

Classification from the User's Viewpoint: Concerning the Arrangement of Collections in University Libraries

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ABSTRACT: As the use of the most common classification systems for the arrangement of library material gives rise to evident problems both in terms of efficiency and user-friendliness, the paper proposes to limit them to the bibliographic description of documents and to make reference to different classification structures specifically aimed at meeting the needs of the physical organization and local access to documents. A possible solution can be the Scientific-Disciplinary Sectors which are the principal structural references both for research and teaching activities. Such a classification, of a purely institutional type, certainly reflects the present-day university situation rather than abstract models, but at the same time it defines more concrete approaches to knowledge. Furthermore, it can be profitably used to correlate people involved in different ways in the university's institutional activities with the bibliographic material functional to such activities, thus offering a useful parameter in appraising collections.

1. Introduction

While in the training of librarians bibliographic classification undoubtedly represents one of the most important aspects of the complex problem connected with subject indexing, for library users the most direct and immediate approach to the logic of the organization of knowledge is through the physical arrangement of library materials; it follows that in the minds of readers the main reasons for discontent and criticism as concerns classifications do not depend (at least not directly) on an abstract and somewhat academic reflection on possible their inadequacies, for example on the level of organization by disciplines (a consideration that is the consequence rather than the cause of such discontent), but are more often originated by the encounter (or bet-

ter still the clash) with contradictory and unsatisfactory call numbers which sometimes make exploration among the shelves a veritable torture.

Effectively, the use of the most common classification schemes in organizing collections accentuates a series in incongruences that are not necessarily intrinsic to the schedules themselves but are more often closely connected with the different situation in which they are applied and the different use made of them with respect to the context in which they were developed: that is to say, subject indexing and more in general information retrieval. In part, this "confusion" of objectives and the discontent it creates is caused by an unjustifiable silence of librarians (especially Italians) concerning the problem of physical arrangement of collections and the complexity of the relationship between notation on the one hand and

call numbers on the other, despite the fact that library science came into being with this "nagging" problem.

When, starting from the 17th century, the institutional model of the library in the sense of a large concentration of volumes for public use became foremost, one of the topics that attracted the most attention among scholars of library science in describing the phenomenon (Serrai 1994) was exactly that concerning the arrangement of volumes as the fundamental organizational element, not only for the image but also for the purpose of the collections and their fruition. In the *Advis pour dresser une bibliothèque* by G. Naudé (Paris 1627), for example, the need to adopt classified schemes for the physical location of books is at the origin of the discussion on classifications: once stated that a library, however rich it may be, is not such if the volumes are not arranged following a systematic plan that makes them physically retrievable, Naudé reviews the different solutions and then presents his proposal.

On the other hand, the possibility of adapting instruments created in a philosophical context to the representation of the conceptual contents of bibliographical documents, the exploration of such applications and the detailed study of their implications has gone through the need to use such instruments in arranging library materials: the first systematic catalogues as tools for access to information (Serrai 1993) were first of all topographical catalogues, that is, ones in which the collections were described in physical as well as logical order.

One of the most recent developments in this long tradition is perhaps represented by the *Dewey Decimal Classification (DDC)*, the first classification of modern library science, but also the last in which the problems inherent in the logical organization of knowledge were dealt with in a profound symbiosis with those represented by the physical arrangement of the volumes in an attempt to find a solution in equilibrium between the two different exigencies. Effectively, the choice of a division based on the decimal system, which as is known represents the main reason for the success of *DDC* and at the same time its main limit from the theoretical standpoint, finds its justification in the need for intelligible and mnemonic notation which could be used as the basis for a "relative" location just as intelligible and mnemonic.

The developments that later conditioned thought on classifications have however led to a final breaking of this already unstable equilibrium: the perspective from which they have been studied has in fact been totally devoted to issues concerning the devel-

opment of catalogues; on the operational plane it has been oriented in the direction of standardization, communication and the sharing of bibliographic records; in theoretical terms it has gone in the direction of the creation of more and more powerful, but also complex, instruments for subject indexing.

Thus, on the one hand, dissatisfaction with the "classic" solutions due to their capacity (or incapacity) to describe knowledge has led to researches requiring great intellectual commitment and with a decided opening towards strongly speculative aspects, farther and farther away from the perspective, typically "managerial", that characterizes the physicalness of library collections; on the other hand, it has been increased the fortune of more traditional systems such as the *DDC* or the Library of Congress *Classification*, perhaps less refined in their premises or more hoary, but capable of imposing themselves as strong structures and as *de facto* standards in a quite specific context, that of the exchange of bibliographical data, with the result of projecting the problems of classification beyond the limits of the single library onto the vast horizon of the entire universe of the books and thus within the sphere of Universal Bibliographic Control.

Both of these perspectives, aimed at concentrating on the bibliographic aspects connected with the use of classification in the handling and retrieval of information, have put in the background the other side of the question, that is, the controversial issue concerning the possibilities and limits with which they may be used in the arrangement of library material and in so doing they have on the contrary aggravated the already difficult relationships between the two different levels: the logical level of bibliographic organization and the physical level of the library. The institutions which have turned to the same classified schemes for the indexing and arranging their collections have found themselves faced with a multiplicity of problems, all closely connected with this physical and spatial dimension within which the totally concrete interaction between book collections on the one hand and users on the other takes place.

In this perspective, some of the mainstays which are the very foundation of subject indexing procedures and ensure their success are undermined. One of these mainstays is the specificity of notation, which in turn provides an extremely precise approach to the subject of the document and which may instead have, in spatial terms, the certainly not "beneficial" effect of excessively fragmenting the arrangement of library material, thus making its explo-

ration more difficult. The class notation by a very specific subject (Projects for cooperation among libraries in the Alpine regions), 021.6094947 according to the *DDC*, translated into a call number with the addition of the book number will do nothing but create problems for users without providing any particular advantage: how many books will they find on the same shelf dealing with the same subject?

Moreover in the organization of collections it may be necessary to interrupt the linearity of the schedules to arrange special sections that create parallel sequences and, in a way that is the exact contrary of what is required of a catalogue, distribute (scatter) information over many places: we can for example distinguish a reference section, a teacher's room and a multimedia area the material of which does no more than "duplicate" the structure of the main section. This problem, although apparently connected with the physicality of the architectural structure, in reality does not exclude the use of digital resources: on the contrary it is even more evident in this case; suffice it to consider the distinction that must be made between free access gained by means of a password or IP in the creation of pathways that simulate the browsing of users on the shelves and which in fact identify sections connected by different means of access for different kinds of resources.

Finally, it may be necessary to consider in a different way the context in which a book is published or the use to which it is destined rather than its "pure" subject: in the first case it is a question of maintaining the structural unity of series of volumes and other kinds of collections while in the second it is a question of avoiding the creation of sections that are too small and insufficiently filled when there are publications lying outside sections that take up more library space or taking into the necessary consideration the greater probability of users approaching the shelves with their own habits and behaviours, which are not always guided by an abstract rationality. Who would ever expect to find in the collections of a library that did not have other material belonging to Dewey class 020 (Library Science and Information Science), a book on the projects for cooperation among libraries in the Alpine regions with the call number 021.6094947 ALP?

2. Proposals for the arrangement of collections in university libraries

In this context, the use of the most widespread indexing systems by class brings with it the need to find a

series of compromises and adaptations; in reality, these have led to attempts that have been globally defined in terms of "declassification." This expression obviously indicates a sort of rebellion, one that is not so much against the idea of classification itself, but against the hegemony of the widespread systems used for indexing, since their abstractness and generality do not respect the needs that in specific cases characterize the access of users to collections and thus to continue to be used they must in turn be modified, tamed and, in the long run, distorted to some extent.

In Italy, where the problems of the arrangement of collection were put aside for many years following the 19th-century reflections (Fumagalli 1890), owing to the strong resistance of the Dewey system which today remains the preferred reference not only as concerns public libraries, but also those of universities, only recently has interest in these issues been revived, starting from a short essay by Maltese (1985), followed by the works of Traniello (1989), Geretto (1991), Di Domenico (1995) and Innocenti (1996). However, several years had to pass before a more concrete proposal (Di Domenico 2003) for coordinating the Dewey system with curricular pathways more suitable for users by correcting some of its excesses within the framework of a logic of "departmentalization," which however went in the direction of creating evident redundancies. The criterion for the organization of collections calls for a partial reorganization of *DDC* classification schemes within a different logic by categories obtained by subordinating the original conceptual setup to a division by thematic poles capable of grouping together branches of disciplines otherwise condemned to remain "physically" far away and of restoring to them a fuller identity, one that responds more closely to the expectations of users. The call number system proposed consists of three elements: an abbreviation for thematic departments, then a progressive number for the sections, if necessary divided into subsections following a logic of their own, and then the Dewey index, used as the book number followed by the initials of the author's surname. In most cases the abbreviations of the departments, followed by the section number do nothing more than repeat the indications of the Dewey notation. A similar solution, but one characterized by a more radical operation on notations, had in reality already been in practice in few university libraries. Among those present in this review, for example, is the library of the Scuola Normale Superiore of Pisa.

What derives from such adaptations, however, is in the final analysis a classification parallel to the

original scheme, but necessarily different from it in content, for the most part more limited in its autonomy for development in that it finds itself caught between the need to depart more and more from its model and the need to maintain an improbable synchronism with the latter, despite having to undergo periodical updates.

The risk involved in this hypothesis is not only that of being detrimental to the internal coherence of the original classification schemes, but also of confusing users even more, who in order to use the library to best advantage must memorize sequences of numbers and letters present at different points of the bibliographic record, but each time expressed in slightly different form, once as a function of call number and then as a function of notation.

In the light of this, it appears to be far more reasonable to abandon traditional schemes altogether and turn to different classification structures capable of ensuring greater correspondence to the peculiar modalities which within each library characterize the interaction between users and books on the shelves. Such an approach, which has often been adopted, especially in university libraries in consideration of the specialization of the collections and the specificity of users, brings with it another danger: that of improvisation and empiricism. After so much rhetoric about standardization and cooperation, this leads single libraries to the brink of the precipice of particularism.

A different solution that maintains a common frame of reference, thus avoiding the fragmentation of experiences, but at the same time presupposes a more careful consideration of the realities of users and especially the habits and practices of access to the collections, comes from the adoption of classification schemes which, although they perhaps sacrifice logical rigour and abstractness, are based rather on categorizations born of needs of a practical nature and which, having become consolidated with the passing of time, are for this reason commonly shared and "natural." In the specific case of the arrangement of collections in university libraries, the hypothesis that can be proposed in this sense (Granata 2005) is represented by the Scientific-Disciplinary Sectors (SDS) which now are the main structural reference both in research and teaching: they define not only the areas of the professors and researchers for the purpose of their arrangement and the determination of their functions, but also the composition of the teaching ambits relating to the different courses of study, both three-year and post-graduate ones.

In this sense the SDSs represent an indispensable and particularly deep-rooted point of reference: professors are used to thinking in terms of a Sector abbreviation and use the same labels when they describe their own research projects, when they must find their subjects in the students' curricula or when they must make their lecture notes or other materials available in the open access sites which many universities are now installing.

At present, having regard to Italian Ministerial Decrees of 4 October 2000 and 18 March 2005, the structure of SDSs derives from the reorganization of a previous setup in which changes of different kinds had been made: in particular the internal setup based on three levels has been delineated in a more clearly hierarchical way. The highest level is represented by the Areas which contain several homogeneous Subareas; the latter in turn contain several homogeneous Sectors following the logic described below:

- Area 01 with two Subareas in which we find the Sector belonging to the Mathematical Sciences (MAT/01-09) and the Sector INF/01 in which we find disciplines concerning Information Science respectively.
- Areas 02, 03, 04, 05 and 06 in which we find respectively the Physical Sciences, the Chemical Sciences, the Earth Sciences, the Biological Sciences and the Medical Sciences.
- Area 07 in which we find the Sectors concerning the Agrarian Sciences (AGR/01-20) and Veterinary Sciences (VET/01-10) in two Subareas.
- Area 08 in which we find in a single series the Sectors concerning Civil Engineering and Architecture (ICAR/01-22).
- Area 09 in which we find in two Subareas the Sectors concerning Industrial Engineering (ING-IND 01-35) and Information Engineering (ING-INF/01-07).
- Area 10 in which we find the Sciences of Antiquities (L-ANT/01-10), and Historical and Artistic Sciences (L-ART/01-08), Philological and Literary disciplines (L-FIL/01-15), Linguistic disciplines (L-LIN/01-21) and finally Oriental Studies (L-OR/01-23).
- Area 11 in which we find the Sectors concerning Historical Sciences (M-STO/01-09), Demographic, Ethnographic and Anthropological Studies (M-DEA/01), Geographic Sciences (M-GGR/01-02), Philosophy (M-FIL/01-08), Pedagogy (M-PED/01-04) and Psychology (M-PSI/01-08).

- Area 12 in which we find in a single series the Sectors concerning Juridical Sciences (IUS/01-21).
- Area 13 in which we find in two Subareas the Sectors concerning the Economic Sciences (SECS-P/01-13) and Statistical Sciences (SECS-S/01-06).
- Area 14 in which we find in a single series the Sectors concerning Political and Social Sciences (SPS/01-14).

We cannot exclude that behind this organization, and in particular in the identification of the Subareas and within the Sectors, there have been considerations of a more clearly “political” nature, of mere opportunity, and not reflections or abstract models: behind the SDSs there are in fact groups of people and thus also interests, traditions and even differences in power. This fact, which may appear to represent an element of weakness, in reality constitutes, if not an element of strength at least the characteristic that makes the system especially interesting as an instrument capable of reflecting the borders between disciplines, their relationships and contents owing to the way in which they are concretely defined, putting aside considerations that are too theoretical or too distant from users’ habits.

The classification represented by the SDSs is to all intents and purposes an “institutional” classification that reflects the present-day organization of universities; from this standpoint, we certainly cannot expect it to be entirely coherent or “perfect.” To verify the possibility of its use in the arrangement/classification of university library collections it is thus necessary to examine its characteristics more in detail.

Despite the fact that the subdivision of Areas into Subareas has given a more marked hierarchical aura to the entire structure, the main peculiarity of the scheme continues to be a certain tendency to use enumeration. Especially at the third level of the Sectors, their listing does not really take into account the relationships of dependence that some have with respect to others and presents them substantially on the same level.

The Subarea Philosophy is for example divided into the following Sectors:

- M-FIL/01 Theoretical Philosophy
- M-FIL/02 Logic and Philosophy of Science
- M-FIL/01 Moral Philosophy
- M-FIL/04 Aesthetics
- M-FIL/02 Philosophy and Theory of Languages
- M-FIL/06 History of Philosophy
- M-FIL/06 History of Ancient Philosophy
- M-FIL/06 History of Medieval Philosophy

It is rather evident that Sectors M-FIL/07 (History of Ancient Philosophy) and M-FIL/08 (History of Medieval Philosophy), are in fact on the same level as the upper class of M-FIL/06 (History of Philosophy) although they derive from the correct application of the principle of chronological division.

In itself, this aspect does not necessarily introduce contradictory elements, but if carried to the extreme consequences it would certainly lead to great freedom in the management of the relationship between the determination of Sectors by means of the correct application of principles of hierarchical division and their distribution within Areas and Subareas. As appears evident from the overall scheme, the sciences of the ancient world are grouped into Area 10 and not in Area 11, and among them we obviously find Ancient History, both Greek and Roman, while Medieval, Modern and Contemporary History are in Area 11. If we reconstruct the logic of the development starting from the hypothetical, more general class “History” (found in the Subarea STO of Area 11), it is evident that all the historical disciplines should be grouped in that Area: their grouping partly in Area 10 and partly in Area 11 is clearly connected with a criterion totally independent of that of a logical-hierarchical nature from which they derive. If instead we follow another line of development starting from the more general class “Sciences of Antiquity” (it too to be found in Subarea ANT of Area 10), we still find a similar problem that makes it difficult to justify the presence of History of Ancient Philosophy in Subarea M-FIL of Area 11.

This incongruity is explained by an enumerative choice “taken to the limit,” to the point of neglecting structural aspects in the determination of the logic of classification and grouping of the disciplines themselves in favour of a necessity completely different from that of representing the steps taken in logical division: that is to say, the need to reconstruct consolidated pathways in the approach to knowledge as it is in fact practiced and not as it is abstractly defined; it is obvious that while in the framework of studies of antiquity the affinity between historical and philological studies is accredited by study methodologies, by relationships of scientific collaboration and teaching subjects, the relationship between historians of the ancient and those of the modern are more forced and less substantiated by custom. Similar arguments can be advanced in the case of History of Ancient Philosophy.

Up to now we have been dealing with two characteristics that are the direct consequence of an enu-

merative rather than a hierarchical choice, but which are admissible on the logical plane: 1) the placing on the same level of classes obtained by applying successive criteria of division and 2) the redistribution of classes within Areas and Subareas on the basis of a pragmatic rather than a logical-hierarchical criterion, despite the fact that it is properly used in the determination of Sectors.

More serious is another problem that the SDSs present and which instead must be overcome since it originates in a real incongruity in the reciprocal determination of the single divisions and thus has to do with the logic of the system. This is the case which, to remain in the Subarea concerning Historical Sciences, arises in the relationship between Sectors M-STO/01 (Medieval History), M-STO/02 (Modern History) and M-STO/04 (Contemporary History) on the one hand, and M-STO/03 (History of East Europe) on the other, which come from the adoption of two different principles of division: chronological in the case of the former three Sectors and geographic in the fourth, without there being a logical order to assign priority to one of the two criteria. This brings with it a serious limit that must be overcome to ensure the best use of the structure as a bibliographic classification; in fact, the classes obtained are not reciprocally exclusive and thus there may be ambiguities in identifying the position, both logical and physical, of the documents within the scheme. One possible solution to this problem is that of implicitly assuming that the different steps in division are successive, consequently specifying the content of the subclasses obtained, that is, by resolving the structural incongruity on the semantic level.

Substantially, this means first of all that we must arrive at a new formulation of the SDSs, one that is modified in content; secondly, it is necessary to devise an amplification of the "basic" list with the addition to the sequence of Sectors of junctions not contemplated by the original scheme but which are required in properly reconstructing the sequence of steps in the division.

In the case examined, we must reconsider the logic of the scheme in the way shown in figure 1 below.

This is to say, we must 1) introduce the new class [History of West Europe] and possibly the even more general one [History of Europe] to justify the adoption in succession of a geographic and then a chronological criterion; 2) specify the content of the SDS Medieval, Modern and Contemporary History as the Medieval, Modern and Contemporary History of West Europe.

The second expedient (the semantic one) is in reality not overly invasive: it certainly requires an "adjustment" of the original sequence, but the number of cases is fairly limited and does not have a significant impact at the structural level. As concerns the addition of new elements, considering the enumerative nature of the classification, this does not by itself change the general structure to any great degree: despite the graphic display on three levels, we can keep both the Sectors and connecting classes that may be reconstructed on the same plane.

However, the importance of interventions in this case is certainly more consistent owing to the fact that other additions are required, not only for this specific problem, but for an entire series of elements that remain implicit, as outlined in the development of the scheme and still necessary, especially when a presumable process of subdivision is reconstructed while maintaining the hierarchical relations on the same plane. For the sake of greater clarity, we can propose the example of Subarea Philosophy where, faced with a specification for the History of Ancient Philosophy and History of Medieval Philosophy, Sectors for History of Modern Philosophy and History of Contemporary Philosophy are lacking.

And that is not all. There is still a final problem: further additions to the main scheme, but ones that are less compatible with the basic enumerative structure, are indispensable owing to the different level of specificity with which the SDSs are defined. While for some the declaratory description identifies a

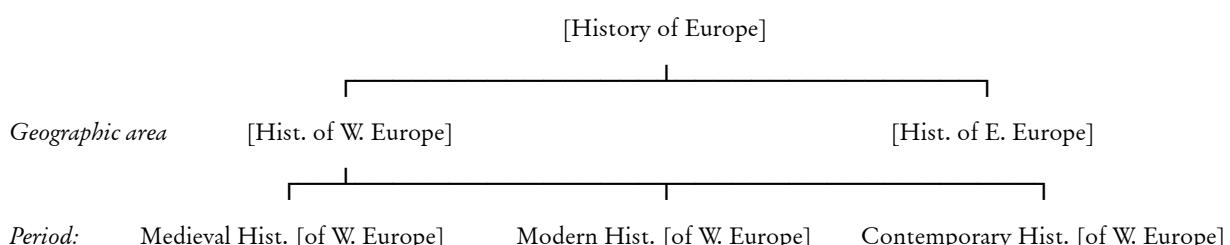


Figure 1.

fairly well-defined and circumscribed disciplinary ambit, for the majority more extensive and complex competences are required.

In this case the solution of inserting new classes in the main scheme, thus levelling out relations of reciprocal dependence, may not be convenient (it may lead to an excessive broadening of the structural base and thus to chaos), while on the other hand it may be necessary, for clarity's sake, to increase the levels of hierarchical division of the system, which in some cases may even become fairly widely branched out.

To sum up, the system must offer a certain amount of hospitality in the two directions, thus a notation capable of guaranteeing this is required. As concerns this, the SDSs are already distinguished by an alphanumerical sequence composed of numerical labels to indicate the Areas (although in some cases they are duplicated by letters of the alphabet); by initials for their divisions (Subareas) and by numerical indexes for third-level divisions (the single Sectors); each element is then distinguished from the next by a separator. For example, this is the case of Areas 10 and 11, where the alphabetical labels (L and M) represent an element of continuity with the previous organization of the SDSs. Technically, this structure may represent a notation which in general terms may be described as a hierarchical but not a positional one. Indeed, each sequence indicates a different nesting level and thus the entire reference expresses the hierarchical structure of the system (M-FIL/01), but the greater length does not correspond to greater specificity: L-ANT/01 and L-FIL-LET/01 are on the same level even though of different length. However, within each group of symbols, divided by the separator, is constructed (in accordance with the opposite logic) with a function of pure arrangement (either alphabetical or numeric) and according a positional criterion: Area M comes after Area L and, most of all, 10 comes after 9.

Overall, we are dealing with a fairly prolix system but one that has the certain advantage of being quite mnemonic (especially thank to the initials of the Subareas) and of maintaining the reference to the denominations in use. But most of all, as specifically concerns the problem from which we started, this system can provide good hospitality both vertically and horizontally: in the first case, owing to the way in which the reference is constructed (that is, its hierarchical and not positional character), it is sufficient to add a separator to create a further level without causing problems, other than the lengthening of the reference. As concerns horizontal expansion

since the symbols are used in a purely ordinal way for each level, it is possible to make additions at the beginning, in the middle and even at the end of each sequence, simply by combining the symbols of the chosen base without there being an increase in nesting levels (which are handled by means of separators). We could even go so far as to insert after Area M another Area MM, where the double letter simply indicates the succession of one after the other and not their hierarchical relationship.

In the case of the first and third hierarchical levels, the base of reference must certainly increase with respect to the original structure: for the Area, with the use only of the alphabetical system it could be difficult to make new additions at the beginning (since we start with Area A), while by adding to the base of reference the numbers from 0 to 9 good expansion becomes possible. On the contrary, when dealing with the Sectors using only numbers it may be difficult to make additions in the structure, but by using a combination of numbers and letters it should be possible to solve the problem: between Sectors 01 and 02 we can insert 01 A and so on.

3. Conclusion

Generally speaking, on performing a more attentive analysis of its characteristics, despite its essentially empirical slant, the structure of SDSs appears to ensure a certain coherence, although it requires a series of horizontal and vertical additions.

This is certainly the main obstacle to use it effectively as a classification system for the arrangement of collections, since it is here that there is still much work to do. Is it worth the trouble? Perhaps it is at least worth examining the hypothesis, not only for the reasons given above, but also for a series of other reasons that may open up new, potentially important prospects. Two above all: firstly, the possibility of having a common system for all Italian universities and thus avoid not so much the empiricism of do-it-yourself solutions, which in some cases work quite well, but the inevitable lack of communicability; secondly, in a broader perspective, the possibility of placing collections and users in direct contact: indeed, the same system of classification classifies both and, if the library is where books and users come together with the librarian as the professional working to guarantee the success of such a meeting, this double function may become truly interesting.

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