

THE DEVELOPMENT OF THE CATALOG AND CATALOGING CODES

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IT WOULD, I believe, be a customary procedure to start this conference with a definition of its subject. At first thought, "catalog" would seem to be a simple enough word to define; yet the major component of the word involves one of the oldest and most discussed definitions in the entire history of words.

The word "catalog" is the Greek phrase *kata logos*. *Kata* means "by" or "according to"—the puzzle lies in the word *logos*. A variety of meanings have been attributed to the word, and in historical and philosophical thought much attention has been attached to it, especially since one of the writers of the New Testament begins his discourse with the startling statement "In the beginning was *logos*."¹ Philologists and philosophers are still finding difficulty in arriving at a definition, for *logos* seems sometimes to mean simply "word," sometimes "order," and at other times "reason." Therefore, is a catalog a work in which the contents are arranged in a *reasonable* way, according to a set *plan*, or merely *word by word*? I am sure that advocates may be found for each point of view. If, by the end of the conference, we should reach that nearly impossible situation of agreement upon the mere definition of "catalog," many of the problems would thereby be resolved, since a definition of the meaning of "catalog" becomes, for practical considerations, identical with the definition of its purpose. If we could

¹ *The New Testament in the Original Greek*, revised by Brooke Foss Westcott and Fenton John Anthony Hort (New York: Macmillan Co., 1926), p. 187.

reach some decisions about the purposes of catalogs or if we could know simply for whom we were making them, we would have gone far indeed toward solving the problems which await us.

Knowledge of the historical development of an institution or concept helps to clarify it. In certain fields what has gone on in the past is held to be so important that the very solution of a problem is considered synonymous with the discovery and recognition of its source. We cannot go to this extreme in dealing with problems in cataloging; nevertheless, a survey of origins and manner of development may make it easier to evaluate present usages; it may, by furnishing better perspective, help to free us from some of the bonds of tradition.

From the beginning, humankind has shown itself notably unable to act upon the lessons it should have learned from history; perhaps the best we can expect is an increased ability to take the far view and to examine the present with the same scrutiny with which we can regard the past. Many past practices now seem ridiculous; there was a time when it seemed important to arrange books in a catalog according to the color of their bindings; there were periods when it was the accepted procedure to enter authors under their forenames; at another time the most pressing question to come before an international congress of librarians was whether an added-entry card should give as full detail as the main card. It sometimes seems difficult to see how librarians of the past could have been so unimaginative and shortsighted;

it seems that, if only they had scrutinized their procedures in the light of need, use, and expediency, they could not have helped arriving at some of the simple solutions we have found. If we remember that the people who instituted these practices were intelligent and serious scholars who seemed not at all ridiculous in their time, it may turn us to thinking anew about the usages which we take for granted and which may some day look equally ridiculous to another age. We may be so blinded by such firmly established customs as, for instance, the principle of the main entry, that we are incapable of seeing some utterly simple alternatives which might quickly resolve our problems and which will some day look so easy and obvious that our descendants will in turn look upon us as unseeing and unimaginative.

When one considers how difficult it is to answer such questions as the present purpose and use of catalogs in a situation which is immediately at hand, it becomes obvious how nearly impossible it is to make any statements about catalogs of far-gone centuries, not only as to what uses they were put, but even to determine which of the surviving fragments were actually catalogs and which were mere inventory lists or even just book-case labels.

One of the oldest lists of books of which we have knowledge occurs on a Sumerian tablet² found at Nippur and dated about 2000 B.C. Sixty-two titles are recorded on this tablet; 24 are titles of currently known literary works. What purpose the list served, there is no way of knowing, and its use may have borne no resemblance to that of a catalog.

Here and there throughout ancient pe-

² S. N. Kramer, *From the Tablets of Sumer* (Indian Hills, Colo.: Falcon's Wing Press, 1956), pp. 254-58.

riods there are fragmentary remains that might possibly be relics of catalogs or some sort of book listings, but, in regard to most of these, this is about as definite a statement as can be made.

It is only reasonable to assume that Egyptian libraries developed earlier than Babylonian; yet there are many more remnants of early records from Babylonia than from Egypt. This is probably due to the fact that the Babylonians incised their written records upon clay tablets which were then fired, while the Egyptians wrote on papyrus, a material which is far from everlasting even when buried in the parched sands of the desert.

Among the famous Amarna tablets of 1400 B.C. there are some references to books. This collection of clay tablets, excavated in Egypt and addressed to the king and queen of Egypt, were written in the Babylonian language. Among the tablets are fragments of small plaques on which are written the names of the king and queen, together with the title of a book. These may have been ownership or identification tags which were attached to books or to cases which held books, but there is no basis for claiming anything like catalog entries for them.

On tablets dated about a century later than this, excavated in the capital city of the Hittites, there is what may be the earliest evidence of the use of a colophon to convey bibliographical information. These tablets bear subscripts which identify the number of the tablet in a series, its title, and often the name of the scribe.³

Some six hundred years later, in about 650 B.C., in the city of Nineveh, which was then at its apex, we again come upon

³ A translation of one of these colophons is given by Fritz Milkau, *Geschichte der Bibliotheken im alten Orient* (Leipzig: Otto Harrassowitz, 1935), p. 55.

the use of the colophon. Of the approximately twenty thousand tablets⁴ which were excavated there from the library or archives of the Assyrian king, Ashurbanipal, many bear quite elaborate colophons, in which are recorded title (which in antiquity is often synonymous with the opening lines), the tablet—or volume—number, the first words of the following tablet, the name of the owner of the original if the tablet had been copied from an older one, as well as the name of the scribe who copied it, and, finally, a stamp showing that the work belonged to the king. In the search for evidences of ancient catalogs, this is one of the most frustrating periods to study, for, with all the care which was taken to preserve order and authenticity in the library at Nineveh, it seems so likely that some sort of catalog existed, yet all we have is this reasonable assumption. Indeed, we are forced to leave pre-Greek antiquity with literally nothing more than assumptions.

There is, of course, the well-known catalog of books carved on the walls of the temple at Edfu in Egypt, but this inscription is of a much later period than that of which we have been speaking; and, actually, even before the erection of this temple in the third and second centuries B.C., the course of civilization had made its way from the Middle East to Greece.

Throughout Greek literature there are references to book collections; in the earlier periods, to the collections of individuals, later to the libraries of schools and even to libraries built by public subscription. In the period following Alexander, when the most active centers of Greek civilization were to be found outside Greece, the two famous libraries of

⁴ British Museum, Department of Egyptian and Assyrian Antiquities, *Catalogue of the Cuneiform Tablets in the Kouyunjik Collection*, ed. Carl Bezold (London, 1899).

Alexandria and Pergamum developed into the greatest libraries of antiquity. In such libraries as these there must have been some kind of catalog, but no remnants have survived about which there is any certainty. In much later writings there is mention of the "Pinakes" of the Pergamene scholars,⁵ but no fragments, or even a quotation from them, have survived. Callimachus, one of the scholars of Alexandria, compiled his Pinakes in about 250 B.C. A few quotations from these have been cited by other writers, so that we do have a slight knowledge of these lists.⁶ They are generally assumed to have been a catalog of the Alexandrian library; yet this claim is not made by the ancients. The work may have been a library catalog, or it may have been a bibliography of Greek literature. Whichever the case, Callimachus recorded the number of lines in each work as well as the opening words; however, no sort of imprint is given, the scribe is never mentioned or the date of copying—at least no mention is made of these items in the quotations which are extant. This, added to the fact that biographical data on the authors are included in the entries, tends to strengthen the belief that the Pinakes of Callimachus were a bibliographical work rather than a list of holdings. They may, of course, have been written to serve both purposes, and in either case they do offer some insight into the Alexandrian scholar's conception of entry and choice of bibliographic detail. Ancient quotations from the lists themselves, as well as comments about them, seem to make possible the following generalizations on the cataloging or bibliographical procedures of the period: a few very general categories were considered a suffi-

⁵ Dionysius of Halicarnassus, *De Deinarcho* i. 11; Athenaeus 336E.

⁶ Athenaeus 70B, 244A, 252C, 585B, 669E; Diogenes Laertius viii. 86; Suidas *Callimachus*.

cient subject approach to the literature of the time; the scholar, after going to the general subject in which he was interested, was accustomed to look next for the author—title was secondary; it was considered important to record the opening words of a book and its length by number of lines. The arrangement of entries differed, being at times classified, at times chronological, and in other instances alphabetical. In regard to the latter, there is evidence from inscriptions that the Greeks never arrived at a strictly alphabetical arrangement. There are a few instances in which lists of names are grouped by initial letter, but nowhere is there an alphabetical arrangement based on any letter following the first one. This probably indicates, among other things, that their lists never approached the length to which we are accustomed.

The scholarship of this period was what might be called "encyclopedic" rather than creative. It was a time of gathering, compiling, and organizing the works of previous generations. Some creative writing went on, to be sure—Callimachus himself was a poet—but the bulk of productivity was in the editorial field. An age with such interests would seem likely to produce catalogs; of course, one might say that dictionaries, encyclopedias, anthologies, and collections of excerpts—all developments of this age—do partake essentially of the nature of catalogs. Even if there were no catalogs as such, these Alexandrian "reference" publications exerted considerable influence on Roman and Byzantine scholarship and played an important part both in the preservation of learning and in establishing precedents for the future avenues of approach to collected knowledge.

It may be that the most significant contribution which the Greeks made to

cataloging was the use of the author of a work for its entry. There is no doubt that our whole concept of author entry first came with the Greeks; it never once appeared in any work which has survived from the earlier civilizations of the East. Even today in the Orient the traditional entry for a book is its title, and whenever, under the influence of modern librarianship, a book in an oriental library is entered under author, it is considered a very progressive and "Western" thing to do; older Chinese and Japanese books continue to be entered under title. How basic this difference is between East and West was brought rather vividly to my attention not long ago when a Japanese librarian expressed his opinion that the principle of author entry is concomitant with democracy, since it rests upon belief in the importance of the individual.

When, in the search for catalogs, we come to the Romans, there is even less available information than among the Greeks. There is the well-known story from later writings that Crates, a scholar from Pergamum, made a trip to Rome and, because of an injury suffered while he was there, was forced to stay for a rather long period of convalescence.⁷ During this time he is reported to have been very active conversationally and thereby to have whipped up a good deal of interest in libraries among the Romans. If it is true that libraries were started in Rome under the influence of Crates, they undoubtedly took on the cataloging methods of the library at Pergamum, all of which is of little help, of course, since nothing remains of the Pergamene catalog. From other sources which mention Roman libraries there is evidence only that there was some way of finding a designated book when it was requested, probably through some kind of fixed location. About the middle of the

⁷ Suetonius *De illustribus grammaticis* 2.

second century after Christ, Marcus Aurelius related how, in the midst of a discussion, he and his friends dispatched a servant to the library to get a copy of a certain one of Cato's speeches.⁸ He added that the servant went first to the library of Apollo, but was unsuccessful in obtaining the book there, so he went then to the library of Tiberius, where he got the book. Another Latin author two centuries later mentioned that a certain book to which he was referring was to be found on the sixth case in the Ulpian library.⁹

Scholarship in late Roman times was, in general, occupied with the same kind of pursuits, if not of quite the same quality, as those which had occupied the scholars of the Alexandrian age. There were anthologies, digests, commentaries, paraphrases, textbooks of rhetoric, and encyclopedias. Again it appeared to be an age in which library catalogs would be much needed and in which there would be great interest in compiling them; however, either catalogs had not been developed as tools of research, or, if they did exist, the vagaries of fate have seen fit to save for us not one fragment of them or even one reference to their existence.

In 529, when the life of Greece and Rome came to an end officially and one must look rather to Constantinople as the center of learning, we find nothing more to add to the history of cataloging. The same kind of activity occupied the scholars of this period, the same reworking of the literature of the past. We know that there were church and monastery libraries throughout the eastern empire and the imperial library in Constantinople, but about catalogs we have no information.

The same year in which the aging glory of Greece and Rome was put to rest

⁸ *Ad Frontonem* iv. 5.

⁹ *Vospiscus Tacitus*. viii. 1.

saw the humble birth of literary activity among a new people, for the most part unlettered and in uncouth and primitive surroundings. This new and lowly beginning had no scholarly motivation—it may have been that Benedict thought his monks at Monte Cassino ought to be kept busy, so he set them to copying manuscripts. There was no demand for books, and knowledge was not sought in any way which would require the use of catalogs, but in this unpretentious way a system was set up through which the monastery became the sole keeper, manufacturer, and finally cataloger of books through long and uninterested centuries.

One of the earliest listings of the holdings of a medieval library is dated two hundred years later, in the eighth century. It is written on the final flyleaf of a book¹⁰ and consists of only a list of brief titles with authors appended to a few of them. There is no observable order in the arrangement, neither classified nor alphabetical. In no way can the list be called a catalog with any meaning which we attach to the term. It more probably served as an inventory record and perhaps represented the shelf arrangement, which might well have been made according to size or acquisition or both, but no location symbols accompany the titles. Although it was the custom of the time to bind together a number of works into one volume, this list quite obviously gives only the title of the first item in each volume, a further indication of its being an inventory. This list is typical of most of the so-called catalogs of the several following centuries—the briefest sort of inventories recorded in the most casual places.

Two libraries from the ninth century

¹⁰ St. Augustine's *De trinitate* (MS Laud. Misc. 126 in the Bodleian Library); a facsimile of this flyleaf is reproduced by E. A. Lowe in *Speculum*, III (1928), facing 6.

might be mentioned as having produced catalogs more outstanding than those of the general run. One was the library at Reichenau in Germany, which compiled several catalogs between 822 and 842.¹¹ One of these catalogs includes a gift enumeration; another lists only the valuable books; but all of them give the several works contained in each volume, as well as the number of volumes or rolls in which each work was contained. Only one maintains any order in its arrangement (this is, strangely enough, the earliest of the lists), an order for the most part classified, yet all the works of an author are kept together. Sample categories are *Works of St. Augustine (De opusculis S. Augustini)*, *Lives of the Fathers (De vita patrum)*, and *Dictionaries (De libris glossarum)*.

The other ninth-century catalog¹² to which I refer is from the Benedictine house of St. Requier, compiled in 831. It likewise gives the contents of volumes and records the number of volumes to a work. It uses author entries, but in no discernible order. The chief interest in this list is that the compiler stated the reason for its composition, namely, an accounting of the library was requested by Louis le Debonnaire. Even without this evidence, one might reasonably assume that all the library lists of the period were inventory records—from their nature they could not possibly have served any purpose except mere count. Furthermore, we have the compiler's word that the St. Requier inventory contained only 246 volumes, and it would, of course, be quite unrealistic to expect libraries of this size to feel any need for catalogs.

¹¹ Printed in Gustav Becker, *Catalogi bibliothecarum antiqui* (Bonn: Max Cohen, 1885), pp. 4 ff.

¹² Printed in Becker (*ibid.*, pp. 24 ff.); in Edward Edwards, *Memoirs of Libraries* (London: Trübner & Co., 1859), I, 297-302; and recorded in Theodor Gottlieb, *Ueber mittelalterliche Bibliotheken* (Leipzig: Otto Harrassowitz, 1890), No. 402.

As simple and as uninformative as these inventories from Reichenau and St. Requier are, they stand out not only as the superior lists of the ninth century but superior throughout a number of centuries, both preceding and subsequent. From the time when the Greco-Roman civilization came to an end in the sixth century, there is little evidence of the existence of book lists until the eighth century; then came the improvements of the ninth century, and after that no development in the quality of lists for several hundred years.

By the tenth century, libraries had grown considerably in size. A catalog from Bobbio¹³ in Italy records nearly seven hundred volumes, and one from Lorsch¹⁴ in Germany, nearly six hundred; but even Bobbio and Lorsch, which were among the most famous and largest libraries of the time, produced no catalogs which were in any way improvements over the naive ninth-century inventories. The comparative excellence of the ninth-century records may have been due to the upsurge of interest in books which came about under the influence of Charlemagne and his immediate successors; for, as you recall, Alcuin and other scholars in the employ of the Frankish kings spread abroad great enthusiasm for producing and possessing books, as well as for improving their quality in both form and contents.

Throughout the eleventh and twelfth centuries no improvement is seen in library lists—rather, even retrogression. Some of them occasionally record the contents of volumes, and at times it seems as if an order of arrangement is being observed. Whenever there is subject arrangement, it is very broad, oftentimes using only two categories, "Bibli-

¹³ Printed in Becker, *op. cit.*, pp. 64 ff.

¹⁴ *Ibid.*, pp. 82 ff.

cal" and "Humanistic."¹⁶

A twelfth-century inventory from the monastery of St. Peter at Salzburg¹⁶ gives in a few instances the opening words of a work; however, this seems not to have been done in the interests of fuller cataloging but only in cases where the librarian was not able to determine either author or title. In general, noticeably less information is recorded in the lists of the eleventh and twelfth centuries than in those of the ninth.

Neither did the thirteenth century bring anything new in the way of entries. A list from the library of Glastonbury Abbey, dated 1247,¹⁷ added some unusual descriptions in designating books variously as "useless" (*inutiles*), "legible" (*legibles*), "old" (*vetusti*), and "good" (*bon*). In earlier lists the beauty of a volume had been mentioned or its unusual size or the fact that it was a treasure (*praegrandis*); but the Glastonbury characterizations are of a different sort. The easiest explanation is that they pertained to the physical condition of the books; but whether they were used as an aid in identification for inventory or to help the reader by pointing out which books could be easily read is impossible to state.

Toward the end of the thirteenth century someone whose identity is not known started a project which might well be considered a milestone in the history of catalogs. This was the compilation of the Registrum librorum Angliae,¹⁸ a union list of holdings of English monastic libraries in which, in a quite modern

¹⁶ "Libri alii sunt divinae auctoritatis tam veteris testamenti quam novi alii humane" in catalog of 1158 from Prüföning, printed in Becker, *op. cit.*, p. 209.

¹⁷ Gottlieb, *op. cit.*, No. 178; printed in Becker, *op. cit.*, pp. 233 ff.

¹⁸ Gottlieb, *op. cit.*, No. 471. A portion of this list is printed in D. M. Norris, *A History of Cataloguing and Cataloguing Methods, 1100-1850* (London: Grafton & Co., 1939), pp. 26-30.

way, each library was assigned a number for coding purposes. The Registrum was never finished. There are evidences of later attempts to compile continuations of it, although no finished version has survived—in fact, quite surely never existed. The catalog of John Boston of Bury¹⁹ of about 1410 seems to have been conceived as a continuation and revision of the Registrum, since the code numbers assigned to the participating libraries are identical with those used in the earlier catalog.

The fourteenth century brought some improvements, and a few lists of this period might rightly be called shelf lists. One from Christ Church, Canterbury,²⁰ compiled during the first part of the century, is arranged by numbered sections of the library, subdivided by numbered shelves, thus observing a fixed location to the extent that each book was designated for a certain shelf. There is no improvement in entries here, but there is an overall attempt to list the contents of volumes, although with such lack of clarity that it is frequently impossible to determine with which work one volume ends and the next begins.

A list from Exeter Cathedral,²¹ bearing the date 1327, records the opening words

¹⁹ E. A. Savage, "Notes on the Early Monastic Libraries of Scotland," *Edinburgh Bibliographical Society Publications* (1930), facing p. 1, prints a facsimile of one leaf.

²⁰ John Boston of Bury, *Catalogus scriptorum ecclesiae*; printed in part by Thomas Tanner, *Bibliotheca Britannico-Hibernica* (London: G. Bowyer, 1748), pp. xvii-xliii; M. R. James, *The List of Libraries Prefixed to the Catalogue of John Boston and the Kindred Documents* ("British Society of Franciscan Studies, Vol. X; 'Collectanea Franciscana, Vol. II [Manchester: Manchester University Press, 1922]), pp. 37-60.

²¹ Gottlieb, *op. cit.*, No. 451; printed in Edwards, *op. cit.*, I, 122 ff.; and in M. R. James, *The Ancient Libraries of Canterbury and Dover* (Cambridge: At the University Press, 1903), pp. 13 ff.

²² Printed in George Oliver, *Lives of the Bishops of Exeter* (Exeter: W. Roberts, 1861), Appendix III, p. 301.

of each volume and gives its price. This document is part of a general inventory, which also included the vestments and treasures of the cathedral. The fact that this, one of the superior lists of the period, was prepared as an inventory strengthens the belief that none of the lists compiled thus far were intended to serve what we consider catalog purposes.

Fifty years later, in 1372, a list from the Augustinian friars in York²² pursues a more truly classified arrangement than occurs earlier, in that it separates the writings of an author when the subjects of his works so dictate, a practice which was a rather radical departure from custom. Another bit of progress is seen here in that the opening words of the second leaf of each volume are given, certainly a much surer means of identification than the customary opening words of the book.

The outstanding list of the fourteenth century is from St. Martin's Priory²³ at Dover, dated 1389; in fact, it may be the first of the lists which could be justly designated a catalog. It is divided into three sections; the first is a listing by call number, a number representing fixed location even to the placing of the individual volume. The entries in this section include short title, the number of the page in the book on which the call number was recorded, and the first words of the text on that page, as well as the number of pages in the book and the number of works contained in the volume. The second section of the catalog, likewise arranged by call number, gives the contents of each volume, with the paging

²² Gottlieb, *op. cit.*, No. 512; printed in Norris, *op. cit.*, pp. 47-52.

²³ Gottlieb, *op. cit.*, No. 457; Parts I and II and a specimen of Part III are printed in James, *The Ancient Libraries of Canterbury and Dover*, pp. 407 ff. A translation of the Introduction to this catalog is printed in J. W. Clark, *The Care of Books* (Cambridge: At the University Press, 1902), pp. 188 ff.

and opening words for each work included. The third part is a landmark in the development of cataloging: a catalog of analytical entries and an alphabetical listing, but with entries of the usual medieval type, some under author, others under title followed by author, with still other entries beginning with such words as "book" (*liber*), "part" (*pars*), or "codex," obviously with no importance attached to the entry word.

This is also the century which saw the beginning of college libraries, but that did not mean any advanced contributions to the development of cataloging. The earliest lists from college libraries revert, for some reason, to the primitive inventories of the preceding centuries. This condition may possibly be explained by pointing to the fact that their book collections were very sparse. It was not at all unusual for a college library at this time to have less than one hundred books. A catalog from Trinity Hall, Cambridge,²⁴ dated 1394, contains entries such as "one small Bible" (*unam Bibliam param*), "a large and beautiful concordance of the Bible" (*liber concordantiarum Bibliae magnus et pulcher*), or "another concordance of the Bible, less beautiful but portable" (*alius liber concordantiarum Bibliae pulcher minor et portabilis*). Entries such as these under the Latin equivalents of "one" and "another" would seem to us completely useless for students and but little better for the librarian, even when only checking his inventory.

Fifteenth-century catalogs brought few innovations; there was no improvement in entry form; there was some reference to location symbols; but shelf numbering had still not become a common procedure. Probably the only new practice to appear in this century was the use

²⁴ Printed in *Antiquarian Communications* (Cambridge, 1864), II, 73.

of cross-references. In both the fifteenth-century catalogs in which I found these, there seems to be an attempt to make them serve the purpose of analytical entries. In the catalog compiled in 1410-12 by Amplonius Ratnick de Berka²⁵ the cross-references are not in themselves entries but are merely appended to a sort of contents note pointing out in what other place in the library a certain item might be found, with wording such as "which seek in the 96th volume of theology" (*quas require in 96 volume theologie*). These are cross-references in a most undeveloped and primitive state, but they are a beginning, and they make their appearance here in a catalog which is otherwise undistinguished, especially in its feeling for entries which are typically of this sort: "a book of Plato" (*item liber Platonis*) or "a rare and good volume in which the following writings are included" (*item volumen rarum et bonum, in quo infrascripta continentur*).

In the catalog of St. Augustine's Abbey, Canterbury,²⁶ compiled about eighty years later, cross-references appear again. Here they also serve as analytics, but there is an important difference, for in this catalog they reach the status of entries. A typical example of one of these references is "The Meditations of Bernard, not here because it is above in the Bible [which was given by] W. Wylmynton" (*Meditaciones Bernardi non hic quia supra in Biblia W. Wylmynton*).

Toward the close of the century the German bibliographer and librarian, Johann Trithem, stands out as having taken an important step in the development of cataloging. He compiled a bib-

²⁵ Printed in Paul Lehmann, *Mittelalterliche Bibliothekskataloge Deutschlands und der Schweiz* (Munich: C. H. Beck, 1928), II, 5-95.

²⁶ Gottlieb, *op. cit.*, No. 453; printed in James, *Ancient Libraries of Canterbury and Dover*, pp. 172-406.

liography in chronological order, which was unusual enough for his time, but—what holds chief interest for us—he appended to this an alphabetical author index.²⁷ It is difficult to understand why such a simple and useful device had not always been used, yet it took centuries of compiling book lists to reach this degree of accomplishment.

As the sixteenth century opens, our attention is drawn to the catalog of Syon Monastery, Isleworth, England.²⁸ Here, about thirty years after Trithem, appears a classified catalog which also included an alphabetical author index. From this time on, the practice became more usual but by no means universal.

The other catalog of the sixteenth century to which I shall draw attention is that of the Priory of Bretton in Yorkshire, dated 1558.²⁹ It is a small catalog with the casual forms of entry characteristic of medieval catalogs, but included within the entries are the names of editors and translators, a practice which seems not to have appeared earlier.

The history of cataloging in the sixteenth century would not have much to show in the way of progress if it had been forced to depend solely upon librarians and library catalogs. Following the precedent set by Trithem before the turn of the century, bibliographers rather than librarians continued to take the lead in raising cataloging from the low level which it had consistently maintained throughout the medieval centuries. One of the first names which comes to mind in

²⁷ A facsimile of two pages from his *Liber de scriptoribus ecclesiasticis* is in Theodore Besterman, *The Beginnings of Systematic Bibliography* (London: Oxford University Press, 1935), Pl. II.

²⁸ Printed in Mary Bateson (ed.), *Catalogue of the Library of Syon Monastery, Isleworth* (Cambridge: At the University Press, 1898).

²⁹ Printed in Joseph Hunter, *Catalogue of the Library of the Priory of Bretton in Yorkshire* ("English Monastic Libraries," No. 1 [London: J. B. Nichols & Son, 1831]).

this connection is that of Konrad Gesner of Zurich. With the publication of his author bibliography in 1545³⁰ and the subject index in 1548,³¹ a new standard of excellence was set.

In the matter of entries, it is true that he continued to use the forenames of authors in accordance with the tradition of his time, but he did recognize the possible inconvenience caused by this practice and prefixed to his bibliography an alphabetical list of authors in which the names were inverted. Furthermore, the main listing includes cross-references from the main forms and spellings of names to the accepted entry form. It is unprecedented for such aids to be given the reader as "Thobias: vide Tobias," and it seems practically modern to find Gesner's use of merely the word *see* in contrast to the quaint and involved directions given by earlier cross-references. Gesner, the bibliographer and naturalist, included in his *Pandectarum* instructions for the arrangement of books in a library, and he conceived of his system of classification for library as well as for bibliographical purposes. He even suggested that libraries use copies of his bibliographies as their catalogs by inserting call numbers beside entries which represented their holdings, thus providing themselves with both an author and a subject catalog. This proposal, I remind you, was made in 1548.

Twelve years later, Florian Trefler, a Benedictine monk, published at Augsburg a treatise on the keeping of a library.³² He commented in his *Introduc-*

³⁰ *Bibliotheca universalis* (Zurich: Christophorus Froschoverus, 1545).

³¹ *Pandectarum sive partitionum universalium* (Zurich: Christophorus Froschoverus, 1548).

³² Florian Trefler, *Methodus exhibens per varios indices, et classes subinde, quorumlibet librorum, cuiuslibet bibliothecae, breve, facilem, imitabilem ordinationem* (Augsburg: Phillippum Ulhardum, 1560).

tion on the difficulty of finding information in libraries in which books were not kept in any discernible order and where the material was not cataloged. (After studying a few medieval catalogs one has the conviction that Trefler was indeed speaking from experience.) He devised a scheme of classification and call numbers quite advanced for his time, in spite of the fact that one unit in the call number was made to represent the color of the binding. He advocated a five-part catalog which consisted of an alphabetical author catalog, a shelf list, a classified index to analytics, an alphabetical index to the classified index, and, finally, a list of books which, for various reasons, were not kept with the main collection. Catalogs made according to Trefler's plan would have been far ahead of their time, indeed. He had a comprehension of the value of providing more than one means of access to a book, something wholly unknown in his day. In another way, too, Trefler showed himself progressive, i.e., in following Gesner's suggestion for the use of the *Pandectarum* as a library catalog. Trefler recommended that a checked copy of it be used as one section of his proposed plan for a catalog, namely, the subject index to analytical entries. Whenever we wonder at how long it took for certain simple cataloging ideas to catch on, such as the alphabetical index, let us remember that it has been four hundred years since the suggestion was first made that printed bibliographies be substituted for catalogs or sections of catalogs and that it still seems too daring and radical a thing to try.

Thirty-five years after Trefler, once more significant contributions came from outside the field of cataloging. In 1595 Andrew Maunsell, an English bookseller, compiled his *Catalogue of English Printed Books* and in the Preface stated his rules for entry. He advocated the entry of per-

sonal names under surnames rather than Christian names, noting that this was contrary to the usage set up by Gesner. His rule for the entry of anonymous works runs like this: "I have placed them either upon the titles they be entitled by, or else upon the matter they entreat of, and sometimes upon both, for the easier finding of them." Other regulations call for including in the entry translator, printer or for whom printed, date, and number of volume. He also set up the principle of uniform entry for the Bible and insisted that one should be able to find a book under the author's surname, the subject, and the translator, all three. These were radical and sudden advances in the development of cataloging, and one cannot help noticing that they came from the bookseller rather than the librarian, something not unknown in our own time and our own country.

The political, social, and intellectual movements of the sixteenth century brought wide, sweeping, and at times even violent changes for libraries. These are well known to you: the impact which printing made on book collections, the destruction of monasteries, the rise of princely and municipal libraries, and the growth of universities. When attempting to interpret catalogs in relation to their times, one certainly comes to an impasse before the conflicting situation which prevailed during this century. It was an age of book-burning and wholesale destruction of libraries, and yet it was this age which produced the first cataloging codes.

On the one hand, we find the foregoing situation, which was confusing enough; on the other, there is the fact that at this time, when scholarship was entering upon a period of great activity motivated by such significant world movements as the Renaissance, the Reformation, and the dawn of scientific experimentation,

library catalogs were still in a primitive state, completely inadequate for what must have been the demands of the age. It is unthinkable that the kinds of catalogs which we have been examining could ever have served as usable tools for the type of scholar that the period produced, for this was, you recall, the age of Scaliger, Galileo, Grotius, Descartes, Bacon, and Kepler. If we are to learn from history, a study of the sixteenth century should certainly put us on the alert. Here in the midst of an enthusiasm for scholarship and intellectual activity which has not often, if ever, been equaled, library catalogs did not at all rise to the occasion. Rather it fell upon the scholars themselves both to originate the ideas and to make the initial attempts toward providing some kind of index to the world's learning. It devolved upon them and the booksellers to point out to the libraries the potentialities of library catalogs. Even after the way had been pointed out, it was by no means followed by the majority of catalogers. The great and seemingly obvious improvements in cataloging which appeared in Maunsell's code were neither immediately nor universally adopted by librarians and bibliographers; for instance, the practice of using Christian names as entries survived for many years, even in the listings in which there were column after column of entries under "Johann." The use of forename for the entry word was, of course, a carry-over from times when there was no system of surnames, but the appalling thing is that for century after century catalogs and bibliographies remained so immured by this tradition that they failed to become aware of the change in custom. (One cannot help wondering which of our entrenched procedures, now so completely taken for granted, will some day look quite as ridiculous as this, and for which there

must be as simple an answer as the use of the surname. It may well be that the conglomeration of entries under "U.S." in our catalogs will someday look not only as stupid but as easily obviated as their entries under "John.")

At the beginning of the seventeenth century Sir Thomas Bodley appeared as an important figure on the cataloging scene. An English diplomat, retired from foreign service, he offered to undertake the building-up of the Oxford University Library, which had been destroyed some fifty years before. After his offer had been gratefully accepted, he appointed Thomas James as his librarian, but he himself retained complete supervision, even to dictating the most minute cataloging procedures.³³ The practices which Bodley instituted hold interest not only because they were progressive but also because Bodley approached them as a user of the catalog for the purpose of carrying on his acquisitions program. Once more we find the layman user of the library assuming initiative and responsibility for what the catalog should contain.

Bodley's code included, among other regulations, insistence upon a classified arrangement with an alphabetical author index arranged by surname, although James preferred a completely alphabetical catalog. He insisted upon the inclusion of analytical entries. On this point Bodley was very vehement, and yet James, the librarian, seems to have attached little importance to them and frequently failed to carry out Bodley's wish. Bodley entered noblemen under their family names and insisted, over the objection of the librarian, on using as entry form the inflected cases of the names of Greek and Latin authors rather than the nominative when they so occurred on the title page.

During this century several discourses on librarianship were published in which

one can find evidence of progressive attitudes toward catalogs. In France, Gabriel Naudé stressed the importance of catalogs as a means of finding books and of identifying them bibliographically;³⁴ he recommended the compilation of a divided catalog, with one section for subjects and the other for authors. He also suggested a shelf arrangement which would allow for expansion.

A few years later (1650) in England John Dury's treatise made some of the same suggestions; it also favored the printing of yearly supplements to catalogs, recommended selective cataloging, and even suggested a method of dealing with unwanted gifts.³⁵

Toward the close of the seventeenth century an incident occurred through which we are able to gain some insight into what were considered the major cataloging problems of the time. In 1697 the curators of the Bodleian requested from the staff of that library any suggestions they might have for its improvement. In answer to this request, one member of the staff, Humphrey Wanley, included with his suggestions an account of the questions which he thought needed to be solved before a new catalog could be attempted. Some of these questions were whether the catalog should be classified or alphabetical; whether titles and dates of books should be recorded in the language of the book; whether the size of a book should be recorded; whether author and title analytics should be included; whether the name of the publisher should be included in the imprint; whether there

³³ G. W. Wheeler (ed.), *Letters of Sir Thomas Bodley to Thomas James, First Keeper of the Bodleian Library* (Oxford: Clarendon Press, 1926).

³⁴ Gabriel Naudé, *Avis pour dresser une bibliothèque* (Paris: F. Targa, 1627).

³⁵ John Dury, *The Reformed Librairie-Keeper* ("Literature of Libraries in the Seventeenth and Eighteenth Centuries," Vol. II [Chicago: McClurg, 1906]).

should be mention of the fact that a book lacks place or date; whether the first or best edition of a book should be so indicated; or whether a book's rarity or costliness should be noted. Wanley made no mention of any problem concerning entry, although this whole area was still in a very undeveloped state.³⁶

In the same year Frederic Rostgaard published in Paris his discourse on a new method for setting up a library catalog.³⁷ Rostgaard's rules call for a subject arrangement subdivided at once chronologically and by size of volume. He states it as his purpose to organize the catalog in such a way that authors who treat of the same subject and all the editions of the same work are always found together. This he proposed to achieve by means of a printed catalog, with the spread of two facing pages divided into four parallel columns, each column to contain books of a certain size, arranged so that the books of various sizes which had been published on a certain subject within the same year would come directly opposite each other in the parallel columns. His rules also provide for a secondary arrangement under the chronological order, whereby books which treat of a subject *in toto* are entered before those which treat of it in part. Rostgaard worked out a model catalog in which he actually achieved this strangely complicated arrangement—and more clearly, too, than one might expect.

He gives directions for an alphabetical index of subjects and authors to be placed at the end of the catalog, with authors entered by surname; works bound together are to have separate entries; the word order of titles as found on the title page is to be preserved, and authors'

³⁶ *Bodleian Quarterly Record*, I (Oxford: Bodleian Library, 1914), 106.

³⁷ Frederic Rostgaard, *Project d'une nouvelle methode pour dresser le catalogue d'une bibliothèque* (2d ed.; Paris, 1698).

names are to be supplied for anonymous works when known. His final suggestion is that his rules not be followed when it seems best to arrange things differently. As an example he shows where one might wish to violate his basic chronological order in the case of translations if one preferred to enter, first, the books containing the original text, then those containing the original plus the translation, and, finally, the translations alone.

There is an almost modern note in Rostgaard's attitude toward the catalog. The intricate organization for which his code provides seems never to have had wide following, but his influence must have been felt on the Continent as that of Maunsell and the librarians of the Bodleian was in England.

By the beginning of the eighteenth century, catalogs were at last looked upon as finding lists rather than inventories. During this century they were sometimes classified and sometimes alphabetical; indexes were considered useful, though by no means necessary; some catalogs were still divided according to the size of books; authors were now always entered under surname and were often arranged chronologically; the wording of the title page had assumed a certain degree of prestige and was now being transcribed literally and without being paraphrased; imprints were included; "bound-with" notes were used; cross-references were quite common; and some analytical entries were used in most catalogs.

This state of things did not undergo much change throughout the century—it was as if a plateau had been reached in the development of cataloging principles. The reason could not have been that catalogs were now sufficient for the scholarship and research of the time, for this is the age which saw the beginning of specialized research, a new systematization

of the sciences, and an attempt at organized international scholarly co-operation. There was scholarly activity on all sides, and the size of libraries increased tremendously. It may have been because libraries were so busy with their growing collections that they now ceased to philosophize about what catalogs ought to be or to experiment with new forms. Whatever the reason, these conditions prevailed throughout the century.

The only noticeable innovations came from the library activities of the new French government. During the Revolution, after the newly formed government had confiscated libraries throughout the country, it set up directions for their reorganization. In 1791 the government sent out to these libraries instructions for cataloging their collections.³⁸ Here we have the first instance of a national code. It was a paragon of brevity and practical simplicity. In the first place, the libraries were directed to use card catalogs—as far as I know, the first appearance in history of the card catalog—introduced, I feel sure, not because someone thought it would be the best or even a convenient form but because, with wartime shortages, it was a practical way of getting available materials on which to make the catalogs, since playing cards were to be used for the purpose. The added suggestion was included in the instructions that aces and deuces might well be reserved for the longest titles. There was no fuss and bother or philosophizing in this code. The title page was to be transcribed on the card and the author's surname underlined for the filing word. If there was no

³⁸ *Instruction pour procéder à la confection du catalogue de chacune des bibliothèques sur lesquelles les Directoires ont dû ou doivent incessamment apposer les scellés* (Paris: Imprimerie nationale, 1791), a later version, "Le précis de l'instruction de 15 mai 1791," in France, Convention nationale, Comité d'instruction publique, *Procès-verbaux du comité d'instruction publique, publiés et annotés par M. J. Guillaume* (Paris: Imprimerie nationale, 1894), Vol. II.

author, the key word in the title was to be underlined. A collation was added which was to include number of volumes, size, a statement of illustration, the material of which the book was made, the kind of type, any missing pages, and a description of the binding if it was outstanding in any way. There are here a number of procedures which have remained to the present, so that this code, coming as it did at the end of the eighteenth century, makes a rather easy steppingstone to the extensive cataloging developments of the next century.

During the first part of the nineteenth century, the Rev. Thomas Hartwell Horne published both a classification scheme and a code of cataloging rules in England.³⁹ He compiled a classified catalog for the library of Queen's College, Cambridge, and also submitted a scheme to the British Museum. The catalog of Queen's College was printed in 1827, but the catalog suggested for the British Museum never materialized, although a number of years and a sizable sum of money were spent on it. Horne's code was not revolutionary in most ways. I mention it chiefly because of its insistence that a book ought not to be limited to a single subject entry or to a single place in a scheme of classification. Not only was this a novel idea at the time, but it took many years for it to become a commonly accepted principle. Even yet it is not universally accepted, especially in the compilation of classified catalogs.

This was a period of much argument over the relative virtues of classified and dictionary catalogs not only among librarians but among readers and scholars in general and even in reports to the House of Commons. Feelings ran very high on the subject, and rather emotional

³⁹ Cambridge University, Queen's College Library, *A Catalogue . . . Methodically Arranged* (London, 1827).

arguments came forth on both sides of the issue, from the statement that classified catalogs and indexes were not needed because living librarians were better than subject catalogs to the opinion that any intelligent man who was sufficiently interested in a subject to want to consult material on it could just as well use author entries as subject, for he would, of course, know the names of all the authors who had written in his field.⁴⁰

As one might infer from these arguments, the eighteenth- and nineteenth-century discussions in regard to classified versus alphabetical catalogs do not have much to offer librarians today. The very terms did not carry the same meaning then as now, and the type of catalog which we call classified, as well as what is now designated as a dictionary catalog, were at that time both completely unknown concepts. There would, in fact, be almost no common ground on which to discuss any phase of librarianship dealing with subject approach. The subject heading had not yet evolved as an entity, but was still almost completely identified with the title, and added entries in the classified catalog were all but unheard of.

At the height of the frustration resulting from wasted time and money in abortive attempts to produce a satisfactory catalog for the British Museum and when arguments were most heated over this question and that, there appeared a figure at the Museum with strong convictions and the power to persuade. Anthony Panizzi, a lawyer by profession, a political refugee from Italy, was appointed extra-assistant librarian in 1831.⁴¹ I need not remind you that this incident proved to be of great signifi-

⁴⁰ Edward Edwards, *A Letter to Benjamin Hawes* (London: Wilson, 1836), p. 30.

⁴¹ Great Britain, Parliament, House of Commons, *Report from the Select Committee on British Museum* (1836), Question 4767.

cance for the future of both British and American cataloging.

In 1836 a select committee was appointed by the House of Commons "to inquire into the condition, management, and affairs of the British Museum." One of the "affairs" which the committee undertook to examine was the state of catalogs and cataloging in the Museum library. During the hearings witnesses came forward in great numbers to testify for and against the current catalogs, some to speak in favor of an alphabetical catalog, others for a classified catalog, many becoming actually vehement about this or that sort of entry, even over the question of whether a complete title should be used in a certain case or only a catchword title. Surely such great interest in the minutiae of cataloging has never been displayed at any other time by scholar, reader, and government. Panizzi figured prominently in the hearings and again and again was able to persuade the examiners to accept his views.

The next year he was appointed Keeper of the Printed Books.⁴² In 1839, after hearings during which the trustees of the British Museum examined Panizzi's proposals in detail, although they insisted upon an untimely publication of the catalog, he was able to exact from them official approval of his proposed code, and the now famous 91 Rules went into effect.⁴³ In many instances his code vested great authority in the title page; for example, if an author used his forename only in a book, this was used as the entry even if the complete name was known; when the author of an any-

⁴² Louis Fagan, *The Life of Sir Anthony Panizzi* (London: Remington & Co., 1880), I, 134.

⁴³ Great Britain, Parliament, House of Commons, *Report of the Commissioners Appointed To Inquire into the Constitution and Government of the British Museum* (London, 1850), Questions 2954-65.

mous work became known, his name was still not used as the entry but was merely inserted after the title; pseudonymous publications also were entered under the author's feigned name, although the actual name might be known. However, in other instances Panizzi directed that research was to be expended, if necessary, in order to establish certain forms of name for entry; for example, a nobleman was always to be entered under his family surname, even though all his writings had been published under his title.

Another characteristic of Panizzi's code was the occasional use of form headings as main entry; universities and learned societies were entered under the general heading ACADEMIES; the entries for magazines, newspapers, and annuals were under the heading PERIODICAL PUBLICATIONS; almanacs and calendars, under EPHEMERIDES; misals, prayer-books, and liturgies, under LITURGIES; anonymous dictionaries, under DICTIONARIES; likewise with anonymous encyclopedias and catalogs, under their respective form headings. Here seems to be an indication that the concept of subject entry as it exists today had not then been separated from that of main entry, a tendency which seems to be indicated again in Panizzi's rule for anonymous works in general. For these the preferred entry was the name of a person if one were mentioned in the title; second choice, the name of an organization, provided that there was one in the title; or, lacking these, the name of a place. If the title contained neither person, organization, nor place, then entry was made finally, when no other choice presented itself, under the first word of the title. A title entry was thus never chosen but was resorted to only when all else failed. In this procedure there seems to be a very conscious attempt to arrive at a main entry which is at the same time

a subject entry, and still not depart from the authority of the title page; in fact, during one of the hearings Panizzi made the statement that those who want to find a book by subject "can obtain this information (as far as it can be obtained from a title-page which is all that can be expected in a catalogue)."⁴⁴

By 1847 a further investigation of the British Museum was deemed necessary, and the Crown appointed the Commission To Inquire into the Constitution and Government of the British Museum. Many witnesses were again called in, among them Thomas Carlyle. He told of his search through the catalog, as he described it,

through those things which you do not know anything about, and which you have no business to know anything about. If you cannot find the book in the catalogue, they will not attempt to seek it. . . . Like a haberdasher requiring me, if I went into his shop and asked for a yard of green ribbon, to tell him in what drawer the ribbon was lying. . . . I am not a catalogue-maker, and I have not turned my mind particularly to it. I merely understand that it is a work which ought to be done by a man of order; and that a man of order will arrange a catalogue properly, and a man of disorder will not do so. . . . will not arrange the huge mass of jungle that he has to arrange.⁴⁵

One witness attacked the entry of learned societies under the heading ACADEMIES and was thereupon questioned in great detail how he thought this or that society should be entered, what different classes of societies should be entered in different ways, and even which words from specific titles should be chosen as the entry word. When the witness stated that he was in favor of the rule which would enter anonymous works under the first substantive in the title, he was asked thereupon to apply this rule to the title *Is It Well with You?* and the

⁴⁴ *Ibid.*, Question 9869.

⁴⁵ *Ibid.*, Questions 4361-4506.

title *Ye Must Be Born Again*.⁴⁶ Though such sections of the hearing make fascinating reading, they do not get us quickly on with our subject.

Panizzi's training as a lawyer doubtless put him in good stead. He pleaded his case brilliantly and, as would be the custom in a court of law, dealt with exact evidence to prove his points. As one illustration of this, I mention that well-known episode which involved John Payne Collier, the Shakespearean critic. When Collier was called before the commission as a witness, he criticized the 91 Rules most vehemently, stating that Panizzi with his many rules and too careful cataloging was not only delaying the production of a catalog but was making a useless tool of it and referred to the work as "Mr. Panizzi's interminable catalogue."⁴⁷ Collier tried his hand at cataloging twenty-five books according to the system which he was advocating, and then Panizzi appeared before the commission, using the results of Collier's cataloging as a basis for the defense of his own 91 Rules. Needless to say, the barrister Panizzi presented his case in a manner which was rather devastating for Collier.

A perusal of only this one day's hearing is enlightening in a number of ways. First of all, it leaves us with no doubt that we have now arrived at "modern" cataloging, for all the problems are here and, with them, many of the same answers, too. A number of the solutions suggested are exactly the ones which have been brought forward recently as quite radical ways by which we might streamline these old-fashioned catalogs of ours. The question of whether the catalog should be anything more than a finding list was discussed a hundred years ago

⁴⁶ *Ibid.*, Questions 6435-37.

⁴⁷ *Ibid.*, Question 5066.

quite as seriously as today, and it sounds anachronistic when, in the hearing of March 9, 1849, the Earl of Ellesmere, chairman of the day, puts the following question: "Have you ever heard it proposed that each book should be catalogued under the form of name appearing on the title without any regard to uniformity and without regard to the different forms of name adopted by an author, or arising from the different languages in which works by the same author may be printed?"⁴⁸

Now, at the halfway point in the nineteenth century, developments in cataloging in the United States begin to warrant our attention. Up to this time American cataloging was still following the same general pattern that had characterized European cataloging during the preceding century. For example, of the three catalogs which Harvard printed, one had been divided into three alphabets according to the *size* of books, all three contained the briefest of entries, and none provided much in the way of subject approach. However, in 1850, with the acceptance of Charles C. Jewett's code for the catalog of the Smithsonian Institution,⁴⁹ it would not be far wrong to say that cataloging in this country first came to maturity. The unprecedented and still unparalleled interest and activity in cataloging which had flared and flourished at the British Museum for well over a decade now could not help having its effect on American librarians.

In the Preface to his code Jewett acknowledged his debt to Panizzi, and he departed in only a few instances from the precepts of the 91 Rules, instances in

⁴⁸ *Ibid.*, Question 7338.

⁴⁹ Charles C. Jewett, *Smithsonian Report on the Construction of Catalogues of Libraries, and of a General Catalogue and Their Publication by Means of Separate, Stereotyped Titles, with Rules and Examples* (Washington: Smithsonian Institution, 1852).

which can be seen the basis for some of the entry principles which have come to be entrenched in American usage. Jewett extended the principle of the corporate author further than Panizzi had and entered all corporate bodies directly under their names without the use of any intervening form headings. He specifically established "U.S." as the author of public documents issued by particular departments, bureaus, or committees. While he followed the letter of Panizzi's law for the entry of noblemen, he very openly questioned the propriety of the rule and gave examples of instances in which he thought it did not achieve the most desirable form of entry. He also differed from Panizzi in the entry of pseudonymous works and established the practice of entering a book under the real name of its author, regardless of what name appeared in the book itself, "if," as he said, "he be known to have published any edition under his own name or to have avowed the authorship." Another departure of major importance that he made from the 91 Rules was concerned with the entry of anonymous works which he entered under the first word of the title rather than under some catchword contained in the title. In no case did he provide for the entry of an anonymous work under a form heading as Panizzi had done; in fact, in the matter of form headings he departed from Panizzi completely and made no use of them at all for main entry. All these emendations proved to be significant and pertinent to the later development of cataloging in this country.

In regard to the concept of subject entry, Jewett not only did not go beyond Panizzi but showed rather that he had even less awareness of it. The only provision he made for subject at all was a cross-reference from the subject of a

biography and "from any word in the title of an anonymous work, under which one would be likely to seek for the work in an alphabetical catalogue."⁵⁰

Jewett spelled out in detail his theory of what purpose a code should serve: "The rules for cataloging must be stringent, and should meet, as far as possible, all difficulties of detail. Nothing, as far as can be avoided, should be left to the individual taste or judgment of the cataloguer."⁵¹ In view of this theory, it is interesting to observe that Jewett's rulebook is a slim little pamphlet containing thirty-three regulations.

When Charles Cutter published his *Rules for a Printed Dictionary Catalogue* in 1876, he gave further support to those principles on which Jewett had been at variance with Panizzi. He entered authors who used pseudonyms under their real names and questioned the wisdom of Panizzi's rule for noblemen. He made no use of form headings for main entry but rather transferred this type of heading to the area of subjects, a procedure which, although now taken quite for granted, might, for functional purposes, not be able to survive too great scrutiny. The closest we have ever come again to the use of form headings for main entry is in the practice introduced by the Library of Congress of using form *subheadings* such as *Laws, statutes, etc., Treaties, etc., or Selections*. It must be admitted that the principle makes for rather good organization, and it does not seem quite idle to wonder whether it was totally unquestioned progress on the part of Jewett and Cutter to disregard Panizzi in this respect. Cutter, like Jewett, entered anonymous works under the first word of the title, with an interesting exception, however, in the case of anonymous biogra-

⁵⁰ *Ibid.*, p. 47.

⁵¹ *Ibid.*, p. 6.

phies, which he entered not under the first word of the title but under the subject. With him this procedure was certainly not a matter of having failed to define the concept of subject entry, as was probably the case with earlier catalogers; it must rather come down to the simple fact that he felt free to make main entry under subject when he thought common sense dictated it.

Cutter strengthened the concept that catalogs not only should point the way to an individual publication but should also assemble and organize literary units. While this was not an entirely new principle, since Maunsell in 1595 had used the heading "Bible" to assemble its various versions and translations, Panizzi in 1841 had strengthened it as a concept by introducing corporate and government entries, and Jewett had given it still further support by his use of real names rather than pseudonyms, yet it was Cutter who actually stated it as a formal principle: "In regard to the author entry it must be remembered that the object is not merely to facilitate the finding of a given book by the author's name. If this were all, it might have been better to make the entry under . . . the form of name mentioned in the title, but we have also . . . [that other object] to provide for [of showing what the library has under a given author]."⁵²

Sixty-three years ago, in Cobb Hall on the University of Chicago campus, at a meeting of the World's Library Congress which was being held in connection with the World's Fair, William Coolidge Lane of Harvard gave a report on the state of cataloging. First he enumerated those points in regard to a library catalog

which he considered had been settled and, second, those on which there was still no general consensus. The following are a few of the items on which he considered that agreement had been reached: (1) most works should be entered by subject as well as by author or title; (2) the author's name if possible should be given in the vernacular; (3) on the author card the author's name and bibliographic detail should be given in full, but the title in brief; on subject cards the title should be given in full, but the author's name and bibliographic details in brief; (4) in transcribing titles the words and spelling of the title page should be strictly adhered to, with any deviations indicated by brackets; (5) periodicals should be entered by title except those society publications which bear the name "Bulletin," "Proceedings," or "Journal." Then some of the points on which he said that opinion was still divided were: (1) the form of the catalog, whether it should be printed, loose-leaf, or on cards, or a combination of these; whether it should be a dictionary or a divided catalog and, in the latter case, whether the subject section should be alphabetical or classified; (2) the question of the entry of pseudonyms; (3) the entry of English noblemen; (4) the entry of societies and institutions (the present distinction between them had not yet been devised).⁵³

After he had delivered his report, Mr. Lane proposed three questions which he thought called for discussion: (1) Should libraries go to the effort of seeking out the full names of authors for entry? (2) Should scientific and art subjects, as well as historical and descriptive material, be put under place, or should they be sub-

⁵² U.S. Bureau of Education, *Public Libraries in the United States* (Washington, 1876) (Special Report, Part II: "Rules for a Printed Dictionary Catalogue," by Charles A. Cutter).

⁵³ American Library Association, *Papers Prepared for the World's Library Congress Held at the Columbian Exposition* (Washington: Government Printing Office, 1896), pp. 835-49.

divided by place? (3) Are the days of the subject catalog ended in favor of the use of subject bibliographies?⁵⁴ The subsequent discussion was, as always, partly to the point and partly not, partly far-seeing and partly naive, and in many places picturesque. On the question of using the author's full name for purposes of identification, one librarian said he thought that the author's residence was the most important item to use for identification, giving as evidence the fact that he knew three William Sanders, one living in London, England, another in London, Ontario, and the third in Washington. At this Mr. Dewey quipped, "Your Ontario man may move to London or Washington."

In 1904 another international meeting was held, this time in St. Louis in connection with the Louisiana Purchase Exposition, and Mr. Lane again reported on "Present Tendencies of Cataloguing Practice."⁵⁵ One gathers from this report that during the interlude of eleven years since the Columbian Exposition the compilation of subject catalogs had become an accepted procedure and that card catalogs had won out over the other forms. In fact, there was already concern over the size to which card catalogs might grow, and Mr. Lane was suggesting a solution which has lately been brought up again as something new, viz., printing up sections of card catalogs in order to reduce their too great bulk. He also mentioned that many codes had come into being mostly for the purpose of simplifying procedures and in this connection expressed the regret that "codes become longer, the oftener they are revised." Mr.

⁵⁴ *Library Journal*, XVIII (September, 1893), 75 ff.

⁵⁵ American Library Association, *Papers and Proceedings of the Twenty-sixth General Meeting of the American Library Association Held at St. Louis, Mo., October 17-22, 1904*, pp. 134 ff.

Lane concluded his report by enumerating the questions which in his opinion should be the concern of the profession: (1) how to establish a just relation between subject catalog and bibliography; (2) how to improve subject catalogs; (3) which form of subject catalog is best; (4) what should be the attitude toward putting into the catalog analytical entries from periodicals and society transactions; how to make the best possible use of printed cards from the Library of Congress, and how to extend the work on similar lines; (6) how to obtain international uniformity; (7) how to get foreign governments to print catalog cards; and (8) how far librarians should go in keeping on file cards for books in other libraries.

During the years between the appearance of the 91 Rules and the year 1900, cataloging codes had become very numerous. To mention only a few of them, there were in England, in addition to the revised editions of the British Museum rules, the Bodleian and Cambridge codes; in the United States, there were Jewett and Cutter, and Linderfelt's *Eclectic Card Catalog Rules*, Dewey's simplified rules, and rules for the Library of Congress; in Germany, Dziatzko's *Instruction* of 1886, the basis of the Prussian code. There were codes in Belgium, the Scandinavian countries, France, Italy, the Netherlands, Spain, Switzerland, and the Vatican. Hundreds of libraries had their own individual rules.

Considering the great number of codes in use at the turn of the century, there were relatively few points of disagreement among them in regard to basic principles. There was universal agreement on entry under author, although there was not always agreement on what constituted an author, for the codes of Germany, Austria, Switzerland, Spain,

and the Netherlands differed from the others in maintaining that authorship can be only a personal thing, and hence they did not, in general, treat the names of organizations as potential main entries. In the case of joint authors, there was agreement among the codes that entry should be under the first-named author, but there was a great variety of opinion as to how many authors' names might be included in the main entry at the same time.

We have noted that, from the beginning, there had been disagreement in regard to which part or form of personal names should be used for entry—the forename, the surname, the title, the possessive case, or the nominative. By 1900 there was still a great variety of differing opinion on the entry of compound names, on the entry of names beginning with prefixes, and the names of noblemen and royalty. In this area it was not even possible for Americans and British to arrive at agreement when they were co-operating on the formulation of the Anglo-American code. During the three-score years which elapsed between Panizzi's rules and our 1908 code there can be observed a gradual tendency toward giving less weight to the authority of the title page and placing more reliance on information gained from sources outside the book itself.

An attempt to summarize in brief form the findings from this excursion through catalogs and cataloging codes of the past might lead to something like this:

Modern library cataloging has been little influenced by ancient cataloging. Whatever developments there may have been in the compilation of catalogs in antiquity, no remains of them survived. There was no carry-over into the Middle Ages, for during that period cataloging as we conceive it did not even exist; neither did the Renaissance turn up anything

about cataloging from classical periods except the barest and most conjectural evidence. Therefore, with the exception of the fact that the Greeks taught us to refer to books by their authors, it is not far wrong to maintain that the art, the technique, of cataloging is a completely modern development.

Cataloging throughout the Middle Ages was limited to casual and unorganized inventory lists, the earliest examples of which come from the eighth century. The thirteenth century produced an attempt at a union list of holdings for English libraries; in the fourteenth century the idea of location symbols made its appearance, as well as more complete identification of editions, and entries for more than the first work in a volume; in the fifteenth century cross-references appeared and the compilation of a bibliography and, of special importance to our subject, an index to the bibliography. The sixteenth century produced a catalog which made mention of editors and translators and bibliographies in which, for the first time, attention was paid to the entry word; this century also brought the first use of entry under surname, and the principle of uniform entry for the anonymous classic. The seventeenth century brought an increased interest in catalogs, as well as treatises on how they ought to be made; it was a time of garnering past accomplishments rather than inventing new devices. The eighteenth century pursued a similar course, with the one exception in its last decade of the use of card catalogs by the French government. The nineteenth century was characterized by a keen interest in catalogs and greatly increased demands on the part of library users. Many of the great modern catalogs appeared during this century in Germany, France, England, and the United States.

The development of the concept of en-

try, the idea that significance attaches to the *entry word* because it in itself constitutes a means of approach to books and information, while a concept so basic to-day that in every kind of listing we accept it without recognizing it, is nevertheless, a relatively recent notion. Actually, the first time any manifestation of this sense of entry seemed to appear was in 1545 in the work of Konrad Gesner. It was developed further a half-century later in the code of Andrew Maunsell, but the idea had not yet been apprehended by the majority of librarians. Even Thomas Bodley showed that he did not have a complete comprehension of the principle.

Once the general concept of entry was recognized, as it seemed to have finally been during the eighteenth century, there followed the question as to what factor in the book should constitute the entry. There was the ancient oriental tradition of title, the Western tradition of author, and then the modern notion that something should be done about *subject*.

The principle of *added entry*—the idea that there might be more than one way of finding a book in a catalog—made its first appearance in the form of indexes to catalogs, a device which seems to have been used for the first time by Johann Tritheim in 1494 and also appeared shortly thereafter in the catalog of Syon Monastery in England. The system was followed by subsequent bibliographers and codifiers—Gesner, Trefler, Maunsell, Bodley, Rostgaard, and Horne. By the beginning of the nineteenth century, librarians were well aware of the advantage of making a book available through more than one approach, but by no means did they always see their way clear to accomplishing this.

When the dictionary form of catalog was used, the added-entry function was performed by cross-references rather than by indexes. Bodley, Panizzi, Jewett, and the Library Association of the United Kingdom (1883) included in their codes definite rules for the use of cross-references to accomplish the added-entry purpose. However, by 1876 in this country, when Cutter published his code, he was already taking for granted the use of actual added entries.

The need for analytical and "bound-with" entries was recognized in the fifteenth century by the librarian of St. Augustine's Abbey in Canterbury; he met the need by the use of cross-references. Two hundred years later both Bodley and Rostgaard included in their rules the regulation that actual analytical entries be made, but, by the very nature of their instructions, they made it evident that this was far from a customary practice. At the end of the seventeenth century Wanley posed it as one of the problems to be faced in the compilation of catalogs, and at the middle of the twentieth century the question is still with us.

As one looks back over the development of cataloging codes, beginning with the rules of Trefler in 1560, one becomes impressed with the fact that throughout history codes seem always to have envisaged catalogs which were far better than their contemporary catalogs ever were—more complete, more progressive, and better organized. Examined from the perspective of history, codes have not been a statement of the usages of their day but rather the very means through which progress has come. If it is true that codes become the unintentioned pioneers, the forerunners of future practices, then the responsibility which is upon us is heavy indeed.