virtue of giving annotations where helpful.

SECTION 5

PERIODICALS

'There are 2,300 educational periodicals currently published in the world, and half are in the English language; but it is difficult to find just one which is ideal for teachers' general use . . .' This is a quotation from E.F.S. Fifoot and it hints at major difficulties; but it shows that in one large subject (and most others resemble it in this) the periodical retains its place as the chief medium for recording new developments and promoting discussion and explanation of them. This is despite the search for alternatives to journal publication, a search that has proceeded seriously for well over thirty years.

The trouble with periodicals is that so many exist, so many new ones are required and provided each year, so much money goes in publishing them and buying them, so much time is wasted in locating, obtaining and reading them.

Conferences meet on this subject from time to time, the frightening situation is described, and some minor palliative measures are adopted. *Nature* for 2nd April, 1960, reported one such occasion, a meeting of the Scientific Publications Council. The general situation is a large challenge to the planner, and a scheme for the rationalisation of the whole field of periodical publication and distribution was advanced in the *New Scientist* for 9th February, 1961, by B. K. Blount of the DSIR. This is one more scheme to add to the many, with no greater hope of fulfilment. Its most important predecessors, including a scheme by J. D. Bernal, on which Blount draws freely, were surveyed by R. H. Phelps and J. P. Herlin as a Unesco study. The results were published in the *Unesco bulletin*

for libraries, March/April, 1960, as *Alternatives to the scientific periodical.* The recurring feature of most of the comprehensive plans is the replacement of the journal, as the unit of publication and distribution, by the individual author's contribution, usually in the form of a 'separate'. A corollary is commonly the diminished responsibility of learned societies as publishers. Another recurring feature is some kind of clearing house organization, with international liaison.

A reasonable amount of experience has been gained by editors and librarians, in experiments with the distribution of offprints and separates. Results have cast doubts on the wisdom of abandoning the conventional system of refereeing, publishing and distributing. Savings in costs have been rare, losses in convenience common, for producers and users alike. We may safely expect the present general system to last for many years yet, and proceed to an empirical study of the subjects in which we are interested.

We find that in some subjects there are many periodicals, with original papers scattered widely as a consequence. In others a handful of titles will yield most important new work. In the case of philosophy the two journals *Mind* and *Proceedings of the Aristotelian Society* probably produce well over half of the significant new contributions in this country, a proportion that was higher still until recent years. When scattering does occur, the area of search is reduced if there is a recognised division of the subject by its journals, but quite often this is lacking. In classical literature studies, for example, there are many journals, mostly wide-ranging in coverage. Wide scanning is therefore needed, particularly in this case where the appropriate indexing service, *L'Anné philologique*, is two years or more in arrears.

The most important single question concerning periodicals in any subject is whether their aggregate coverage is sufficient. How much work that merits publication fails to get it? There is seldom a satisfactory answer, but inquiries have been made into a few subjects, based on sampling and some reasonably acceptable criterion of quality. One simple example was recorded in the *Bulletin of the Medical Library Association* for April 1953, by Mary M. Cobb, as 'Publication of medical research reports in scientific journals'. It can be regarded as typical. In 1950 the periodical *Current list of medical literature* began to include a valuable list of research reports of medical research carried out by U.S. government laboratories. The inquiry aimed to find out whether, and when, these unpublished reports later appeared as printed contributions to journals, in some recognizable form. The sample showed only 22 per cent to have been reproduced, with an average time-lag of about 7 months. So the author could comment that it 'seems reasonable to conclude that any medical library which needs the medical research reports of the U.S. laboratories cannot rely upon their publication in journals, and must obtain them from the issuing agencies'.

It is probable that the serious journals in most subjects are unable to publish a proportion of the worthy manuscripts they receive. Some cases of supplementary publication are to be found. The *British journal of psychology* issues regular monograph supplements and statistical supplements, and the American *Astrophysical journal* has a regular supplement giving single papers, with abstracts and tables. There is also a supplement series for the Swedish *Acta agriculturae scandinavia* to accommodate articles of unusual length. The Zoological Society of London is one of several that publish *Transactions* in a larger format than

Proceedings, providing a more satisfactory medium for monographs needing large size illustrations. Occasionally, editors are found who publish some articles as summaries, offering interested readers the full text on request. The National Foundation for Educational Research in England and Wales used to do this at times in its bulletin. *Archives of archaeology* is a new American service aimed at providing in microtext all the supplementary data so important to monographs in this subject. The ACRL Microcard series (Association of College and Research Libraries) is an older example of librarianship, offering monographs that would be uneconomic or insufficiently popular in the normal journal.

In most cases it is quite impossible for the student of a subject's bibliography to measure the inadequacies in coverage of its journals. The most reliable evidence comes from experienced special librarians and research workers. Their opinions should be collected whenever possible. A published assessment of the journals, as in the American Music Libraries Association's *Notes* for March 1960, can be a great boon.

Related to the matter of coverage is the question of material that cannot be published quickly enough. This is a familiar problem, and it is not uncommon for journals to quote the date of receipt of the manuscripts of contributions they publish. Mathematics, botany and psychology are subjects where this is more the rule than the exception. The *Quarterly journal of mathematics* has a rule that nothing is accepted that cannot be published within the following twelve months. A year is, perhaps, about the average delay, but in some subjects contributions are often found to be two years old, and occasionally three. Late publication is sometimes the fault of authors, however,

who seek the prestige of a subject's most respected journal, say the transactions of the principal society, and count this as well worth waiting for.

Speedier publication is one of the advantages being gained in an experiment with the periodical *Wildlife disease*, which appeared for three years solely in microcard form. No typesetting was done; the author's manuscript, complete with drawings, charts, graphs and the like, was simply filmed onto card. The reader received a card for each article, and could be sure that the editor had not needed to curtail contributions for economic or technical reasons. Whether or not the undoubted advantages compensated for the need to use an individual reading apparatus, was something for the members of the American society concerned to decide.

Some journals announce the titles of future articles as soon as they are accepted. The *Proceedings of the Cambridge Philosophical Society* does this. One or two societies have linked this useful feature with an offprint service. A reader may thus order an offprint in advance, and hope to get it at about the time the journal itself arrives. It is also worth mentioning that the offprint service itself is much less rare than formerly, a fact very welcome to special librarians.

Some determination is needed before familiarity with a subject's journals can be reached. Perhaps the most useful primary division is into those containing only original work, and those which exist to interpret or digest it for their readers. Journals in the first group tend, except in some branches of science, to publish few and long contributions. Issues of *Psychologische Forschung* often contain only two contributions, of a kind substantial enough to make readers welcome the plan of arrangement preceding each. In the second group, one is grateful to those journals which offer frequent reviews of progress, as does *Deutsche*

medizinische Wochenschrift, while those which concentrate on a digest service, such as *Education today*, have a no less useful function. One slight deterrent to easy acquaintance is the fact that journals' titles are less descriptive than used to be the case. *Geography*, for example, could be the more easily 'placed' under an earlier name. A title that is not specific has presumably some attraction for publishers who hope for increased readership. Rather similar is the trend away from older, forbidding forms of title. *Geographical journal* probably does not deter so frequently as did *Proceedings of the Royal Geographical Society*. Another problem with nomenclature is that studies vary in range as between countries. The *Archivio di filosofia* illustrates this, dealing sometimes with topics that are remote from modern English philosophy, and neglecting others that are expected here.

Every year sees some casualties among serious journals, some new ventures, some amalgamations, some notable changes in editorial policy. Modern trends in editorship, and regard for the bibliographer, are seen in the newer journals. *Nuclear physics* is as modern in form as in subject. Besides the expected original papers, it offers concise short notes, progress reports, survey articles, reviews and news, and a measure of help for non-linguist readers. Journals that amalgamate sometimes show a quite new editorial policy, but it is easier to overlook policy changes in a publication that continues as before in other respects. *Philsophy*, now thoroughly academic, had formerly a policy of popularisation. A good example of considerable changes in policy over a very few years is provided by the history of *Education abstracts*.

Some journals try to keep their readers up to date with the activities of others publishing in the field, and with

developments in the subject which they themselves cannot record in proper detail. This is a useful service, and characteristic of modern editorship, but a number of older subjects have yet to be affected. Philosophical journals show little desire to acknowledge each other's existence, though in this as in most other adverse criticisms one excepts the *Journal of symbolic logic*. *Mind* is another exception to the rule, and the existence of the *Revue internationale de philosophie* is a substantial consolation.

Other comparisons between journals' policies will suggest themselves as we proceed. There is little to gain by collecting them together at this point. I am anxious to establish, however, that good modern editorship can make a journal vital in the progress of its subject. Such editorship is always flexible, always on the lookout for new ways of serving its readers. Each subject offers special opportunities. *The engineer* is valued by many for its subject arrangement of patent specifications, their numbers, dates, claims and descriptive diagrams. The *American psychologist* astonishes one by the amount and variety of its material. The editor of *The lancet* has a flair for good organization of material: this extends to the journal's index which, besides being unusually comprehensive, has several particularly helpful features. Two examples of distinctive personal editorship may be of interest. H. F. Smith, for many years editor of *Wireless world*, so raised that journal's standard that it became an essential source for researchers in most branches of radio science, including the very specialist ones. It was formerly an undistinguished popular publication. The second example is *Antiquity*, which has the great interest of being founded, edited and raised to high esteem, by one man who foresaw, many years ago, the potential appeal of archaeology to the ordinary non-specialist readers.

LISTING AND INDEXING OF PERIODICALS

There are works that merely list titles of journals, others which say where they can be consulted, or borrowed, while others index their contents, sometimes with the addition of annotations or abstracts. Many guides perform more than one of these functions, but the distinctions are probably helpful.

For tracing the existence of periodicals, some subjects have been provided with 'world lists'. There are examples in chemistry, medicine, biological sciences, history, geography, philosophy, and the social sciences. Each is limited in some way, and policies and coverage differ. Thus all three lists in the field of history offer some unique material. The same is true in medicine. *Periodica medica*, for example, takes 1900 as a starting point, allowing it to be full and impressive within its limits. Yet *World medical periodicals*, though having far fewer entries, can often be used with advantage. Each must nevertheless be supplemented from the lists of the biological sciences and of chemistry—a common state of affairs.

Such lists are of course difficult and costly to prepare. They usually grow out of a periodical subject indexing service, such as *Historical abstracts*, or are prepared by a dominant library, such as the Library of Congress, which took responsibility for lists in philosophy, the biological sciences, and aeronautics. A third possibility is sponsorship by an international body; a familiar example is the social sciences listing by Unesco, and the *World list of film periodicals and serials* was similarly the work of an international organization. Especially in scientific fields, the

need for good comprehensive lists is growing, and international scientific associations have often discussed how best to meet the situation. There seemed real hope of progress when Unesco produced a comprehensive and detailed plan, in conjunction with the International Advisory Committee for Documentation and Terminology in Pure and Applied Science. This was circulated in 1954 to eighteen member states, as the *Cooperative plan for the listing of scientific periodicals with indications of where they are abstracted.* The first requirement was national listing, and the recording of material on unit cards for circulation, addition, and finally centralization at Unesco, where they would be classified and photo-reproduced in separate lists. The final aim was publication as a whole in book form, complete with indexes for each subject field, rather on the lines of *World medical periodicals.* Some progress was made, but in 1956 the scheme was abandoned.

National lists are much more common than world lists. They are now regarded as a vital part of national bibliography, and in consequence there have been many newcomers since the war, including examples from Australia, Denmark, Finland, Hungary, India, Japan, Poland and Yugoslavia. Developed countries often have several guides, including commercial publications. For example, Germany has the following, among others. Two good general commercial guides, Sperling's *Zeitschriften und Zeitungs Adressbuch* and *Die Deutsche Presse*, are both wide-ranging though not exhaustive, generous with details once the symbols have been mastered, and give a comprehensive subject index. The official West German organization for the development of research has published a guide to scientific periodicals, the *Verzeichnis der deutschen wissenschaftlichen Zeitschriften.* Classified, this concerns itself

with East as well as West Germany, and it relates post-war publications to the pre-war pattern. *Deutsche Bibliographie-Zeitschriften* is another record, the complement to the national book bibliography. Here are also included German titles published outside Germany. From Würzburg in 1956 came another guide concerned solely with German language periodicals from abroad, a general guide with an emphasis on trade and commerce, the *Handbuch der deutschsprachigen Presse ausserhalb Deutschlands.* A final example is a guide to a newly-important class of material, commercial and industrial house journals. The *Handbuch der Hauszeitschriften* comes appropriately from Essen and serves the same purposes as our own *British house journals, 1956*, and the American *Printers Ink directory of house organs.*

Among English-language guides, the best-known are commercial ventures. Willing's and the *Newspaper press directory* are British, Ayer and Ulrich are American. All attempt some foreign as well as domestic coverage: all have peculiarities that make cautious use desirable. All are good in some subjects, inferior in others, discouraging generalizations. Like all other commercial guides, these are sure to miss some important society transactions or journals; they are soundest with the commercial press. All offer subject indexes, some limited to domestic publications. These indexes often require us to supply our own cross-references. In this they are probably not inferior to most Continental guides, where our personal supply of cross-reference tends to be limited. Modest competence can achieve results, however. The *Annuaire de la presse française*, for example, rewarded a search under 'philosophie' with a simple nil return, but riches awaited the cunning enquirer under 'sociétés savants'. We may

wonder at times why press guides dissipate resources they need for indexing, in providing gazetteer information that is often unnecessary to librarians and likely to slow consultation. The probable answer is that this is regarded as a good sales feature of interest to commercial purchasers.

Records of new titles, discontinuations and amalgamations are of extra value when done on a subject basis, and thoroughly. An excellent model is *Vital notes on medical periodicals*, which has served medical librarians since 1952, lately with a cumulative index.

Evaluative guides to periodicals have many uses, but they are rare, and of course there is no such thing as a general viewpoint sufficient for all readers. One useful example is the W. German guide to foreign periodicals, produced by the Deutsche Forschungsgemeinschaft. This, the *Verzeichnis ausgewählter Zeitschriften des Auslandes*, offers separate classified lists for general libraries and specialist ones. Its companion *Verzeichnis ausgewählter wissenschaftlicher Zeitschriften* also indicates academic level. The DSIR *Titles of periodicals from the USSR* indicates whether each title is of most interest to the intelligent non-specialist, the practitioner, or the research worker. In lists restricted to one subject a conscientious editor can help considerably with personal appraisal. This is done in *An annotated world list of selected current geographical serials in English*, by Harris. In general fields, a current Library Association scheme of merit should enable many librarians to make their own evaluations more easily in future. The plan is for a guide to current British periodicals, giving information about their subject coverage and levels of readership, excluding directory or bibliographical information irrelevant to evaluation. The Reference, Special and Information Section of the Library Association

accepted responsibility for this work.

The catalogues and lists of periodicals of major general libraries and special libraries are of obvious value. Hence the need for examining the British Museum volume on 'Periodical publications', and lists such as that of the University of London. There is always a welcome for current lists based on national libraries' holdings, for they tend to be reliable and comprehensive. Among the most recent is the *Répertoire de la presse et des publications périodiques françaises.* Too little known, even in this country, is the complete list of periodicals of the London School of Economics Library, given in volume 4 of the *London bibliography of the social sciences*, and in the supplementary volumes. The handlists from the libraries of the Patent Office and the Science Museum are important tools, for both libraries receive very large numbers of current periodicals. The Science Museum list has for some time been of technical interest to librarians in being reproduced photographically from a visible index. This simple and cheap procedure explains the lack of most bibliographical details; the result nevertheless sufficed for the list's principal purpose, which was to facilitate the library's loan service; and the large number of entries turned it into a useful checklist for other library purposes. The two lists currently used reflect the library's changed status. They are *Short titles of periodicals sent to the National Lending Library in 1961*, and *Handlist of short titles of current periodicals in the Science Museum in October 1961.*

When we turn to union lists of periodicals, the problem appears to be one of selection. In practice, however, librarians can hardly have too many, and the number of such lists is an indication of their value. They are a kind of

reference guide that grows naturally out of cooperation, and in turn they stimulate further cooperation. Two major union lists can be mentioned, to illustrate current activities in this matter. They are the *British union-catalogue of periodicals* and the revision and supplementation of Gregory's *Union list of serials in libraries in the United States and Canada.* It is significant that both works have depended on the generosity of trusts and foundations. The British work, cooperatively planned and conventionally published, gives selected locations for much of the vast stock of journals, old and current, British and foreign, held in libraries here. Card indexes record a great deal more material excluded from the volumes. Following publication of a printed supplement, the *British union-catalogue of current periodicals*, continuations of the work and the information service have become the responsibility of the National Central Library.

Gregory's *Union list* has remained in its second edition for many years, overcome by the costs of revision and printing. But here again a cooperative approach raised hopes, and enough support was given or promised by trusts, foundations and libraries, to justify an ambitious new programme. By this a third edition—a consolidated reprint incorporating major additions and changes—should appear in 1962, followed by five-yearly supplements and perhaps twenty-five yearly new editions. The present monthly *New serial titles*, and its alternative form *New serial titles—classed subject arrangement*, are the basis of this programme. Such are the fruits of the successful adaptation of computing machines to the work of union cataloguing in the Library of Congress. By this means, accessions to that library and to some two hundred other North American libraries are recorded promptly, flexibly

and relatively cheaply. Any required method of arrangement, any likely principle of selection, can be anticipated and provided, and subscription facilities can match this flexibility. When centralised union listing can be done elsewhere on this scale, placed on a continuing basis, and supported by photocopying and interlending facilities, research will immediately be quickened, particularly when scarce and uncommon material is wanted.

These large catalogues naturally reduce our reliance on the more common kinds of restricted union lists. They do not replace them; they give compilers an opportunity to review policies in later editions. There is no lack of need for regional, local and subject union lists. The Oxford and Cambridge union lists are familiar and much used, and so are those which cover Edinburgh, London, Liverpool, Greater Manchester, the North Western region and the North and East Midlands. Important subject lists are very numerous, and scarcely less valuable now than in pre-BUCOP days. Examples are, the *List of Scientific and technical periodicals in DSIR libraries*, the *Union list of periodicals in the libraries of the Postgraduate Medical Federation*, the *Union list of periodicals held in In titute of Education libraries*, and the *Union list of periodicals dealing with Germanic languages and literatures.* There are also examples of subject lists covering the principal libraries in several countries. Among the best is the *Union list of geographical serials*, which gives American, British and French libraries' holdings selectively.

New lists appear regularly, from all countries where research is counted important. Science often receives priority, as in the classified *Directory of Canadian scientific and technical periodicals.* The new and real importance of the East in scientific research is reflected in works such as

Journals in science and technology published in Japan and Mainland China, and the *Union catalogue of learned periodical publications in South Asia*, begun by the Indian Library Association with a volume on the physical and biological sciences, published in London in 1953. So many union lists lack subject indexes that this one, which is a classified list using the Colon Classification, is additionally welcome. Another list of growing importance covers Australian holdings of scientific periodicals. It has been supplemented regularly since appearing in 1951, and has changed to a loose-leaf form of publication, with current amending sheets. Important European centres naturally produce lists covering science and technology. Some were war casualties, like the *Inventaire des périodiques scientifiques des bibliothèques de Paris*, though this is still of value. Others are post-war, like the six volume work covering libraries in the industrial region of Essen, the *TWZ: verseichnis von Zeitschriftenbeständen und Serienwerke aus den Gebieten Technik, Naturwissenschaften, Medizin, Wirtschafts — Rechts — und Sozialwissenschaften.*

The separate listing of foreign periodicals is found in many countries, sometimes with one general list, more often with a few very limited records. In France a unit at the Bibliothèque Nationale, the Inventaire Permanent des Périodiques Étrangers en Cours, publishes lists locating foreign periodicals, mostly in university libraries, and offers a postal information service. It is limited in interest to current material received since 1953. The second edition of the union catalogue records holdings at 1957/8, some 25,000 titles. In Western Germany is appearing the *Gesamtverzeichnis ausländischer Zeitschriften und Serien, 1939-1958*, with an estimated final content of more than 35,000 periodicals acquired by German libraries. Switzer-

land offers a similar guide, the *Verzeichnis ausländischer Zeitschriften in Schweizerischen Bibliotheken.* No large list exists for this country, and there are few small ones. There is *Current foreign and Commonwealth periodicals in the Bodleian and other Oxford libraries*, recording material from 1925. This is supplemented from time to time and is reasonably up to date, save for periodicals in Slavonic type. Another limited service has been provided since 1956 by the Standing Conference of National and University Libraries. It is performed by a monthly *Foreign periodicals bulletin,* which is fed by accessions to the more important academic libraries. It adds to a basic union list of information supplementary to the *British union-catalogue of periodicals.* A similar purpose is served by *A select list of periodicals newly received by the colleges, schools and institutes of the University of London, 1950-59.* There selection emphasizes the unexpected in the holdings of the twenty-one libraries involved, which include three research libraries not represented in *BUCOP.* Additional examples of restricted records are from DSIR, covering Chinese and Russian literature. This brings to mind the more recent listing of East European material done by the National Lending Library for Science and Technology. A reminder of another class of material is the *Union list of Commonwealth newspapers in London, Oxford and Cambridge*, edited by A. R. Hewitt when Librarian of the Institute of Commonwealth studies.

Purely finding lists can usefully be linked up with union lists by an editor studying users' convenience. In their *International list of geographical serials*, Harris and Fellman provide for each title its exact reference in the general union catalogues of the U.K., U.S.A. and Canada.

Periodicals themselves may of course publish union

lists, which are sometimes available as offprints, and they are also a useful medium for recording additions or corrections to published lists. It is perhaps more common for a journal's list to be limited to one main library's holdings, but purely local lists are sometimes offered. The geographical journal *Erde* has done much to reveal the valuable holdings in Berlin. An editor can also earn gratitude by publishing an occasional list of union lists, catalogues and bibliographies. The *Journal of documentation* carried a general list by Miss Gummer in March 1956. A few additional titles appeared the following October in the *Library Association Record.* Subject lists are not common enough.

The bibliographer's search for lists should not stop at published services, for many union lists remain permanently in manuscript form, most commonly on cards. There is usually only a single headquarters copy, as was the case at the Central Medical Library Bureau, but sometimes participating libraries may hold a duplicate index. These manuscript sources are seldom deliberately publicized.

It is unreasonable to expect consistency of practice among compilers of union catalogues, for their resources and purposes can be entirely different. But as users we should note any specially helpful features. Most uncommon, but useful, is a statement of what constitutes the complete set of a periodical. Details of broken runs are rather less uncommon, but even the more lavish lists, such as the *World list of scientific periodicals*, disappoint sometimes by noting only 'major imperfections'. Other features generally welcomed are notes about special conditions of loan, details of photocopying facilities, and tables to help transliteration.

INDEXING AND ABSTRACTING SERVICES

These serve readers by recording periodicals' contents, sometimes with descriptions and evaluation. They have appeared most quickly in areas of competitive research, where financial support is most assured. In the humanities and the social sciences, though production costs are a deterrent, many services are now available. In most fields, some services are subsidized, many depend on voluntary labour and nearly all live precariously.

A simple form of indexing service, relatively new. concerns itself merely with tables of contents of periodicals. There are a number of examples. The Documentation Centre of the Centre National de la Recherche Scientifique has provided, since 1954, a monthly service on positive microfilm. This gives subscribers the tables of contents of two hundred or so major European journals in science and technology. Other examples, in a different form, are in medicine, librarianship, 'business sciences', 'life sciences' and pharmacy. Some of these have been provided by an energetic American, Eugene Garfield, and his associates. Typical of these services is *Current contents of pharmaceutical publications.* Subscribers receive a weekly service in the form of an agreed number of copies of a booklet. This consists of photographic copies of the current or forthcoming tables of contents of some 250 periodicals. Multiple copies are offered so that institutions can avoid the need for domestic photo-copying. Other features of the service are the provision of reprints of wanted articles, or single copies of any journal of particular interest. The firm is ready to quote for a service covering journals selected by customers

themselves. The chief and sufficient reason for the rarity of these publications here is their high cost. They appear to succeed in the U.S.A., nevertheless, where subscribers can also enjoy an 'Original Article Tear Sheet' service, which produces a speedy copy of any article listed.

This kind of service is simply an enlargement of the practice already mentioned, whereby responsible journals take note of each other's abstracts. A number of scholarly German journals make similar strenuous efforts to be helpful. The *Zeitschrift für die alttestamentliche Wissenschaft* regularly lists all relevant periodicals and series, on an international scale, and notes and summarizes every article of importance. The penalty in this instance seems to be less frequent publication. The *Journal of mental science* illustrates the practice of offering an annual bibliography of the contents of other principal periodicals. Sometimes the noting of other journals is made part of a wider survey of new literature. The *Economic journal* follows this practice. A consequence of this is to make the distinction between indexing and abstracting lose sharpness, for both kinds may be offered within the same list, with abstracts reserved for material that is important or not easily accessible. Independent services, such as the *Bibliographie géographique internationale*, often do the same. For this reason alone, it is never wise to judge an indexing service without reference to the subject's whole bibliography.

Some indexing services could certainly be dispensed with, and the work of others would be lighter, if journals were themselves indexed fully and systematically. It is surprising that editors should continue to neglect this elementary duty. There is now plenty of guidance to be obtained in the techniques of indexing, and recommended standards were advanced quite recently (*The indexer*,

Autumn 1960) for use in learned and scientific periodicals, by the Council of the Society of Indexers. Moreover, splendid models such as *The philosophical magazine* and *Advances in physics* are to be found. A few years ago, an investigation of rather more than a thousand British and French periodicals showed a sixth failing to provide annual indexes. Of the rest, most offered only an author-index, frequently after a delay of two years or more. Quinquennial cumulations were very rare indeed. There has been no noticeable general improvement in this country in recent years. Indeed, many cases are to be found—mathematical journals illustrate this—where editors who used to provide cumulated indexes no longer attempt more than an index to each volume. One must remember that the older literature is consulted less frequently in some subjects than others, and this might justify the omission of extensive indexes in some cases, though probably not many. From time to time, sections of the Library Association have urged the publishers of leading journals in important subjects to provide cumulative indexes. Titles of the standing of *Nature*, *Engineer* and *Engineering* have long lacked them—and how welcome a cumulative index to *The Times* would be ! Yet it must be recorded that pleasant surprises do come the bibliographer's way. As a recent example, a new editor of *Psychological abstracts* urged his readers to write and tell him their preferences concerning indexing practice and terminology, to allow him to construct the index most generally desired.

I would like to offer two examples, one to show the value of good routine indexing, the other to show one way of remedying previous neglect. The first concerns the Institution of Mechanical Engineers. Here we find a general index to its *Proceedings* reaching back to their first issues in 1847. All the papers are entered in a subject index,

where entries describe their contents and list speakers in the discussions which followed their presentation before the Institution's meetings. Papers on similar subjects are grouped, and references link not only topics in papers, but also other subjects that were raised in the course of the discussions. Since all this has resulted in eight substantial index volumes so far, the librarian has prepared a *Brief subject and author index of papers in the Proceedings, 1847-1950.* Thus both speedy reference and thorough searching are provided for. My second example is the more worth a mention since it provides the spectacle of philosophers cooperating wholeheartedly with each other. They are the members of the Aristotelian Society, who read, analysed, indexed and abstracted half a century's important literature, their own work or their fellows' or predecessors'. The published result was *A synoptic index to the Proceedings of the Aristotelian Society, 1900-49,* a major new tool for the subject, an index and abstracting service.

It is an obvious convenience in research to know which journals are indexed, and to what extent. When the study has so heavy a literature and so long a history as religion, the convenience is all the greater. Barrow's *Bibliography of bibliographies in religion* offers this service, as a list of the indexing volumes to religious periodicals from 1839-1937. There are probably few other examples of this practice.

Researchers' need for prompt current literature indexing is perhaps the principal reason why national documentation centres have appeared. They have been established since the war, with Unesco help, in a number of less-developed countries, including Yugoslavia, India, Pakistan, Mexico, Egypt, Uruguay. Most are modelled more or less directly on the Documentation Centre of the Centre National de la Recherche Scientifique. This is easily

explained, for France was virtually unique among developed countries in having a centralized service of this kind, embracing both the natural and social sciences. The U.S.S.R. later centralized its bibliographical services, rationalized and developed them to a degree not matched elsewhere. The components are, the All-Union Institute of Scientific and Technical Information, employing abstractors in their thousands, the Central Bibliographical Chamber, which indexes and translates extensively, and the Central Institute of Technical-Economic Information. The influence of the Russian model is seen in the very efficient East German organization and elsewhere. In most other developed countries, in the U.K. for example, there is much less centralization, and responsibility for indexing and abstracting services is shared by many bodies which have only sectional interests.

The listing done by smaller national documentation centres may be valuable in many subjects, so a comment is needed on their policies. They are chiefly concerned with current periodicals and report literature, and sometimes their whole emphasis is there. They collect, analyze and list this material, channel it to interested bodies and individuals in the country, and offer translation and reference services. They aim to announce with minimum delay. Most regard cumulative indexing for retrospective work as outside their field for the present; it has certainly been beyond their resources. There are of course strong arguments against duplicating the work of international abstracting services, which often do struggle to maintain cumulating indexes. Yet it is surely a pity that the laboriously produced current lists are denied further use as retrospective records, simply by the indexing problem. Several centres, the new one in Japan is among them, show

in their programme of work an interest in the development of electronic and other machines capable of storing and retrieving information, and it is certain that all national centres will be watching current progress in this matter. They have been specially interested in experiments such as those with the Filmorex machine at the French Centre de Documentation, for apparatus like this is designed specifically for the work that all centres would like to perform.

There is now a considerable English-language literature on the subject, some of the newest being the result of work sponsored by the Council on Library Resources or the National Research Council in the U.S.A. For the present, however, it is realistic to regard a national documentation centre as having just two functions, to keep its own country's researchers supplied with current material from abroad, and to make known elsewhere the results of domestic research. The latter aim is usually subordinate, yet important to us. Most important work in the Middle East, for example, as well as in several other territories, is conveniently listed now by the Egyptian documentation centre in Cairo, as *Abstracts of scientific and technical papers published in Egypt and papers received from* . . . The contribution of small countries to research must certainly not be under-rated. It is often on topics of local urgency, and ahead of larger countries' work.

There is no need to list and describe here the major general indexing and abstracting services. Probably their most serious problem is their tendency to grow quickly to uneconomic proportions. The classic current example is *Chemical abstracts*, which has to deal with about 500 additional new journals containing chemical papers each year. Not surprisingly, the decennial index has expanded by 50 per cent to practically a score of volumes, and the

annual subscription has climbed to an alarming figure. Other services are less monstrous but they meet the same troubles. They inflate in size and hence in price, and some customers needs must cancel their subscriptions.

Many publishers try to counter this by selective and flexible subscription rates. *Excerpta medica* offers sixteen subject sections. The *Bulletin signalétique* of the Centre National de la Recherche Scientifique, formerly published in three parts, is now in twenty-two independent sections. *Industrial arts index*, for so long a single list, appears now in two parts, separating business periodicals from those of applied science and technology. It has won many new subscribers as a result, permitting a reduction in subscription rates. Costs are often kept down by the extensive use of symbols. This is part of the price we pay for the enormous coverage of the *Internationale Bibliographie der Zeitschriften-literatur*, where the bibliographer turns cryptographer.

The use of cheapest printing processes has special attraction in works not intended for continuous reading. A familiar plan is to employ litho printing from plates prepared on or from electric typewriters such as the Varityper and the Justowriter. New developments in computing and similar machines permit mechanized listing and mechanized printing in many bibliographical contexts. The new *Index medicus*, mentioned below, results from the further mechanization of indexing techniques at the National Library of Medicine. Another example of mechanized listing and printing is the service from the American Chemical Society, *Chemical titles*. There computers rearrange titles of journal articles under relevant keywords contained in the titles, and under authors. The result is a prompt current listing of literature, delay being cut to a fortnight or thereabouts, at a comparatively low

subscription rate. The aim is to bridge the gap between publication date of an article and its subsequent treatment in *Chemical abstracts*. This technique is now finding new applications.

Subscribers to indexing services are often wooed by the offer of a photocopy service; occasionally a translation service is added. Another way of extending appeal is to offer the alternative of publication on cards. *Engineering index* has done this for very many years, though the prompter service made possible in this case incurs the penalty of high subscription rates. A more modest example is the International Education Card Index Service, which many would like to see extended beyond the coverage of independently published work. A card service is operated by the Iron and Steel Institute, based on the fortnightly supply of abstract material that will appear later in its familiar place in the *Journal*. The International Occupational Safety and Health Information Centre operates a monthly card service from Geneva. There are, of course, many examples of card services and tape services in the U.S.A. One of the most advanced is from the American Society of Metals which operates an elaborate Center for Documentation and Communication Research. The Society's long experience with machine indexing of literature is now yielding important results. The coverage of its conventional monthly journal *Review of metal literature* has increased, and various other services are offered to subscribers. These include the fortnightly supply of abstracts on any specific problem or (more cheaply) on wider topics in which the demand is larger. Retrospective searches can also be asked for, and encoded tapes recording each year's literature are supplied to users wishing to carry out their own machine searching.

Other American card services are described in the *Guide to U.S. indexing and abstracting services* mentioned below. A less familiar use for cards has been found by the publishers of *Excerpta medica*. They have devised index cards to allow subscribers to build U.D.C. analytical subject indexes to the whole series of abstracts. One should not overlook the important encouragement to consistency of indexing practice that is given by such a service. This feature can also be observed in the earth sciences, as a result of the long-established card service of the Service d'Information Géologique du Bureau Géologique et Minières, Paris. This bureau offers a monthly supply of cards on a selective or comprehensive basis, and the publication of the detailed code used, in six languages, is a further incentive towards consistency inside the subjects' libraries.

One further French example of the extension of an abstracting service by cards may be permitted. It is provided by the Fondation Nationale des Sciences Politiques. Its monthly abstracting service, the *Bulletin de documentation politique, économique et sociale contemporaine*, has always been valuable, but publishing costs formerly limited each issue to merely a selection from the material extracted from the thousand or so periodicals searched. The coming of cheap apparatus for card reproduction made possible a supplementary monthly card service, first to a few libraries, later more generally. That the abstracts are in French is not too serious a deterrent for English users.

Increased subscriptions without proportionate increase in overheads may sometimes be one reason for dual-purpose services. They are finding favour with some national and international societies. A good example is the American *Meteorological abstracts and bibliography*, in which the second part offers a special annotated bibliography of

references on a chosen subject of interest. An attractive minor feature that deserves to be copied is the giving of locations for periodicals from which abstracts have been prepared.

In abstracting services generally, the cost factor imposes a compromise between the coverage of literature and the length of abstracts published. It is most unfortunate when abstracts are so brief that readers remain undecided about the value of the articles dealt with. Uncertainty can waste money on unnecessary translation of foreign language articles. The important *Bulletin signalétique* of the CNRS has been criticized on this score. So has *Cedoc-biblio*, the service from the Belgian building documentation centre, and most users of abstracts are too familiar with the annotation that does scarcely more than paraphrase a title. There is sometimes a disconcerting choice between a service with fuller and detailed abstracts that are late in being published, and a prompter but less detailed service. *Chemisches Zentralblatt* may be compared with *Chemical abstracts* on this point.

When a subject is served by two or more indexing or abstracting services, duplication in coverage is likely to happen. A study in medicine showed substantial overlapping between *Chemical abstracts*, the *Current list of medical literature* and the *Quarterly cumulative index medicus*. Duplication is sometimes necessary and helpful, but it is in everybody's interests to eliminate that which is undesirable. In the above case, the National Library of Medicine and the American Medical Association coordinated their efforts, to substitute the new *Index medicus* for separate journals. By a sensible working arrangement the national library is responsible for the monthly issues, while the medical association publishes the

annual cumulation, *Cumulated index medicus*. Illustrating other types of cooperation, there is interavailability of abstracts between *Psychological abstracts* and *Biological abstracts*, and in several fields of science the literature searching has been divided by agreement. The interchange of journals in page proof, or microfilm copies of them, has also been found practical and helpful in rationalizing coverage. To make one abstract serve a number of uses is no less sensible a practice. It is seen in the uses to which some of the sections of the *Bulletin signalétique* are put. The *Astronomischer Jahresbericht*, for example, selects appropriately and by arrangement each year.

Such cooperation is extremely important, not only to good coverage and greater promptness but also in furthering consistency in editorial practices. A number of countries now possess bodies whose purpose is to foster all aspects of good development of abstracting services. One of the most active is the National Federation of Science Abstracting and Indexing Services, an American organization which in 1960 produced an interesting *Guide to U.S. indexing and abstracting services . . . in science and technology*. At the international level, Unesco returned to the subject of abstracting and related services in its programme for 1961/2. It promised to prepare a comprehensive study on the organization and operation of abstracting services throughout the world, as a preliminary to further action. What might ensue is an international conference, with perhaps an international convention, the setting up of a central and regional organizations to rationalize the publication of abstracts, preferably simultaneously in major languages. There is no doubt that, in all this, Unesco will continue to support, and depend upon, the work of other bodies such as the International Federation for

Documentation, and the Abstracting Board of the International Council of Scientific Unions. The latter deserves special notice.

This Abstracting Board has done much good work in its principal field of physics. Through it, for instance, the major physics journals of the U.S.A., Belgium, The Netherlands, France, Italy and (with a few exceptions) the U.K., agreed to require contributors to prepare summaries of their papers, as the basis for abstracts. In addition, the publishers send a set of final page proofs of each issue to the editors of *Science abstracts* and the *Bulletin signalétique*, a practice which avoids at least six weeks' delay to these services. Other measures have resulted in increasing the number of non-periodical publications abstracted, such as reports on symposia and colloquia. A further example of the Board's work followed a meeting of editors of the abstracting services that are members. It was noted that services in West Germany and Japan were not following the Royal Society/Unesco rules for authors' summaries. These rules use the principle that the editor of a journal carrying original papers takes responsibility for the scope and accuracy of an author's summary or abstract. The Board accordingly approached the non-compliers and urged the adoption of the rules for the benefit of users everywhere. Furthermore, it would be unjust not to mention that some of today's valuable bibliographical traffic between the East and West is the result of the Board's activity. When in 1952 the Russian Academy of Science created the Institute of Scientific Information, to start new bibliographical services and overhaul old ones, the ICSU Board took the initiative in proposing exchange agreements. Abstracting services in physics were the first to benefit, with chemistry and the biological sciences to follow. Many more East-West agree-

ments have followed that first venture in cooperation. The listing and abstracting of much important Russian research material is now a routine matter in this and other countries, and one easily forgets how recent a development this is.

The extension of the Board's interest into biological studies resulted in 1960 in a report by its Secretary, G. A. Boutry, *A preliminary survey of the situation in the field of biological abstracting*. From this it seems likely that non-English language services do not dissipate their energies in unnecessary duplication of coverage, in any serious way. This could not be said of the large services published in English. The matter is being followed up, together with another point of criticism that many will think more important. This is the wide variety of classification systems used in the services. Lack of uniformity in this respect means that literature searching is at best tedious and at times less productive than it should be.

Unesco's interest in the mechanization of processes in indexing and abstracting was acknowledged when the ICSU passed on two valuable reports, on the experience gained by the editors and publishers of *Chemical abstracts* and *Physikalische Berichte*. These show a skilful combination of new and traditional techniques, and form an excellent commentary on the present state of the study. They were summarized in the 1960.09 issue of the *Monthly bulletin on scientific documentation and terminology*.

The debt of social science bibliography to international bodies has already been mentioned. It is particularly large where indexing and abstracting services are concerned. An example that springs to mind is the International Bureau of Education, at Geneva. This body has a sensibly operated and helpful bibliographical service, at a level that does not restrict it to wealthy libraries. In the Bureau's quarterly

Bulletin is a bibliographical section which records and annotates the library's accessions, forming the basis for the *Annual educational bibliography*. An offprint of the bibliographical section, paged but readily cut up and mounted, accompanies the *Bulletin*, providing the card index service mentioned a little earlier.

There are many other new or revised services now available in the social sciences, thanks mainly to subsidized publication. These have often the most varied kinds of material to contend with. Indexes, reviews and digests of periodical literature have to be no less hospitable to films, television and radio, newspapers and other media, than to books and periodicals. The lengthening series of *Reports and papers on mass communication* illustrates this very well. A little care is needed, or material may be overlooked; but such caution is quickly forced on the new bibliographer in the social sciences. Currently, his attitude is one of great pleasure at the increasing orderliness in his field, introduced by series such as the international bibliographies of sociology, political science, social and cultural anthropology, and economics, and the new international abstracting service in statistics. The entry of some government ministries into the abstracting field is another welcome development. *Documentatieblad* is an official Dutch service in education, for example, that is now well established, and the *Bulletin bibliographique mensuel*, a supplement to *L'Éducation nationale*, shows what a highly centralized official service can achieve.

Among the most important abstracts are those offered in special fields by research bodies such as trade research associations, government establishments and inter-government bodies such as the Commonwealth Agricultural Bureaux. In the first group, typical good services come from

the British Coal Utilization Research Association, the Zinc Development Association, the British Shipbuilding Research Association. Government sources are illustrated by the research establishments of the DSIR, while the already quoted *Meteorological abstracts* has a strong connection with the US Air Force Cambridge Research Center. Professional societies and institutions also, of course, produce abstracting journals of importance and authority. The Physical Society and the British Medical Association are sufficient illustrations. Unfortunately, few can support large ventures, however strong their desire to do so. Several years ago the Institution of Civil Engineers considered reviving the pre-war *Engineering abstracts*; but comparisons of costs with probable subscriptions made it clear that too great a burden would be left for the Institution to carry. For similar reasons *Botanisches Zentralblatt*, which ended a long and useful life in 1945, is unlikely to reappear. There are instances where cooperation has overcome this problem. A group within the Royal Photographic Society of G.B., not itself a particularly wealthy body, has succeeded in maintaining an excellent quarterly *Photographic abstracts*, for which the support and cooperation of industrial concerns was won. Modern developments in microphotography can also revive a service that has ceased publication for reasons of cost. This has happened with the *Bulletin de sommaires* of the Centre de Documentation Classique, in Paris. By cooperation with the International Documentation Centre, in Stockholm, a microform service to subscribers has been resumed. The subscription rate includes the provision of a pocket viewer, and there is a loan and photocopy service for the original articles.

There are a few instances where professional and government sources have cooperated to good effect. The

British Building Documentation Committee provides one. Cooperation has enabled this body to consider the compilation of a National Index of Building Literature, which would integrate the present indexing routines of the Royal Institute of British Architects, the Ministry of Works and the DSIR.

The librarians concerned in this case have played a substantial part. They do so in most professional and government indexing services, often in a team with specialist staff members. Similar indexing in industrial concerns is mostly carried out through the library, though distribution of resulting lists is commonly only internal. Most indexing and abstracting done by librarians generally is work forced upon them by the lack of published indexes or by the inadequate coverage or lateness of services. *Current work in the history of medicine*, prepared by the Wellcome Historical Medical Library, can be explained in this way. So can the cooperative work in education, the *Index to selected British educational periodicals*, the *Catholic periodical index*, the *Index to religious periodical literature*, and many others. *British technology index* shows librarians taking on an important task in which commercial ventures have several times failed in this country.

Many such cooperative indexes are produced as cheaply as possible, often duplicated, with distribution not extending far beyond the list of cooperating libraries. Inevitably, these works do not get the wide use they may merit; the onus is on other librarians and research workers to locate them. This is still more true of the modest efforts of special librarians who try to help by giving some analytical entries for periodical articles in their lists of library accessions, as is done at the Royal Geographical Society.

In subjects which lack independent abstracting services,

the enterprising journal editor can usually do something to help. A growing proportion of current abstracting seems to be achieving publication in this way, sometimes as loose-leaf inserts designed to permit cutting and mounting. The editor may find it possible to reach agreement with a large and more general service, allowing him to reproduce abstracts of interest to his readers. The *Journal of mental science* does this, relying on *Chemical abstracts* for some of its material and giving author abstracts for the rest. This is also one of a number of journals that devote much more space to abstracts than to conventional reviewing. In some of these it will be noticed, however, that abstracts, research reports, reviews and literature surveys become virtually indistinguishable. The practice of offering a single long abstract for a number of related articles, for instance, makes the resemblance to group reviewing strong. The *International journal of psychoanalysis* may baffle the bibliographical purist in this way; but it certainly serves its specialist readers well.

It would help the bibliographer in checking the aggregate coverage in his subject if guides to indexing and abstracting services were more common and up to date. It is rare to find a list for one subject, such as Landuyt's *Bibliography of engineering abstract services*. Lists are more often found in periodicals than published independently. Moreau's contribution in *Library trends* for October 1960 is a welcome example in theology, and a supplement to the 1959 volume of *Library news*, from the World Health Organization, offers a second edition of *Current indexing and abstracting periodicals in the medical and biological sciences*. If we have to rely on general records, the familiar ones are the *List of current specialized indexing and abstracting services*, published by FID, the Royal Society's *List of*

periodicals and bulletins containing abstracts published in G.B., and the Unesco *Index bibliographicus*. FID has produced the first volume (covering science and technology) of the fourth edition of the last named. It is very welcome for its extended coverage, particularly of Central and Eastern Europe. Though its policy is one of selective coverage of periodicals whose bibliographical content aids retrospective search, the resulting selection has been heavily criticized. A sympathetic and informed reviewer, Herbert Coblans, in FID's own journal the *Review of documentation* (1961 No. 1) has queried the wisdom of continuing this general guide, which automatically reflects the inadequacies of the national associations that supply the information. There is substance in his suggestion that geographical or subject listing might produce greater benefits for no greater effort. Meanwhile users await the remaining volumes for the social sciences, humanities and 'generalities'.

If these general works are not available and no separate guide exists, it is worth remembering that some commercial and other directories to periodicals do include abstracting services, and occasionally show where individual journals are indexed or abstracted.

LANGUAGE DIFFICULTIES IN PERIODICALS

General language problems draw attention to themselves in subject bibliography no less than in other librarianship studies, but this is not the place to discuss them. It must suffice to mention some of the ways in which editors of periodicals react to the problems of language. They can certainly give a lot of help, without great expense, and we find them doing so increasingly. Not surprisingly, this is more common in new subjects than older ones. Many journals in philosophy and theology seem blind to human frailty. *Methodos* may be helpful, and the *Ecumenical review* concedes the need for an international index, but these are exceptions. The consequence is that foreign journals are little used in a library like Dr. Williams's, and foreign articles in English journals are unlikely to fare much better. There are of course some subjects where information is given by illustrations and diagrams, making texts less formidable. This may partly explain why the major architectural journals do not yet offer generous help; yet there is evidence that the need is also felt in this subject. The architectural journals of smaller countries are increasingly offering summaries in English, translated captions and the like.

Trilingual editions of journals are fairly common, popularized in part by the United Nations and other international organizations. They are sometimes alternatives, sometimes issued together. The journal of the International Telecommunications Union issues them together, but with separate pagination, allowing for separate binding. *International archives of ethnography* is a more conventional

example of trilingual publication. The widespread and increasing use of English induces a number of foreign journals to limit their help to this. It seems also to have caused the *British journal of educational psychology* to stop providing foreign language summaries. Sometimes one finds Continental journals published wholly or mainly in English, putting the onus of translation on the native reader. Dutch and Scandinavian authors and editors use this practice rather frequently. *Acta psychologica* is one periodical example, another is the *Bulletin of the astronomical institutes of the Netherlands*, and *Nuclear physics* and *Nuclear instruments* have followed suit. Alternatively and more commonly, an English edition is made available, sometimes by arrangement with an English firm. The *Japanese journal of geology and geography* is such a case. Much older, the *Deutsche medizinische Wochenschrift* is available in three other languages. In English it is the *German medical monthly*. Care is needed before choosing a second-language edition, however, for it may be found to omit some material in the original. The German economics journal *Wirtschaftdienst* is a case in point.

Editors who invite contributions from many countries have the choice between publishing them as received or translating into the domestic language. Both decisions are common, the difference being in the number and length of the abstracts or synopses given in other languages. Between three and six languages are usual, with Russian included increasingly. *Forum*, the World Congress of Faiths publication, is particularly generous with the length of its synopses, giving considerable translations from the Dutch text. *Psychopharmacologia* illustrates the unhelpful practice of publishing articles untranslated and yet failing to give summaries. *La presse medicale* encloses a loose

supplement with each issue, giving contents and summaries in English and Spanish.

Official bodies like the International Federation of Library Associations, and some independent publishers, have made special arrangements with the Russian Academy of Sciences. As a result, a score or more of Russia's major periodicals now have summaries in English, French or both. An independent agreement is the reason why the *Journal of nuclear energy* contains as a supplement a translation of the equivalent Russian journal. Other journals may give up to half their regular space to translations of selected articles from the equivalent Russian periodical. The American Geographical Society is one of the most conscientious in serving its membership and readers. In *Soviet geography: review and translations*, it provides almost all kinds of help to Western geographers—a service amply justified by the importance of Russian studies. Arrangements of this kind are additional to the familiar recent developments, whereby entire translations of Russian journals may be purchased, often from the U.S.A. though also from the National Lending Library for Science and Technology, usually much delayed, nearly always at considerable expense. However, the encouraging fact is that in subjects where researchers in the U.S.S.R. and the West desire to correlate their latest work, their journals are making this possible by some means or other. Other East European countries have followed the Russian lead. One very good example of helpfulness is in *Acta geologica Polonica*, where complete translations of the Polish contributions are offered in Russian and French.

Examples can be found of periodicals publishing either contributions or synopses in Esperanto, and a few American journals give regular summaries in Interlingua.

We may also notice that the editors of periodical indexing services are involved in the language problem. For whatever reasons, not many are very helpful to their readers where foreign languages are concerned. Naturally, countries with two or more native languages do compel some editorial decisions. *Canadian building abstracts* appears also in a French edition. The *Canadian index* supplies additional cross-references in French, directing to the fuller English entry. The Belgian Building Documentation Centre prints its abstracts in French and Flemish. The *Index to South African periodicals* gives a subject index of articles in Afrikaans, a separate approach to other languages under English headings, and a combined author index. Other indexing services may give no help at all, or simply use symbols to indicate an article's language. The *Quarterly cumulative index medicus* did this. Rather more direct and generous help is given in the *Bibliographie de la philosophie*. Though the editor presupposes competence in English, French, German, Italian and Spanish, he offers other titles translated into French, and an annotation in French supplements titles not sufficiently descriptive. The British and American editors of the *Index to foreign legal periodicals* have understood the special difficulties created by subject headings. Using English terms in dictionary form, they planned to prepare and issue to subscribers a translation of these headings into French, German, Spanish and Russian.

Faced with a similar problem, the *Bibliographica philosophica* made the interesting decision to use Latin for headings and sub-headings. This cannot be without its dangers, for it may well be that the translation into Latin of current specialist terminology is not always unequivocal. This could introduce uncertainty into searches, at least in

early use of the bibliography. Latin is also used selectively in the *Bibliographie der fremdsprachigen Literatur*, where for instance the biological names of genera and species are given in that language. There is some inconsistency in the matter in this work, however. One or two scholarly journals are also found to use Latin. Italy's *Biblica* is one, while in the Dutch *Mnemosyne* news or contributions may also appear in Latin.

We have already noted the usual first source for this purpose, the serious journals. Some journals have no other aim, and the usual medium is the survey article, on a chronological, geographical or topical basis. The *Review of educational research* is one of the clearest examples. Each issue is devoted to one subject, and subjects are covered in a cycle of roughly three years. A number of specialists write on the subject from their different viewpoints, analyzing and summarizing important recent work, which is also listed in bibliographies. Many journals give readers the same kind of service occasionally or systematically. *Geography* and *The British medical bulletin* do so regularly. *Philosophy* affords half of each issue to a survey based on a literature review, often of a single country. The *Journal of philosophy* gives frequent issues devoted to a single theme. The *Analyst* has regular survey features, *Current sociology* devotes all its space to bibliographical trend reports, and *Library trends* is a domestic example. Good listing on an international basis has special value and special difficulties. Both points are illustrated in *Scientia pedagogica.*

We have seen that other journals pursue a similar aim by concentrating on the provision of good abstracts. Both kinds are complemented by annual survey publications that now appear in considerable numbers. Examples are *Reports on progress in physics, Annual reports on the progress of chemistry, L'Année psychologique, Archivio di filosofia* and *Year's work in English studies.* Prompt publication is the aim of such works and also their greatest

difficulty; but a two years' delay in English studies is doubtless less harmful than it would be in a subject in technology. In annual, as with more frequent periodicals, it can again be noted that the collection of abstracts is sometimes preferred to the narrative survey. The *Jahrbuch der Fortschritte der Mathematik*, perhaps the most important source in its subject, adopts this form.

Cooperation between societies has special merit in this matter of recording research. The Modern Humanities Research Association and the American Modern Languages Research Association both record national work, throughout the year and in an annual survey. In addition they combine to publish *Research in progress in the modern languages and literatures*, which has a wide international coverage. In anthropology, cooperation resulted in the establishment of a centre to coordinate records of research, and to publish a bulletin to which social scientists may turn for review articles and notes of contemporary work. Cooperation also resulted in the Centre International de Documentation Economique et Sociale Africaine, at Brussels, with its valuable card index and current bibliography.

As reviews of published work increase, so does the difficulty of locating them, and any indexing feature that reduces this is welcome. The *Technical book review index* gained added value by a decision to include references to reviews published after those recorded in the first place, acknowledging the important point that the best reviews of a work are often not the promptest. In medicine there is an annual and cumulated guide to periodical review articles, the *Bibliography of medical reviews*, from the National Library of Medicine of the U.S.A., and a *Bibliography of chemical reviews* is also published. The idea deserves to be copied.

For new work that is published in books, pamphlets or other independent form, the help given by general national bibliographies is considerable and growing. As works like the *British national bibliography*, *Deutsche National-bibliographie* and *Bibliographie de la France* become more comprehensive, through tighter copyright deposit laws and more energetic coverage of non-trade publications, and as their arrangement and indexing improves, they become frequently of greater use than the majority of specialized lists. Their promptness is a major virtue. Certainly in some subjects, where books are important, national bibliographies may meet all reasonable current requirements. Occasional help for the specialist can also come from official attempts to publicize a country's modern research progress. Here again the emphasis is usually on books, as in the publications of the British Council. The *French bibliographical digest* series does at times record articles and pamphlets of importance, but the coverage of subjects is neither frequent nor systematic. Nearer to proper research recordings are the bulletins of the Society for Cultural Relations with the U.S.S.R. They cover, though irregularly, education, medicine and psychology: but in all such publications the gain is chiefly in convenience, and one does not expect to find items that are not also recorded elsewhere.

We can avoid overlooking any large group of records by drawing up a list of likely originators of research. This is a special exercise for each subject, but the following may serve as a rough general guide.

Interested individuals still do independent research, sometimes purely for enjoyment or from curiosity, sometimes as a preliminary to authorship or specialist journalism. A second category is academic research. Here there is individual post-graduate work, also faculty and continuing

research which is sometimes team-work, sometimes individual. Then there is government-sponsored work, sometimes carried out in government establishments, sometimes by agreement or contract in universities and colleges. Another group is trade and industrial research, now on a very great scale. There are too many varieties of this to list, but one may mention that some are not done domestically or in research associations, but contracted for by commercial research institutions whose services can be hired. There are a number of such bodies in the chemical and engineering fields, for instance, and also in areas of sociology. Another common practice is for organizations to employ consultants from the academic fields to direct research or interpret its results. Large firms may also give direct support to academic research in colleges and universities, on topics of special interest to them: this practice is more common in the U.S.A. than elsewhere. The purely bibliographical side of research may be carried out by freelance bibliographers or agencies. The Library of Congress is a conspicuous example of a library doing bibliographical work under contract. It is always heavily involved with work in which the government has a direct or indirect interest. The same kind of service is now offered to private firms and the general public. In this literature-searching service the library's Science and Technology Division shares responsibility with the Office of Technical Services, and customers pay on an hourly-fee basis for special work, or by subscription for the regular reporting of new literature in a subject. Another great library, the John Crerar, has operated a similar scheme in Chicago for private or commercial inquirers, for a number of years.

To complete our list of originators of research we may remind ourselves that societies undertake research, and that

yet more is instigated by the grants and fellowships given by trusts and foundations. *Recent developments* of the Council on Library Resources illustrates this well in librarianship.

This list is inadequate for many subjects but its use will disclose shortcomings in the research records of all the usual fields. A particularly common weakness is the lack of good guides to work still in progress. The National Science Foundation has demonstrated to librarians how useful such a guide can be, by publishing the twice-yearly *Current research and development in scientific documentation.* Few librarians would have guessed how large the first issue (in 1957) would be, and each succeeding number has shown an increasing volume of work. More and more countries are making contributions. The newly-recorded work of the U.S.S.R. is impressive.

This series is important intrinsically and also as illustrating the good and bad points of such guides. We can read of the work being done by individuals and organizations, but the amount of detail, for example the number of references to interim reports or descriptions, depends on the thoroughness of the individual contributor. *Library research in progress*, from the Office of Education of the U.S. Department of Health, provides an interesting comparison from the point of view of editorship, besides being worth attention for its coverage.

Another problem has taken an importance. It concerns the fact that, in addition to the research reported in books, periodicals, reports and theses, there are purely manuscript records. In many cases publication of results is simply not the aim; the fruits of the work take non-literary forms such as improvement in methods or machines. Moreover, there is often a large residue of manuscript material even when

the results of work are published. For the process of research involves collecting, sifting, focusing and rejecting; and the pile of rejected material is normally left to languish, whatever its potential usefulness to others. The wastefulness of such practices has begun to cause concern. This School tried to draw attention to the general situation in a symposium, *Guide to unpublished research materials*, and the problems are periodically examined elsewhere.

The *guides* to research records also remain unpublished in some cases. This often happens when societies collect records for the benefit of their members. A card index is sometimes the only guide; not seldom it is the basis for selective published lists. We find this in the National Foundation for Educational Research in England and Wales. It maintains a card index of current research, domestic and external, begun at the request of university institutes, who themselves supply material and encourage individuals to do so. This Register of Current Researches in Education is a very substantial manuscript record, but there is also some publication, though the extent of this is likely to be reduced in future, to avoid duplication with the general listing done by Aslib. There is another instance of a card index of current research at London's Institute of Commonwealth Studies. This, expanding rapidly, covers work in many parts of the Commonwealth, serving most subjects within the social sciences and aspects of some topics outside them.

THESIS LITERATURE

We can usefully discuss thesis literature separately, if we bear in mind that this material is not of great importance in all subjects. Whereas research in geography depends almost wholly on academic institutions, the opposite may be the case in some technological subjects. However, the lack of good records of theses has been a serious handicap. In this country the actual recording has achieved an air of respectability only since 1950. The principal list is an annual from Aslib, the *Index to theses accepted for higher degrees in the universities of Great Britain and Ireland.* A more restricted guide is *Scientific research in British universities,* which is a useful introduction to permanent staff supervising research, work that may or may not be published later on. The Aslib *Index* gives a certain amount of information on the availability of works for loan or copying. This feature is the more useful since universities vary widely in their attitudes in this matter. Approaches to them by the Library Association have had little effect to date, and the problem remains one of some seriousness.

The existence of a good general record has reduced librarians' dependence on universities' own published records. This is fortunate, for there is no uniform practice; some publish extracts from theses, often selectively; some used to, but have discontinued their series; others publish lists, maybe as part of the annual report of the institution; and the arrangement of lists is very varied. The special virtue of universities' own lists is their up-to-dateness, and for this reason they are still preferred, for general indexes in many countries tend to be two years or so in arrears.

Numerous direct contacts with universities may therefore be necessary, and for this purpose one may mention the value of the International Association of Universities' volume, *International handbook of universities*, the *Commonwealth universities yearbook*, by the Commonwealth's Association of Universities, and *American universities and colleges*, from the American Council on Education.

Post-war bibliographers, by their attention to thesis literature, have encouraged journal editors to show some interest in their turn. They are favourably placed to give really prompt recording. Yet only a small minority of specialist journals do record theses completed or in progress. Systematic attention is usually limited to journals with academic connections, and here again subjects fare differently. The *Bulletin* of the Institute of Historical Research offers information in supplements, and will if requested produce typescript lists of thesis work in progress. The *Cambridge historical journal* lists relevant local activity. London's Institute of Classical Studies records work completed or in progress in its *Bulletin*, and the Classical Association gives selective attention to the best work in the *Year's work in classical studies*. The Institute of Advanced Legal Studies repeats its *List of legal research topics current in British universities* and is publishing a list stretching back to 1934. *Architectural history* shows readiness to record unpublished theses and research in progress. In education, the leading journals have a good record; *Educational research* and the *British journal of educational psychology* are two which give regular help by means of abstracts that are good and sometimes lengthy. But not all changes are for the better. The social scientist is now deprived of the excellent *Register of research in the social sciences, in progress and in plan*, and the *Year's work in modern language studies* could

not find space to continue its listing of theses. Such happenings, or the simple lack of attention from all editors can explain more modest efforts at recording. The Association of University Teachers in French offers an example, with a pamphlet that has an internal circulation only, recording post-graduate work in progress.

In the U.S.A., work for higher degrees has been recorded with growing efficiency since 1912. Recent amalgamation of current lists leaves *Dissertation abstracts* as the general record. This is restricted to work available in microtext, but an extra annual issue overcomes this limitation. The *Index to American doctoral dissertations* is a comprehensive list and includes Canadian work. By a plan being favourably examined at present, the Library of Congress will help in providing a subject index to *Dissertation abstracts*. There are other types of publication of help to the subject specialist. The conscientious American Chemical Society offers an example. For in addition to its annual list of relevant American thesis literature, it has published *Faculties, publications and doctoral theses in chemistry and engineering at U.S. universities*, a work which tries to focus the whole academic situation in relation to that subject field. In general it is true to say that the journals, yearbooks and survey publications of the U.S.A. pay greater attention to the recording of theses than do similar works in this country. Among journals one may instance the *American journal of sociology*, among yearbooks that of anthropology, and among surveys *Perspectives in personality theory*, by David and von Bracken.

Most countries producing thesis literature now have some sort of published list to show. Germany is getting back to efficiency, with current listing in the two national bibliographhies. The national libraries at Leipzig and

Frankfurt collect theses industriously, helped by the return to university regulations which usually require multiple copies from their authors, the number being related to the form of publication. Deposit is the basis of the thorough listing. With this help the Leipzig *Deutsche National-bibliographie* lists almost a thousand dissertations each month. The cumulating *Jahresverzeichnis der deutschen Hochschulschriften* goes beyond this, stretching westwards to cover all German universities and including other kinds of work by academic staffs. As a further help, the Deutsche Bücherei prints and sells index cards for theses; they are not expensive and give plenty of detail, but the service is subject to delays. Other details and criticisms may be found in R. Stromeyer's contribution to the *Unesco bulletin for libraries*, July/August 1960.

In France, the current list of theses appears as a supplement to the national bibliography, but the cumulated list, the *Catalogue des thèses*, is badly in arrears. The general overhaul of French librarianship has included new regulations concerning the publication and deposit of theses. One aim is to produce effective interchange with other countries. There has been a similar development in the Netherlands. The move towards rationalized international exchange is a more general subject that must not delay us here, but it is tending to make good theses much more widely accessible.

Without going into further details, we can safely say that this class of literature is now coming under reasonably good control at the national level. There is also better international listing, though theses are usually included in more general records. Two useful examples come from the social sciences, from Unesco, the *International register of current*

team research, 1950-52, and *Theses in the social sciences, 1940-50*. The latter shows how much an intelligent indexer can widen a work's usefulness. It also shows how unequal the enthusiasm of thirty nations can be.

FESTSCHRIFTEN

The problem in recording that these present is only a minor one, but nevertheless worth notice. The works, variously called Festschriften, mélanges, memorial or homage volumes, are symposia contributed to by a number of scholars, usually as a tribute to an individual. Germans have probably shown most fondness for them. Two distinguished librarians, Hermann Tiemann and Fritz Redenbacher, have recently been honoured by volumes on the history of books and libraries, and librarianship studies. Many German institutions and firms have also been the subjects of Festschriften. The fiftieth anniversary of the Dresden-Plauen Public Library occasioned a volume; and an April 1959 issue of the *Börsenblatt für den Deutschen Buchhandel* is in effect a Festschrift commemorating the opening of the new building of the Deutsche Bibliothek. France has also provided many examples. *Seconds mélanges d'économie politique et sociale* is rare in being a *second* tribute to an important scholar, Edgard Milhaud. The form is less common in this country, though historians will know of the tributes to Sir Hilary Jenkinson, Sir Lewis Namier and G. P. Gooch. A memorial volume for W. C. Berwick Sayers, and a projected Festschrift for Dr. Ranganathan, are tributes to librarians from their fellows. The published works among these examples all possess a unity of subject interest, but this is not always the case. Quite often these volumes are a handful of essays on rather scattered subjects presented together more or less by chance. It is thus not surprising that titles seldom reveal what the works in fact contain. *Studies of diplomatic history*

and historiography in honour of G. P. Gooch is a pleasant exception. Much more typical is the French example simply called *Mélanges Pittard.* This work of only four hundred or so pages has more than forty academic contributors writing on a wide variety of topics in anthropology, archaeology, palaeantology and geology. They appear together only to celebrate the ninetieth birthday of a distinguished professor. It is such circumstances that have caused Festschriften to be overlooked by indexing services. If their contents are not analyzed in these, or in catalogues or bibliographies, the material is inevitably lost. This is the nuisance they represent to the bibliographer. A contributory reason for their neglect is a suspicion that most such works are not of great value. More than once it has been hinted that scholars may keep a few trifling pieces in a drawer, for use on such tiresome occasions. Nevertheless, there are enough good volumes analyzed and known, to make it fairly certain that other worthwhile material is buried.

A few indexing services now try to include such works. Appropriately, the one general service that has long done so in German, the *Bibliographie der deutschen Zeitschriftenliteratur.* There are certainly not many special indexes to Festschriften, but such as exist are helpful in some important subject studies, and I offer examples despite their being misplaced in a treatment of current recording. A well-known list is Metzger's *Index of articles on the New Testament and early Christianity published in Festschriften.* Another is the *International bibliography of historical works published in volumes of Festschriften,* 1880-1939, edited by the International Committee of Historical Sciences. A classified catalogue, important for economists, appeared in 1961, as the *Verzeichnis der Fest- und Denksschriften von Unternehmungen und Organisationen der Wirtschaft im Hamburgischen*

Welt-Wirtschafts-Archiv. There are select bibliographies of Festschriften in literature and linguistics, modern French literature, economic history 1900-50, Jewish biblical history and several other fields. Some general bibliographies, such as Penniman's *A hundred years of anthropology*, do include important Festschriften. London's Institute of Germanic Languages and Literatures is, not unexpectedly, active in collecting relevant Festschriften. It acknowledges their importance by analytical entries in the library catalogue, and hopes soon to publish a *Subject index of Festschriften in Germanic studies*. The Institute of Advanced Legal Studies is also giving thought to the indexing of work in legal literature. An index with a domestic interest is one prepared in part requirement for this School's Diploma in Librarianship in 1948. This, based on British Museum holdings, is A. P. Barnes' *Bibliography of Festschriften composed by members of the University of Cambridge, 1587-1640*.

ENCYCLOPAEDIAS

If current work is well recorded, the parts of it which stand the test of time are absorbed into standard literature more or less automatically. Annual surveys are the usual bridge between the research worker and the specialist encyclopaedia of accepted material. The transition is well illustrated in medicine. There is, for example, a well-established *British encyclopaedia of medical practice.* Keeping this up to date is a growing 'cumulative supplement' which follows the encyclopaedia's arrangement, and accepts new material of proved value. It receives this by selection, after a time, from its complementary series of annual survey volumes, *Medical progress.* Each of these is a critical review, with abstracts, of the research literature of the year. Thus a new edition of the basic work is continually in preparation, and a comparison of the first two editions of this encyclopaedias shows how beneficial is the systematic growth.

The more specialized medical encyclopaedias, such as *British surgical practice*, build up in much the same way. A similar system is found in the basic literature of law, though its flow of new material is less from research as that term is generally understood, than from case law that is new. Education studies have a notable example in the *Encyclopaedia of educational research*, for which the newly current and supplementary material is produced by the *Review of educational research.* Both publications come from the American Educational Research Association. The encyclopaedia illustrates two useful points. First, its third edition shows that the need for a complete rewriting of

articles soon arises. The more or less mechanical insertion of new information is only a poor and temporary expedient, which this particular society has not tolerated. Secondly, the encyclopaedia shows much greater editorial interpretation taking place, in the transfer of material from periodical to basic encyclopaedia. The encyclopaedia is addressed to readers much less specialized than those for whom the research reports were written. The new readers, in fact, are principally teachers, not researchers. There must obviously be some element of this popularization in even the specialist encyclopaedias. There is a wide range of editorial choice and intention, as a comparison of the above works with, say the *Larousse encyclopaedia of astronomy*, soon reveals. The point of importance is that even the specialist encyclopaedias cannot take the place of the original research record, for at least some users. Whether or not the original record can be traced and obtained is quite another matter. In education, success is more likely than in most other subjects.

Specialist encyclopaedia-making presents a formidable challenge to editors. Though all must make compromises, some editors can produce results that stand up to all but the most unjust critic. An achievement of this order is the work of F. L. Cross in the small *Oxford dictionary of the Christian church*, which is encyclopaedic despite its title. Here are first class concise expositions of even the more complex philosophical topics, with bibliographies that show what can and should be offered in works of this nature, and what may and should be avoided. Editorial comment on the bibliographical side is surprisingly generous and helpful. It is a further tribute to the editor's work that one does not miss a general index.

It is rarely possible to give such unqualified praise.

Two common causes of dissatisfaction are, inadequate cross referencing or indexing, and the editor's difficulties with the language problem. The first fault is seen in the American encyclopaedia of education mentioned above, while the importance of the primary arrangement can be studied in the Swiss encyclopaedia of the same subject, the *Lexikon der Pädagogik*, whose general editor employs the topical and geographical methods in addition to the alphabetical. It may be observed in passing that the 'systematic' arrangement is much commoner in specialist than in general encyclopaedias. The reasons for this are not hard to guess, and they seem adequate. The reality of language problems, and something of their severity, are evidenced in Flügge's great *Handbuch der Physik*, where contributions are likely to be in the writer's native language, and the subject indexing of volumes is left to offer the necessary aids, in a way that calls for much discrimination.

The specialist user is well placed to understand the problems of the editors in encyclopaedias he is offered. In some instances the problems have proved insuperable and large projects have been abandoned, while yet leaving something of value to the researcher. The incomplete and elderly *Encyclopaedia judaica* is a case in point, in which ten volumes of fine scholarship remain a useful source, not simply a memorial. Another kind of editorial problem is in the *Encyclopaedia of the social sciences*. This typifies works which, though successfully completed, have forbidden revision and conceded only reprinting. There are obvious hazards for the user in this situation, and even specialists must keep their wits about them. We must also leave the specialist user to form his own judgments about special editorial features such as illustrations in encyclopaedias. One would expect the editor of the *Encyclopédie de la*

musique to receive more praise than blame for his particular decisions in this respect. The case is similar with the *Géographie universelle Larousse*, but not so with the *Bolshaya sovietskaya entsiklopediya*.

We now face the difficult question of the value to serious students of general encyclopaedias. There is no simple answer. The small ones can usually be ignored, save as quick reference sources for basic facts and figures—which the prudent will seek to corroborate whenever possible. Readers will expect nothing more from a small work like the *Columbia*, where contributions cannot be the serious work of specialists, and 'bibliographies' are no more than an occasional general work with popular treatment. There is more difficulty in the case of encyclopaedias in several volumes, large enough to copy features of the major works, too small for thorough treatment. *Everyman's* and *Schweizer Lexikon* are typical. They can offer concise articles and notes on most main topics, some treatment of terminology, and a scheme of cross-referencing to avoid the expense of an index. Contributions are likely to be the work of the publisher's employees, therefore variable, incomplete and probably not up to date. Yet they may be superior in some subjects to the larger works, perhaps where the latter are unrevised, unbalanced or badly written. In several engineering topics *Everyman's* has been judged considerably better than the *Encyclopaedia Britannica*, though this does not necessarily mean that it serves students really well. The *Schweizer Lexikon* also has good features and can be unexpectedly helpful, in bibliographies as well as text, but its general limitations are severe.

The major encyclopaedias can allow the specialist contributor to write a comprehensive account of his subject. In some cases articles are of monograph length and of

highest quality. N. G. Parke thought highly enough of the *Encyclopaedia Britannica* in 1958 to recommend use of the 1932 edition, and to provide in his *Guide* a classified list of all the articles on mathematics contained therein. Not uncommonly, a reader is best served when he has some advance knowledge of the subject. The Spanish *Enciclopedia universal ilustrada* ('Espasa') offers good examples. So does the *Enciclopedia italiana*. The British, American and French major works also reach this level at times. Contributions of this kind are usually signed or initialled by the author: but as time passes, short and unsigned articles often become more numerous. The *Americana*, and notably the *Britannica*, reveal this eloquent feature.

It is of course impossible for an editor to achieve consistency in his encyclopaedia, either in the quality of articles or their level of presentation; but some do better than others. The *Americana* is notably uneven in treatment, with highly technical articles and extremely elementary ones. There are of course many reasons for variation in quality and reliability. Sheer incompetence in contributors is one. This shows up most quickly when they write about other countries, or subjects in foreign languages. Place names and personal names are given inaccurately in most encyclopaedias. A Yugoslav student quickly saw that the *Britannica* article on his country was written by somebody unable to use the sources. Norwegians are usually shocked by their treatment in English-language works. *Espasa* can induce smiles by its list of prominent British dramatists. Disproportionate and undeclared national bias is another source of unreliability. In general, American works are guilty. The *Americana's* account of education is absurdly inadequate for this reason. The French Larousse publications have heavy national bias. *Chambers'* can also be

faulted, somewhat less frequently. Political and religious bias is of course well-known. There is very marked difference between the treatment of Freud in the pre-war *Neue Brockhaus* and the post-war *Grosse Brockhaus*. Sociology in encyclopaedias from Eastern Europe is presented in the way one would expect. *La grande encyclopédie* mentions in passing that the Christian church in England is the mother of heresies. And so on. One further source of unreliability that may be mentioned is professional bias towards one branch of a particular subject. *Chambers'* general article on psychology is a convenient illustration.

All such shortcomings are as obvious in bibliographies as in the text. In fact, to the serious reader, bibliographies are perhaps the quickest and safest criterion. When dates and place of publication are not given, confidence diminishes. When lists are international, up to date, include journals, give precise references, and are annotated wherever needed, confidence climbs. Some of the very best examples are in *Espasa* and *Italiana*, and when the *Encyclopédie française* was much younger its lists were often much prized. Even in the best bibliographies, there is usually bias towards the domestic literature. It may be more pronounced than in the actual text. Some confusion may arise when titles of foreign works are translated, as happens in *Der grosse Herder*.

Revision is the great problem for publishers of encyclopaedias. It must be a continuous process, whether the policy aims at supplementary volumes, occasional and thoroughly revised new editions, frequent printings with systematic overhaul of a few subjects, or loose-leaf insertion. In practice, no method is wholly satisfactory. Most of the loose-leaf *Encyclopédie française* went quickly out of date. In the 1955 Chambers it was not hard to find

texts and bibliographies unaltered from the 1950 edition, and the 1960 edition incurred the criticism of being more a corrected reprint than a new edition. The plan of 'continuous revision' in the large American works operates far from perfectly, and their claims for thorough revision have often been thoroughly irresponsible. In the *Britannica* bibliographies untouched for twenty years or more can be found, even in developing subjects. *Americana* bibliographies were found, a year or two ago, to contain nothing on Aristotelianism later than 1902, and on Plato nothing after 1913. The supplements to *Espasa* and *Italiana* are of very great value, but they merely slow the rate of obsolescence. The expanded form of supplement to *Der grosse Brockhaus*, incorporating a mid-century survey, achieves little more.

A related problem is indexing, which is difficult and costly. Publishing economics always impose a compromise. Further indexing problems arise when texts are being revised or supplemented. The least satisfactory compromise is to rely on cross-referencing between articles. This is no real substitute for an index. Older works like the *Grande encyclopédie* often lack indexes and keep many modern readers at bay. *Espasa* has the same serious drawback. This, and the need for consulting supplements differently arranged, make searches lengthy and often less productive than they should be. The splendid indexing of the *Italiana* is in sharpest contrast. Nowadays, although small and medium encyclopaedias still must make do with cross-references (the arrows in Brockhaus and Herder are now familiar), and put readers on their mettle to supplement them, the large works do provide indexes. *Chambers'* and the *Britannica* give additional help with classified lists of articles. The *Americana* has moved from classified to

alphabetical indexing, with advantages for perhaps the majority of readers. The cumulative indexing of the supplementary annual volumes is another good modern feature, and good linking up of supplementary and basic information is illustrated in the Dutch *Eerste nederlandse systematisch ingerichte encyclopedie.* In general, the need to compete for wide sales is underlining the need for good indexing and fuller cross-referencing. The serious user of an encyclopaedia is the first to benefit. He has welcomed, for instance, the cross-referencing of good relevant illustrations, probably offering compliments to the editor of *Der grosse Brockhaus.* A further development that would please and greatly assist him is more careful attention to the choice of type for the large general indexes, and to the layout of this important ancillary to the volumes of text. There has long been a splendid model in the *Italiana.*

In recent years there have been vigorous and repeated attacks on the major general English-language encyclopaedias, on both sides of the Atlantic, and principally by librarians. These users are well placed to expose the untruthfulness of publishers' publicity material. Heavy criticism of this kind produces the occasional apologia such as Armitage's 'Making the Encyclopaedia Britannica' in the *L.A.R.* for May 1960, in which the mood is very different from that of publicity material. Publishers have sought librarians' cooperation, usually no doubt in good faith, and the most recent edition of Colliers' had the dean of a library school, Louis Shores, as its editor-in-chief.

There is little doubt that the day of the truly general scholarly encyclopaedia is past. The policies of new encyclopaedias acknowledge the fact, and their editorial introductions are often frank whatever may be the line of the publicity department. There is, for instance, a severe and

acknowledged restriction to national topics or national treatment in the *Australian encyclopaedia*, the *Encyclopaedia canadiana*, the newest *Grand Larousse encyclopédique* and the *Dizionario enciclopedico italiano*. New works address themselves rather more honestly and consistently to the non-specialist, with obvious consequences for bibliographies and indexes. Following this policy, editors and publishers may hope to avoid harshest criticism and gain the goodwill of librarians. The value of such encyclopaedias in subject study is, paradoxically, greater. Half a dozen works with an honest national bias can often provide a very good conspectus of a subject. Yet the restriction to an inexpert readership must continue to set limits to their value for research.

DICTIONARIES

There have been indications in the above section of the lack of clear distinction, in practice, between encyclopaedias and dictionaries. Corkhill's *Concise building encyclopaedia* is more properly a dictionary; but the more common misuse is to describe as dictionaries works which, in the course of explaining a term, give considerable encyclopaedia information, sometimes several columns or even pages of it. Thorpe's *Dictionary of applied chemistry* is not really different in kind from the *Encyclopaedia of chemical technology*. Klein's *Lexikon der Pädagogik* has been regarded as an encyclopaedia not because of its fairly orthodox first part, which is mainly a straightforward dictionary service, but because of its appended sections on the history, biography and comparative development of various countries' educational systems. In another work it may be the arrangement of material that increases the resemblance to an encyclopaedia, as with *Black's medical dictionary*, which groups many specific topics under a more general term, with definitions merged into a narrative contribution.

This overlapping of functions is not important. What does matter in subject study is to know how and where terminology is recorded. The place may be unexpected, as in the *World survey of education*, whose full glossary can be overlooked, or in a comprehensive monograph or text book equipped with good subsidiaries. In other cases the inquirer may find an encyclopaedia, even a general one, reasonably adequate, for works such as *Italiana* and *Espasa* are generous with terms and ready with foreign-language

equivalents. Nevertheless, in many subjects and for specialist users, general works do not suffice, and the same is too often true of more specialized dictionaries and glossaries. Current attempts to organize improvements, so far as specialist glossaries and vocabularies are concerned, are achieving considerable success, Unesco has played a leading part, not as might be expected by subsidizing publication, but by supporting experiments in new, more flexible and more economical publication techniques, and by promoting cooperation between international specialist organizations and standardizing bodies. There have been quite impressive results in scientific and technical fields, substantial improvements in the humanities; and the practicability of the standardizing and publishing routines for the social sciences has been tested and established. Unesco work in this general field of research terminology may come to be regarded as a major achievement.

The editor's task is most difficult when he is required to serve different reading levels. The general, popular dictionary usually makes some attempt to give explanations also at specialist level. The *Century dictionary* carries this further than some. The layman is sometimes remembered in specialist works. The *Psychiatric dictionary* refers consistently from popular to scientific terms. This cross-referencing of related terms is an important feature usually neglected in general works. Most also lack adequate examples of usage for terms with multiple meanings, and do not provide the necessary terminology of a subject's related studies. This last point is a frequent source of criticism of dictionaries devoted to one large field and aiming at non-specialist users predominantly. The various Penguin dictionaries, such as those in psychology, geography, civil engineering and biology, are excellent in their way, mostly

generous with borrowed terminology from other subjects, but the price for this seems to be the omission of more technical terms in their own subjects than the specialist can readily tolerate. For one reason or another, we are usually forced to conclude that editors of dictionaries can only efficiently address one kind of audience, which must be reasonably homogeneous. Thus Swayne's *Concise glossary of geographical terms* is successful because it aims only at the student. The technical dictionaries of Chambers and of Flood and West are also quite successful, despite their wide coverage, because definitions have the simplicity required by general readers, whom the editors keep firmly in mind. These are in fact dictionaries which explain rather than define. In science it would scarcely be possible for an editor to perform both functions.

The need for limitation to one audience is all the greater in subjects that have distinctive problems in terminology. Theology is obviously such a subject, with definitions according strictly with the various doctrinal positions. Wright and Neil's *Protestant dictionary* is thus regarded by its publishers as the counterpart and the corrective of Addis and Arnold's *Catholic dictionary*, and no editor would have the temerity to try to please both kinds of users. Close attention to particular users' needs is seen in the uncommon kind of dictionary represented by Schmidt's *Reversicon: a medical word finder*. This aims to supply the correct term for the idea a user wishes to express. It reminds one of the dictionaries of themes that facilitate the identifica- of instrumental or vocal music; it resembles too some kinds of dictionaries of quotations. All such works are successful only to the extent that the editors foresee the ways of thinking that users will adopt. Another subject with peculiar problems is law. Here, not only may words of

common speech acquire technical definitions for general legal use; they may be given yet more restricted meaning for some uses, perhaps only temporarily, through a deliberate statutory limitation. Faced with such situations, the editor of a general dictionary, or one addressing different reading levels, is bound to make serious mistakes. Safety lies in single-mindedness. For one possible way round such a difficulty we may return to theology for illustration. There, Kittel's *Theologisches Wörterbuch zum Neuen Testament* is for one kind of specialist, and for nobody else. But parts of the text have been re-edited and translated successfully for general readers, resulting in a series of *Bible key words*, and supplying material for other works such as Richardson's *Theological word book* and the *Vocabulaire biblique* of Von Allmen.

Another kind of difficulty arises in subjects where conflicting systems of nomenclature exist. There are for example three in biochemistry. For the dictionary editor there is no real hope of avoiding confusion, save by adopting one system and thoroughly cross-referencing from the others; but only the best dictionaries display this conscientiousness.

It becomes easy to see that the inclusion of obsolete words and usages is often required in special dictionaries, as in some general ones, and not merely for the etymologist's convenience. Such words are sometimes given in a parallel sequence, sometimes identified by a symbol or abbreviation, or alternatively a chronological arrangement of quotations may make the matter clear. Jowitt's recent law dictionary is a good example of this kind of editorship. It uses the historical principle by showing changes in legal definitions linked up with the statutes that have brought about the changes. In interesting comparison, *Burrows* records

definitions established by case law, giving relevant quotations, verbatim. Medicine is another subject calling for dictionaries on historical principles. An example that is strictly etymological in purpose and treatment is Jaeger's *Source book of medical terms.* This editor had in an earlier work given the same kind of treatment to biological terminology. Supplementing lists of this kind, to an extent that repeatedly surprises, is the *Oxford English dictionary.* This work, with its continuing supplements, is far richer in specialist terminology than is generally supposed.

One sometimes feels irked by the readiness with which editors of even scholarly dictionaries offer synonyms in place of unequivocal definition; but large areas of study have no use for strictly verbal definitions, and readers may be served best by diagrams or illustrations. Mathematics is virtually a language in itself, not easily translated into words; therefore we find Parke's *Guide to the literature of mathematics* discouraging the use of dictionaries. In other subjects, especially those that are developing, quotations may properly be given the task of definition or explanation. Pioneering specialists in particular use terms in a strongly personal way, and the editor must accept responsibility for displaying this varied use of words.

This raises the important question of refereeing in dictionaries. Effective refereeing can hardly be expected in general works, where the specialist appointed seems usually free to express his private viewpoint. Hence the one-sided definitions of many psychological terms in Wyld's *Universal dictionary,* and the ease with which other works of the same kind can be faulted. In specialist dictionaries, however, more efficient refereeing can be expected. In a few cases the process is displayed to the reader. The *Vocabulaire technique et critique de la philosophie* gives, in the lower

part of each page, the observations of members and correspondents of the Société Française de la Philosophie on the definitions given in the upper half. Double treatment of terms, by Evangelical and Roman Catholic editors, appears in *Das Fischer Lexikon*. More commonly, the results of refereeing show only in the quality of the definitions, or in the range of quotations for disputed or ambiguous terms.

The *Vocabulaire technique*, mentioned above, illustrates the practice of giving foreign-language equivalents. This habit, good in itself, raises problems; first, the obvious one of coverage. The *Vocabulaire* gives about the minimum useful help, in three languages. Baldwin's dictionary, also in philosophy, is much more generous, but in it the second problem emerges. Clearly, with foreign language terms, refereeing is less likely to be thoroughly efficient. Moreover, even in the case of equivalents faultless at the time of compilation, divergence can be rapid. Hence this dictionary feature can quickly become misleading. Baldwin, elderly in most respects, is far less reliable for foreign terms than for the basic English ones.

Once again the special case of developing subjects must be raised. It may well be that a dictionary editor is doing his subject a disservice, besides inviting embarrassments for himself, in struggling to find exact equivalents for terms in many languages. National usages may provide quite distinctive connotations for terms. These may be understood satisfactorily by workers elsewhere, as long as the terms stay in the original. To translate may therefore be the speediest way to general confusion. Bernsdorf and Bülow demonstrate editorial prudence in this particular respect in their *Wörterbuch der Soziologie*.

A final point on the subject of language is probably worth making. It is that in many modern studies there is a

widening gap between British and American terms and usage. This makes it wise to look for bias in both directions. Good's *Dictionary of education* offers many definitions conflicting with British practice. In technologies, of course, differences are more pronounced, less unexpected. A cooperative work by American and British specialists, like the *International dictionary of physics and electronics*, has merit from this point of view. All editors should be reminded of the need to cross-reference, as do Henderson and Kenneth in their *Dictionary of scientific terms*, where the British terminology is preferred.

BIBLIOGRAPHIES OF OLDER LITERATURE

Though encyclopaedias and dictionaries assimilate new work progressively and retain what is of permanent value, the need remains for thorough records of the older literature. In some subjects this is satisfied by a major basic bibliography. By determined revision and enlargement, in the hands of editors with good financial backing and the courage to confront expanding literatures, a few of these works have reached astonishing proportions. There are no better examples than in the two departments of chemistry. The name of Beilstein is inseparable from organic chemistry. The first edition of the famous *Handbuch*, appearing in the 1880's in two volumes, led to a 1937 edition of twenty-seven volumes, two supplements of a further twenty-seven volumes each, and the commencement of a further supplement on no smaller scale. The case of inorganic chemistry is perhaps more spectacular. A *Handbuch* begun by Leopold Gmelin as a two volume work in 1817 is still continued by the well-known Gmelin Institut at Frankfurt-am-Main. The eighth edition is to be completed by 1965, bringing the literature coverage to 1949. It will require more than a hundred volumes. A ninth edition is already building, in a vast card index from which a current information service is provided for subscribers. An expanding current abstracting service is made possible by the introduction of punched card machines. Thus a useful current service contributes towards the huge cost of publishing new editions of the basic bibliography, the *Handbuch*.

Only a handful of bibliographies approach this scale, and once again it will be noticed that industrial and

technical subscribers can make major undertakings possible. Without such support, success must depend on the generosity of trusts or the availability of sufficient voluntary effort, or both. The *International inventory of musical sources* is an encouraging reminder that volunteer enthusiasts are still numerous. Grants from Unesco, the Council on Library Resources and elsewhere, have provided editorial offices in Paris and (more recently) in Kassel, but when this thirty volume work is finally in print, most credit will be deserved by the many unselfish individuals in a score and more of cooperating countries. Their reward will be to use 'a catalogue of all available bibliographical music and works, writings about music and textbooks on music from all countries of the world . . . from the earliest times to 1800'.

Many important subjects lack a basic published bibliography, and depend largely on the back runs of their annual current records. Some distinguished series among these reach into last century, like the *Zoological record* and the *Bibliographie géographique internationale*. Their value to retrospective bibliography is much influenced by the nature of their indexing, their arrangement, and features such as analytical entries and annotations. In any case, the fact of their existence removes the need for a comprehensive basic bibliography. A familiar situation in many subjects is a gap between fragmentary early records of the literature and the date of commencement of more efficient current records. This gap is closed only slowly, and usually imperfectly, by the resumption, revision or replacement of the older bibliographies. Selective coverage is of course necessary and legitimate. The aim is to satisfy first the most urgent needs of the present generation of research workers. In fact it is not seldom the researcher himself who, compelled to turn

bibliographer, publishes his bibliography despite its limitations, knowing the genuine need for it. In other cases special librarians take the initiative, and produce needed works such as Foskett and Baker's impressive *Bibliography of food*, and Pearson's outstanding *Index Islamicus, 1906-1955*.

The revision of old bibliographies requires much skill and good judgment. Titles that have declined in usefulness are sensibly rejected, the coverage is adjusted to that of more recent bibliographies, and a fresh emphasis on certain sections may be needed. So although it may be clear to the user, for example, that Garrison and Morton's *Medical bibliography* is most unevenly revised, it is well to remember that this might conceivably be due to a sensible editorial decision.

The time comes in some subjects when a new start is needed, or a major rearrangement of earlier work to suit methods of current workers. This can produce a guide like the *Bibliographische Einführung in das Studium der Philosophie*, of which parts have been appearing from Switzerland since 1948. Here, after an initial mapping out of the whole field by the editor in chief, the specialist is in full control. It is a purely bibliographical work, and in each section the compiler has freedom to select or reject, to decide whether historical and critical expositions are needed, to strike his own balance between monograph and journal material, to annotate where he thinks desirable. Editorial freedom may of course result in editorial bias, and in fact a criticism of bias towards logical positivism in this work has been made.

A thorough re-appraisal on this scale is forbidding and exacting, as many abandoned works testify. There may be convenient ways of limiting the task. An example is provided by the *Index of psychoanalytic writings*, now

growing out of the *Index psychoanalyticus*. In this subject, few modern workers would be badly handicapped by a starting date of 1900, so the bibliographer can take advantage of the fact. His future problems are also made simpler, as he is closer in time to an effective current bibliography.

A subject with a long history is usually untidy and confusing in retrospective bibliography. But all is reasonably well if a good guide to its bibliographies appears from time to time. These are not common, however, and in a large subject the difficulties of providing one are considerable, and the rewards of doing so are meagre. Barrow's *Bibliography of bibliographies in religion* and Monroe and Shores' *Bibliographies and summaries in education* offer an interesting comparison, and both show how valuable to specialists such work can be. One or two recent published guides have been the results of research scholarships. They are very fitting subjects for such awards, for a research field may be influenced decisively by the labours of a single bibliographer. Psychologists surveying the protracted work of C. M. Louttit would probably agree. So would historians of science, thinking of George Sarton.

We again turn to more general bibliographies, or bibliographies of bibliographies, when special ones do not exist or suffice. We are repeatedly indebted to Besterman, either as a first or only source. The *Cambridge bibliography of English literature* has also served us well, and is currently being revised. It is important to know the limitations of standard bibliographies like these. The indexing arrangements of the latter, for instance, are deficient. Subjects are ignored unless given a separate section in the text, and authors of criticism and biography lack entries. Much material is therefore concealed. Other

widely useful bibliographies come from Aslib, whose current listing receives extended usefulness in the series *British scientific and technical books, 1935-1957.* The American equivalent is Hawkins' *Scientific, medical and technical books published in the U.S.A.* Much older scientific material of importance is readily located in Thornton and Tully's work *Scientific books, libraries and collectors.* Bibliographies of other subjects may help in one's own older literature. Cox's *Reference guide to the literature of travel* lends itself to such use, and it is by no means only the law student who profits by Sweet and Maxwell's *Legal bibliography of the British Commonwealth of Nations.*

The important general bibliographies of last century have naturally been superseded for most purposes, but they are not without value. That is particularly true of the ones which, like Watt, Brunet and Lorenz, give some form of subject indexing or listing. Lowndes, Graesse and others are without use in subject searches. More recent lists such as those by Pollard and Redgrave, and Wing, are similarly unobliging, being purely finding lists.

Finally, we may conveniently remind ourselves here of the value as bibliographies of the published subject catalogues and indexes of libraries. It will suffice to recall the *Subject catalogue of the Royal Empire Society*, the volumes of which do most truly form a major bibliography of the British Empire, and the British Museum's *Catalogue of the works of Linnaeus and publications more immediately relating thereto.*

SECTION 15

BIOGRAPHICAL IMFORMATION

The number of purely biographical guides is so great, and other sources which are incidentally useful are so many, that it may seem surprising to say that biographical inquiries in libraries can cause a lot of trouble. That librarians cannot afford all the useful published works is only one part of the explanation. Another is that vast quantities of biographical material remain as unpublished manuscripts, in private hands or in libraries. So far as library holdings are concerned the position in this country may improve. For attempts are being made at present to compile a location register of biographical manuscripts, publish a guide to them, and deposit the register at the National Register of Archives.

A third hindrance to biographical searches is the duplication in coverage of reference works in the field. This results in plentiful detail about persons of greatest eminence, and little or no information about secondary figures. Special librarians are therefore driven once more to keep their own supplementary indexes. These remain usually in manuscript. They may record not only biographical information, but names and locations of persons likely to have answers to specific types of questions. For purely biographical information one of the best examples is the Patent Office Library's index of biographies of inventors. The indexes of the Royal Institute of British Architects have already been mentioned.

Among published works we can conveniently begin with general guides to older biographical material. Some of these are selectively international and cover long periods

of history. Those by Michaud (*Nouvelle biographie universelle*) and Hoefer (*Nouvelle biographie générale*) illustrate the most comprehensive, both needing more than 40 volumes to range from ancient times to mid-nineteenth century. Two works by Oettinger are on a much smaller scale, though the period coverage is as ambitious. There are a number of single volume works, like those from Chambers, Webster and Lippincott. Another good work is only half biographical, and useful only if you can name your person. It is Arnim's *Internationale Personalbibliographie*, which is a guide to biographical and critical material about individuals. Within its limitations, which include a starting date of 1800 and bias towards German subjects, it opens up much biography. The first edition retains value because the coverage of the second was affected by political discrimination.

Following the numerous biographical guides have come works that are essentially indexes to them. Earliest, and limited to English and American materials, is Phillips' *Dictionary of biographical reference*. More recent, more comprehensive, is Hyamson's *Dictionary of universal biography*. Entries in both are very compressed and use symbols for the works of general biography that are analysed. A third is again limited to English-language material, and also to biography in collections, Riches' *Analytical bibliography of universal collected biography*. It does not help for literature of approximately the last thirty years.

Into the catagory of general guides to older material come, of course, the large national biographical dictionaries such as the *Dictionary of national biography*. In some cases supplementary works are provided for use with the basic dictionary. It is the case in Germany, where the fifty-six

volumes of the *Allgemeine deutsche Biographie* form the basic older work. This has been followed by volumes of the *Neue deutsche Biographie*, and the index to each of these volumes covers also the biographies in the older work. The case is otherwise in France, where the quality of older dictionaries did not satisfy, and a new national dictionary was begun in 1933. This, the *Dictionnaire de biographie française*, follows the *D.N.B.* model and gives coverage to 1925. The new Italian work, *Dizionario biografico degli Italiani*, commenced in 1960, is similar. There are further details about other standard national dictionaries in Malclès, Totok and Weitzel, Walford, and Winchell. For this country one might add three useful titles. Two are by Matthews, *British autobiographies* and *British diaries*. The excellent indexing in the former shows how the latter could have been improved. The third work is also handicapped by lack of subject indexing, but nevertheless is valuable. It is the Harleian Society publication *Obituary prior to 1800*, which had Sir W. Musgrave as original compiler.

General encyclopaedias can supplement these general biographical works. They are all the more useful when the arrangement or the index allows a subject approach. *Chambers'* shows one way of doing this, by including a list of biographies under each subject. Occasional help comes also from older bibliographical works, such as Watt's *Bibliotheca Britannica*, where short biographical notes about deceased authors were added when the facts were available. Similarly one can hint at the help given by some published library catalogues. The London Library in its subject index volumes provides lists of biographies in works appended to each subject.

General current biography can be our next group. Here again are a few works selectively international, such

as *International who's who*, *World biography*, *Current biography* and the *Biography index*. Information may at times be somewhat gossipy and the selection of subjects journalistic, but on the credit side goes a regard for indexing of subjects and occupations. One welcomes also the awareness that portraits may be useful, and the use of a form of indexing that cumulates through succeeding volumes.

Jostling at the national level are the general 'Who's who' publications, *Who's who in France*, *Who's who in America*, *Wer ist wer*, *Wie is dat*, *Who's who in modern China*, *Japan who's who*, *Who's who in Egypt and the Near East*, and innumerable others. The convention in these is simple alphabetical listing, but publishers are beginning to respond to the demand for a subject approach. *Who knows and what* is the newer companion volume to the American *Who's who*. It will probably be copied, or subject indexes may be substituted. Supplementing 'Who's who' directories, there is often a *Who was who* series, or its equivalent, to receive the illustrious dead. But the transition is not automatic, so current volumes retain their use. Nor does a disappearance from a 'Who's who' mean always that the subject has expired. He may have lost in an election, he may have been found infamous or criminal, he may have mislaid his questionnaire. A similar work with a special angle is De Ford's *Who was when?* which lists important contemporaries of the great, from 500 B.C. to the present.

A few directories give abbreviated entries for names recorded in an earlier edition, though of course adding any new facts. This permits economies, or additional sections to be included. *Kürschner's deutscher Gelehrten-Kalender* can in this way provide a directory of publishers of learned works, with useful notes about specialities. But such works demand the retention of all earlier editions.

Sources of general biography may be overlooked because they are not labelled as biographical. Examples are general yearbooks such as the *International yearbook*, newspaper indexes like that of *The Times* or more general ones like *Keesing's contemporary archives*. General directories such as *Minerva* (with its index of personal names) and *Europa*, can also be productive. Conference proceedings with their lists of participants and delegates, form a primary source that is frequently ignored. Entrance to it is facilitated for some subjects by the work done by W. J. Bishop in the *Bibliography of international congresses*.

We may now turn to the biography of special subjects, dealing first with retrospective guides. We shall find the usual disparity among subjects. Now and then a subject not often thought of from the biographical angle will yield an unexpected guide such as the Fentons' *Giants of geology*. Some favoured subjects have a basic biographical dictionary or encyclopaedia. There is a magnificent dictionary of artists, for example, by Thieme and Becker, which ranges from the earliest times up to 1900, and thence into the twentieth century. This subject can also boast a splendid array of national dictionaries and other kinds of lists, enough guides in fact to justify a work that is mainly an index to a number of them. This, *Mallett's index of artists*, resembles Hyamson's index to general biography, though its editorship at times seems less efficient. Another fortunate subject, where biographical aids are concerned, is medicine. It is unusually well served in its earlier periods, and can also show a basic general dictionary, again in German, with continuation and addenda volumes progressing up to 1930. *A select bibliography of medical biography* is a recent welcome newcomer from Thornton, Monk and Brooke.

Some subjects are so constituted that a general encyclopaedia or dictionary can hardly fail to be largely biographical. This is true in philosophy, where the effect can be seen in Eisler's *Philosophen-Lexikon* and the newer work of the same title that is at present appearing. The case is similar in music, where Eitner's *Biographisch-bibliographisches Quellen-Lexikon* is the principal work, though possibly the smaller modern dictionaries and encyclopaedias show the importance of biography more clearly. Education has the same characteristic, though less markedly; one finds that the Swiss encyclopaedia of the subject, the *Lexikon der Pädagogik*, deals separately and carefully with the biographical material.

A number of scientific subjects lack biographical dictionaries. The editor of a journal may decide to publish an occasional stop-gap list, such as the *Psychological bulletin's* 'Psychological necrology, 1928-52'. A more likely possibility is that the subject may be covered, in part at least, in a most important and comprehensive work by J. C. Poggendorff. *Biographisch-literarisches Handwörterbuch.* Through seven chronological series since 1864, it presents an astonishingly full bio-bibliographical record of eminent men of science. The most recent series gives supplementary material (including scientists still living), in addition to the expected new entries for the latest period covered, 1932-53. Care is needed, due to the dropping of some subjects and the inclusion of others. There is a bigger limitation, the lack of a subject approach. One must know the important names before a subject's development can be traced, but under those names the information is generous.

Most important academies and societies have provided lists of their members from an early date. The French Académie des Sciences, for instance, has published a list of

members and correspondents from 1660-1939. The published *Roll of the Royal College of Physicians of London* starts earlier, at 1518. The *Middle Temple Bench Book* has similar value, stretching as it does into the present century. There are many other lists. If few of them span the centuries so impressively, some are more generously detailed. They may go much beyond mere listing and give quite extensive sketches. Series of obituary notices are of course still more valuable, even where writers broke the modern biographer's rule of 'No flowers'. The *Obitbook of the English Benedictines 1600-1912* is typical of the less familiar titles. Perhaps the most generously useful obituary series in this country is from the Royal Society. In 1904 the Society prepared and published a cumulative index to all its earlier obituaries. A later series reaches to 1954, and there follow annual issues of *Biographical memoirs of Fellows of the Royal Society*. Series such as these are also worth remembering for the comprehensive bibliographies that are included in good obituary notices.

Histories of important academic or similar institutions are also a fruitful biographical source, provided that the biographee's connection with them is discovered. H. Hale Bellot's *University College London, 1826-1926*, is an excellent illustration of this point. Older universities may also have straightforward lists and registers. Oxford has two main series. Emden's *Biographical register of the University of Oxford to A.D. 1500*, which yields more detail than might be expected, and Foster's *Alumni Oxoniensis*, which covers most of the following four hundred years. Venn's *Alumni Cantabrigiensis* ranges over seven centuries in nine volumes.

For information about contemporary specialists there are many kinds of sources. Even if a specialist directory is

lacking, much can be done with non-biographical works. Appropriate periodical indexing services such as the excellent *Bibliographie der deutschen Zeitschriften-literatur* are very productive. Some go a little further than simply locating the purely biographical article or obituary. In *Current work in the history of medicine* one finds a list of addresses of authors of articles, when these are obtainable. We observe that some journal editors help readers to make contact with contributors by giving biographical and directory information about them in the current issue. This is done in the *Chemical Society journal* and the *British medical journal*. Yearbooks of societies and professional organizations commonly provide a 'Who's who', e.g. the *Consulting engineer's Who's who*, or a list of members. Some provide, free, a directory of consultants with an index of their specialities (e.g. the Royal Institute of Chemistry), while others simply offer lists for specific purposes on application. Many societies record their list of members annually in one issue of the official journal. The British Psychological Society favours this policy. Works recording the existence of societies, guides already met such as the *Handbook of scientific societies and institutions in the U.S.A. and Canada*, frequently state whether a body publishes a membership list. These lists and directories can be so numerous, however, that there is always a welcome for select bibliographies of them. Journals occasionally carry them; an example is Skallerup's *Membership directories of American scientific and engineering societies*, a contribution to *Special libraries* in 1957.

Current workers in science are listed more thoroughly than are social scientists and their fellows in the humanities, and many of the most efficient guides come from the U.S.A. *Who's who in British science* is always dwarfed by *American*

men of science and usually less up to date. The emerging tenth edition of the American work makes the comparison still less favourable, for its former three copious volumes are now swelling to five. The first four deal with physical and biological sciences, the fifth with social and behavioral ones. Like the British work, it continues to assume that a user knows the biographee by name, which is by no means always true. The humanities are represented by the *Directory of American scholars*, for which no British equivalent exists.

Distinguished recipients of prizes and awards are not usually people about whom information is meagre, but special lists may give more satisfactory biographies or bibliographies. Nobel Prize winners in some categories are listed. Medicine, physiology and physics are covered from 1901-1950, complete with biographical sketches and details of persons' work and influence. The Commonwealth Fund and the Rockefeller Foundation have published similar directories and supplemented them, and there are other lists such as the *Blue book of awards* and the *Handbook of scientific and technical awards in the U.S.A. and Canada, 1901-1952*. In general lists of this nature an index of occupations or a classification by subject is naturally useful and generally provided.

There is a growing need for better international listing. One response is seen in the Unesco programme for 1961/62, which contains a plan to examine the possibility of preparing a world list of leading scientists, classified by subjects and including biographical data. The few existing good subject lists, such as the *World list of geographers*, the *International directory of anthropologists* and the *International directory of psychologists* (which excludes the U.S.A.) should provide sufficient incentive and adequate

models for comparison. Use of these lists shows their superiority over the general works, such as *American men of science*, which tend not to look far below the top people. There are also useful international lists of another form, which cut across conventional subject groupings to serve a particular purpose. One illustration, sufficient to make this clear, is *Jews in the world of science; a biographical dictionary of Jews eminent in the natural and social sciences.* Yet a further source is international guides that are selective on a regional or similar basis. These can be represented by the *Commonwealth Agricultural Bureaux list of research workers*, and the *Répertoire des médieévistes européens*, both of which also exemplify restriction to one broad subject field.

Despite all these varied kinds of guides to biography, and others that subject inquiries will quickly disclose, there will still be many occasions when one's search for an individual ends in failure. We should not be too ready to blame bibliographers. Alexander Chalmers laboured on a thirty-two volume dictionary of universal biography early last century. After completing seven volumes on the letter A he succumbed to indigestion. There must have been many bibliographical martyrs; but we lack a biographical index to them.

SECTION 16

STATISTICS

Most branches of study require access to sources of statistical information, and are in their turn producers of statistics. Students of a subject have therefore a double interest in guides to this kind of material.

The statistics produced by a subject's workers are for the most part accessible to other workers in the field, without too many difficulties. They are sometimes contained adequately in general yearbooks, encyclopaedias, journals and standard works; and purely statistical compilations sometimes exist. The last named are increasingly common, as the methods of statistics intrude further into most research fields. The discovery that a *Journal of statistical psychology* supplements the *British journal of psychology* occasions no surprise.

A greater problem for the researcher is to locate useful sources of statistics in other subject fields, and to establish their degree of reliability. These sources are probably scattered and unfamiliar. Imagine the case of a psychologist who is interested in the reading habits of differing social groups. Much of his preliminary work will be the collection of statistical evidence. From what sources? Perhaps from library associations, commercial readership surveys, university departments of education and institutes of education, societies of authors, editors and maybe translators, from foundations for educational research, from the Social Survey, the Ministry of Education, the Home Office, the Colonial and Commonwealth Relations Offices, the DSIR, the Central Office of Information, from Unesco, from many other sources in this country and

abroad, sources private, public and official. Suppose that he wishes to make comparisons based on the total production of books, periodicals and newspapers in this country. He will discover that sets of figures are published each year in two principal sources, and that these are wildly at variance. The reason ? Mainly the lack of strict definition of the terms book, periodical and newspaper. Contradictory statistics are by no means rare. Most professions, most trades, publish their own statistics, and there are often official government statistics with which these can be compared. It is rare to find the basic categories unambiguous.

Statistical sources are so numerous that the wise research man will often seek personal guidance in unfamiliar subjects. Good bibliographical guides, of the standard of Lewis's *Literature of the social sciences*, have been too rare for him to do otherwise. This is still true, though the work of the International Statistical Institute may in due course benefit the recording as well as the methods of statistics. Already, for whatever reason, the wide social fields of industry, commerce and administration are much better signposted in the more progressive countries. I would like to mention some developments in this country.

It has been the aim of the Royal Statistical Society, for a number of years, to stress the practical usefulness of the statistician's methods, and to publicize the important sources in many areas of social activity. Its *Journal* has carried many contributions of this kind since the war. Some of these were brought up to date and revised for separate publication in 1952. A second collection, published in 1957, brought the number of topics dealt with to 39. The work in question is *Sources and nature of the statistics of the United Kingdom*, edited by Professor M. G. Kendall. The

contributions are narrative guides to statistical sources in these subjects. They include official and other collections, retrospective, current and periodical sources. These are usually related to the institutional and legal background against which statistics are compiled. Each subject is divided in the way that is judged most convenient for the seeker after facts and statistics, and most contributors take pains to point out the pitfalls awaiting the non-specialist user. The contributions are in four groups: general, particular commodities, transport and miscellaneous. Examples of the first are, population and vital statistics, and regional economic statistics. The particular commodities represent sixteen large-scale industries. Transport includes a chapter on telecommunications. Miscellaneous are topics such as housing, cooperative trading and criminal statistics. Most contributors offer a useful bibliography.

This work reveals how important are government ministries and departments as sources of statistical information though it is by no means comprehensive in this respect. The limitation by subject interests excludes many important departments. A quite good general guide is this School's publication *Government information and the research worker*, of which a second edition is being prepared, and more regular information can be found in the official HMSO indexes and the Sectional lists that are issued for ministries and departments. These will show that, though some departments are better known than others as suppliers of statistical information, all of them do in fact give some assistance in their areas of interest. A large department such as the Board of Trade has its own Statistics Division. Others may get by with routine or *ad hoc* help from the Central Statistical Office, a unit no less ready to prepare a volume of statistics for the official war history series than

to analyze a complex trading situation.

The heaviest demands for government statistics come from industrialists, merchants, business men generally, economists and sociologists. For these, the principal suppliers are the Board of Trade, Customs and Excise, the Treasury, the Home Office, the General Register Office and the transport and aviation ministries. Particularly in the case of the first two of these, routine published analyses can be supplemented on demand. A merchant or an economist requiring a commodity analysis with regard to imports, exports and volume of production can usually be satisfied, for punched card analyses are maintained in considerable detail to a degree not reflected in the published tabulations. The Board of Trade and Customs and Excise cooperate in this service to business and research workers, and the charges for service are light, being usually only the cost of printing from the tabulating machines. Some of the information given in this way would in time get published in any case, for the most detailed trade statistics published by the Board of Trade are not unnaturally the slowest to appear. There is a very comprehensive *Annual statement of the trade of the United Kingdom* that is usually rather delayed. As an interim service there is a monthly, less detailed publication *Trade and navigation accounts of the United Kingdom*. This policy of giving interim help is followed with other publications. It is for users requiring both full detail and promptness that the personal service just described is most attractive.

An extensive new publishing project has been started by the Board of Trade, in response to the growing demand for statistics of industrial production in this country. This takes the form of a new series of monthly and quarterly periodicals with the general title *Board of Trade business monitor:*

production series. Over sixty titles will cover individual commodities and groups of commodities. They are listed in the *Library Association record*, March 1962.

There are two Central Statistical Office publications of more general interest that should be mentioned. These are the *Monthly digest of statistics* and the *Annual abstract of statistics*, both generally found in libraries, both capable of satisfying very varied wants.

Since most ministries and departments collect and publish statistics, there is bound to be some overlapping in subject interests. A research worker or special librarian is thus involved in seeking material from a number of sources. In doing so he may miss something of importance, and he will waste time. For sociological subjects, a start has been made on the task of drawing together related statistical material. Responsible for this is the Interdepartmental Committee on Social and Economic Research, which is making slow progress on a series called *Guides to official sources*. The first of these is on labour statistics, and has appeared in a second edition. Second is *Census reports of Great Britain, 1801-1931*. Third is *Local government statistics*. This committee has academic members as well as departmental ones, and its purpose is, in its own words, 'to survey and advise upon research work in government departments, to consider the extent to which material collected by departments is of potential value to research in the social sciences, to suggest new methods and areas of collection, and to advise how the information gathered can be made available to research workers'. Its interests are thus wider than purely statistical information. It has also organized an excellent service for making a certain amount of unpublished material available to university and research libraries. It circulates lists from time to time, enabling

librarians to make requests for a continuing supply of any items of interest. Several useful Treasury series have been made accessible in this way. The only complaint one can make about this committee is that its resources are much too limited for a task of such size, importance and urgency. But there is some comfort in the fact that one or two ministries are themselves following a similar policy and focusing statistics and other widely scattered data, in ways that are helpful to workers outside as well as inside the departments.

The same needs are meeting a similar response in other countries. In particular there has been much improvement in the recording of U.S.A. central government statistics. The U.S. Census Bureau has a relatively new series, in which an annual guide supplements a basic work called *Guide to census publications, 1790-1945*. The Bureau's interest in statistics is wider than its title might suggest, so the series has plenty of uses.

The specialist needing statistics about other countries, or from them, can sometimes find what he needs in HMSO publications. In the commercial field, for instance, there is a regular inflow of material from the U.K. trade commissioners and trade correspondents abroad. These are located in hundreds of centres throughout the world. The information is received by the Board of Trade, and made available by a Foreign and Commonwealth Statistics Branch. There are published series such as the *Overseas economic surveys*, and through a personal inquiry service such information can be supplemented. One other important official source may be mentioned, the Colonial and Commonwealth Relations Offices. For the Commonwealth as a whole there is a published annual, the *Statistical abstract for the British Commonwealth.*

Common Market affairs are of course providing new statistical sources and creating new demands. *Eurotariff* is a subscription loose-leaf service resulting in an annual volume. The Economic Intelligence Unit at the office of the *Economist* ranges over a much wider international field in its monthly and quarterly reports. The Information Office of the European Economic Community, in London, publishes a bulletin and supplies EEC material and information. Britain in Europe Ltd. is another commercial service offering a monthly sheet to its subscribers. Other sources are well signposted in two new bibliographies. *Guide to sources of statistics in Common Market countries* is from the Economics Group of Aslib. *The Common Market: a select bibliography* was prepared by the Library and Information Service of British Nylon Spinners.

United Nations publications are often and increasingly helpful. A statistics office is included in the Secretariat, and from here, as well as from the separate main organs and specialized agencies, come many publications that are entirely statistical, or mainly so. Unesco's *World illiteracy at mid-century: a statistical study* is typical. There are many monthly and annual bulletins and surveys in economics, industry and sociology, often on a regional basis, and since 1958 the *Yearbook of national accounts statistics* has replaced an earlier series. Best known for general statistics are the *Monthly bulletin of statistics* and the *Statistical yearbook*. The latter is much the more detailed and comprehensive. It covers some 250 countries and territories and contains a higher proportion of social statistics. A useful feature is the listing of statistics for a number of previous years, to indicate movements and trends. For purely population figures comparable with those from our own General Register Office, there is the *Demographic yearbook*. This

became noteworthy for the very extensive bibliography of the official publications of the countries concerned. Since these are by no means limited to population statistics, this supplement became a useful general guide to publications valuable to the specialist, and it was later published separately. There is another United Nations publication, appearing in the *Statistical papers* series, that helps with a subject analysis of a class of material overlooked by most other guides. This is the statistical material published by international bodies and intergovernmental bodies. The guide is the *List of statistical series collected by international organizations.*

The Library of Congress has, as one would expect, a considerable interest in collecting sources of statistics from all countries of the world. On the basis of these, two very useful pamphlets were published some years ago, both edited by P. G. Carter. They are *Statistical yearbooks: an annotated bibliography of the general statistical yearbooks of the major sub-divisions of the world,* and its companion *Statistical bulletins.* The latter lists the more frequent periodical, often monthlies, mainly official publications.

SECTION 17

EDITORIAL WORK

Editorship is a term applied to many kinds of activity. A number of these have attracted our attention already, in so far as reference works and periodicals are concerned. It seems appropriate to conclude these notes with a slightly fuller appreciation of editorial activity that has importance for scholarship and publication.

A distinction is often made between work directed at establishing the form of a text, and work connected with its presentation in a form suitable for the intended readers. If it is not pressed too far this is useful, for special kinds of discrimination are needed in each case. We will first watch the editor whose attention is fastened on the author and his text, and later consider the problems facing him when his thoughts turn towards future readers. One finds, in fact, many cases where the establishment of a text automatically turns the editor's attention to readers, though they were readers of an earlier generation, and to the editors who served them. However, our distinctions are only for convenience.

First then, the editor, the author, the text. Which text? This is often the editor's most serious problem. A former preference for 'the latest known text of the author's lifetime' is now regarded as somewhat naïve. Some of the reasons for this have been illustrated by Simon Nowell-Smith in a reprint of Henry James' *The Reverberator*, published by Hart-Davis in 1949. The editor faced a choice between three texts; a serialized original of 1888, an almost simultaneous first book edition showing slight revision, and a much altered text of twenty years later which shows the

considerable stylistic change of James' 'third manner'. The editor's judgment was that the earlier James style accorded better with the nature of the work's narrative. This bold but quite properly made decision has a parallel in the same publisher's *The Tragic muse*.

This particular difficulty with James seems slight by comparison with the choices facing Shakespeare's editors. A quotation from Charlton Hinman may suffice. It is from *Six variant readings in the first folio of Shakespeare* (University of Kansas Pubs. Library Series No. 13, 1961). '. . . the First Folio is very precious indeed . . . The Folger Library in Washington owns some 80 copies; and while no other single owner has more than a very few copies at most, a grand total of well over 200 are known to exist. And what is certainly true of the Folger 80 is very probably true of them all: that no two of them are textually identical throughout.'

Some of the modern editor's problems spring from the misdeeds of less scrupulous earlier generations of editors and translators. Glosses abound in all early literature, and they are naturally less obvious in a language other than the original. Zwinglians translated Luther's famous Commentary on Galatians, heightened some of the anti-Papal invective and softened the blows at themselves. From this translation came the best-known English text. E. Allison Peers, translating (hence editing) the works of another great author, St. John of the Cross, says of previous versions 'They (English readers) cannot tell whether, in any particular passage, they are face to face with the Saint's own words, with a translator's free paraphrase of them or with a gloss made by some later copyist or earlier editor . . . they cannot be sure that some whole paragraph is not one of the numerous interpolations which has its rise in an early

printed edition . . . the timorous qualifications of statements which have seemed to the interpolator over-bold. Even some of the most distinguished writers in English on St. John of the Cross have been misled in this way'.

Early Christian literature is among the most fertile of fields for problems and challenges to editors and translators. One wonders now many texts are still printed and accepted as one, which were two or more until a scribe made them consecutive, simply to eke out his supply of parchment; or how many fragments of letters have been put together wrongly. Writing of the difficult second epistle of Paul to the Corinthians, R. H. Strachan speaks of '. . . sudden apparent irrelevancies and unexpected asides. At one point . . . the mood changes with such disconcerting rapidity that I have been compelled to side with those who, on internal evidence alone, regard chapters XI-XIII as belonging to a different letter, written at a not much earlier date . . . The same applies to VI.14-VII.1, which is a fragment of a letter earlier than 1 Corinthians'. Perhaps a more startling example of the troubles confronting such editors is to be seen in Bertram Colgrave's *Two lives of St. Cuthbert*. The first of these lives, the work of an anonymous monk of Lindisfarne, has a seemingly conventional prologue, of the kind expected to yield clues to an author's identity. We understand how unprofitable such expectations would be in this case, when an editor tells us that the whole prologue is a clever mosaic of borrowings from other prologues, with nothing save the proper names original.

Editors of less ancient authors miss some of these problems but have troubles enough of their own. The editor of Pope must contend with that strange author's habit of altering the dates of his letters and poems, to heighten the impression of precocity, and of publishing anonymously

until his public's reactions were found to be favourable. Editors of Dryden worked long and with great patience before revealing fully his great and unacknowledged debts to earlier translators of the *Aeneid*. Edel and Laurence, bibliographers of Henry James, tell of editorial difficulties from '. . . the sheer quantity of his writings, the anonymity of so many of his reviews and essays, the confusion resulting from publication in many places and with many publishers, the piracies, the multiple revisions and re-revisions, the publication since his death of many of his letters in widely scattered volumes, the very accidents of publication'. Henderson and Chaloner, recent translators and editors of Engels' *Condition of the working class in England*, faced double trouble with an author liable to take liberties with statistics and dates, and a first translator who introduced obscurity and omitted critical editorship.

From sources of this kind we construct our picture of the good modern editor at work. He studies every aspect of his author, his text, its transmission. He is biographer, bibliographer and printer in his approach as editor. He compares editions, seeks multiple copies within editions, is prepared for the dullest of mechanical labours in the course of his linguistic or stylistic analyses. In consequence of such exacting standards, sounder textual bases come to light. Most weeks bring a new edition of some well known text, to supersede others where the follies and ineptitudes of earlier editors, printers or publishers have been perpetuated.

We return now to the kind of editorship met in earlier parts of this work, to show editorial interest applied more or less evenly between author and hoped-for reader. Here we see the editor judging work that has been offered, solicited or commissioned, applying standards derived from

his knowledge of the subject and of the psychology of readers. Most of these standards are displayed and described in *Editorial practice in libraries* (Aslib, 1961). Closest to our immediate interest is the chapter contributed by the work's editor, B. C. Brookes. Called *Editing a manuscript*, it is concerned with a kind of text that is nowadays common and important. 'It will be assumed that the subject of the manuscript is informative, technical, assertive, or objective, rather than expressive, literary, rhetorical or subjective. Different editing criteria are needed for these two main categories of writing . . .' Criticism of the manuscript is based upon separate analyses of its structure and its text. All the elements appropriate to this kind of editorship receive comments; their relative importance will naturally vary among editors, between subjects and publishing contexts.

Mr. Brookes has in mind scientific and technical writing and publication. The following quotation gives a glimpse into another editorial situation, typical I think of many in the sociological field. The writer is J. A. Lauwerys, the source *Education libraries bulletin* (University of London Institute of Education) for Spring 1961. 'I edit, with the help of an American colleague, an international *Year book of education* for the University of London and for Teachers' College, Columbia. Each year, basing ourselves on what we have seen and heard, we select a topic which we believe to be of universal significance and importance . . . Using all the help we can get from friends and colleagues, we do our best to submit the general problem to a comparative analysis. We then persuade people all over the world to write for us . . . But our problem is a troubling one. First, we find it hard to envisage very exactly our audience, and when we do it turns out to be a very mixed one . . . and the level of

specialised professional understanding varies very much. We are never sure whether we are aiming too high or too low. Second . . . (it is) difficult to secure authors with the requisite specialised knowledge of the problems we are handling. Third . . . these authors often do not have available the enormous background of specialised and objective research which could be utilised in other areas'. These circumstances are probably typical in the way in which they compel editorial compromise. Standards have to be relative to each context, and editors may justly hope that readers will see the need for this.

We may now consider separately the matter of presentation. The editor's task here is simply to foresee his readers' requirements and satisfy them most efficiently. A straightforward illustration is the editing of a literary text. If the work is directed at the scholar or professional critic, the editor will normally be expected to offer a full explanation of his decisions. This involves discussion of textual variations and the orderly presentation of all new evidence. Footnotes afford this kind of reader maximum convenience; he needs them as commentary on the page's text. He may reluctantly agree to the information being presented at the end of the volume, or of a final volume, if the amount is excessive. In this case he will expect aids to swift and specific consultation of the notes; not infrequently he will be disappointed.

Notes and footnotes to a scholarly text are excellent material for a student of bibliography. They reveal the extensive critical apparatus of the modern bibliographically-minded editor. Dover Wilson's Shakespeare, McKerrow's Nashe, Harold Williams' *Journal to Stella*, Greg's *Dr. Faustus*, Kinsley's Dryden, are examples. De Selincourt

on Wordsworth and Vinaver on Malory or Racine will also reward attention.

For general use, or school use, richness of annotation is not a help but a handicap, often an overwhelming one. For a number of purposes the bare text will suffice. This probably explains why Greg's work, just quoted, was published in two forms. One is a large edition with parallel texts, and notes in extreme detail; the other is a slim volume offering only the text that Greg considered most nearly Marlowe's own. It is more common in editions for non-specialist use for some editorial explanation to be given. This is always more introductory than critical, and is most welcome when least obtrusive. A comparison of old and new volumes in the Everyman series will show how thoughts in this matter have changed.

The editor must also decide, in the case of an older author, how far today's reader needs to have archaisms removed. This calls for a special kind of judgment, involving a nice balance between textual integrity and modern readers' limitations. There are a number of good recent examples. Neville Coghill's *Piers Plowman* and *Canterbury tales* are familiar, and rightly praised. A rather older example, a difficult text modernized just sufficiently, is Justin McCann's edition of *The Cloud of unknowing*.

The need for systematization in the writing up and publishing of research has been felt most keenly in scientific and technical fields, but elsewhere too. In response, new editorial practices have been introduced, and a large literature on the subject has accumulated. Authors, editors, publishers, scientists, learned societies, library associations, standardizing bodies, have all contributed to it. A useful annotated bibliography of some of this literature appeared in the *Manchester review* for Spring 1959. The contributor

was Robert Bartle, the title *Research work and its presentation*. There are many other and newer references, of course. One deserving special mention because of its authority is entitled *Basis of a code of good practice for scientific publications*. It is a report presented to Unesco's International Advisory Committee on Bibliography in September 1961, by an international committee representing scientific, library and standardizing organizations, and Unesco. The report was approved for scientific and technical literature, and thought suitable for further examination with reference to social and humanistic studies. The code makes suggestions to authors about the construction of texts, their classification, and the provision of summaries, and it also carries recommendations for editors.

In its final published form this code will refer to, and list, the relevant recommendations of the International Organization for Standardization. Four of these were set out and described, in accepted or draft form, in the ISO publication *Standardization in the domain of documentation*. They concern the abbreviation of titles of periodicals, the layout of periodicals, bibliographical citations and bibliographical references. A number of important later recommendations have been issued, one for example on the transliteration of Cyrillic characters, another on bibliographical strip, a third on contents lists of periodicals. It must also be said that the British Standards Institution, besides assisting in international standardization, has issued recommended national standards on relevant topics; these include bibliographical references, the form and presentation of periodicals of reference value, and proof correction and copy preparation.

Further guidance for editors and publishers, more incentive towards standardization, has come in publications

from the Royal Society, and by publication of their house rules by influential publishers. Among the former may be mentioned *General notes on the preparation of scientific papers*, *Notes on the choice of type face for scientific periodicals*, and *Guide for the preparation of synopses*. Publications by the university presses of Oxford and Cambridge, and other useful references, appear in the bibliography of Aslib's *Editorial practice in libraries*. A final reference, which scarcely needs justification, is the Library of Congress publication *Bibliographical procedures and style: a manual for bibliographers in the Library of Congress*.

INDEX