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## Teaching Medical History: the Impact of Rare Medical Books Collections on Medical Education. A Critical Overview in Italy

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### ABSTRACT

#### **The Impact of Rare Medical Books Collections on Medical Education**

This article illustrates the impact of bibliographic collections of medical history (what we can also call “rare medical books”) on medical education. The authors have carried out an analysis of academic experiences – largely Anglo-American – where these resources have been used on the educational level. These collections represent an underestimated and underutilised educational potential, especially in Italy, despite the considerable historical wealth and heritage of books and literature available.

Furthermore, the article highlights some possible methodological strategies for a systematic enhancement of the collections in the context of the didactic curriculum of medical studies: the development of a systematic scientific alliance between professor and librarian for a pedagogical use of the collections; the direct involvement in academic programs through didactic planning of the use of historical-medical library material; and the use of historical-medical bibliographies as tools for research and understanding the evolution of medical knowledge, to date little used in historical-medical teaching.

With specific reference to countries such as Italy, defined by a noteworthy wealth of historical-medical book collections, there is a potential that paradoxically still awaits to be adequately utilised, with the exception of some pioneering and learned experiences. This situation is due to the lack of pedagogical pathways and approaches elaborated according to a common strategy among teachers, researchers and librarians.

**Keywords:** Rare medical books - Medical education - Medical bibliographies - Medical objects

## Introduction

The history of medicine within Medical Humanities is certainly the discipline and subject matter that is most influenced by a reflection on the teaching material, curricula and the method of transmission in an effective and useful way for medical training<sup>1</sup>. Historical-medical book collections represent an important educational resource not only for the history of medicine but also in general for medical disciplines – in particular anatomy – as documented by some positive experiences initiated above all by Anglo-American universities. The analysis of these models offers methodological examples of concrete and practical use of historical-medical library collections in medical training, highlighting the didactic potential of historical collections and libraries and also stimulating the articulation of new training paths and approaches.

## Teaching Anatomy in the library

Among medical disciplines and subjects, anatomy is undoubtedly that with a rather congenial history, on the didactic level, for the use of ancient books and sources. The rich iconography that characterises the ancient books of anatomy facilitates its extensive use, even by those students who do not possess the knowledge of the Latin language. The use of visual representations immediately draws the student's attention to the material aspects of the book, in addition to helping scholars and students overcome the barrier of textual comprehension. When speaking of ancient printed books on anatomy, we surely cannot leave out *De Humani Corporis Fabrica*, the Vesalian masterpiece of 1543, a work that boasts several firsts and noteworthy information. This book marks the beginning of modern medical science based on observation, while also being a masterpiece of the typographic art of printing, testimony of this iconographic and didactic power with its famous anatomical tables engraved by Jan Van Calcar<sup>2</sup>. With its editions, the work also exemplifies the ability of the press to modulate the editorial products on the basis of the target audience, as demonstrated by the *Epitome* of 1543, conceived as a reduced edition for use by students<sup>3</sup>. The work of Andreas Vesalius and other anatomical texts have been at the centre of an educational experience developed by the University of Alabama-School of Medicine in collaboration with the Reynolds Historical Library at the Lister Hill Library of the Health Sciences in the context of the Medical Gross Anatomy course<sup>4</sup>. Historical library resources were considered an integral part of the course. Consequently, the students visited and used the library during the course, thanks to thematic exhibitions designed to study in-depth the topics covered and set up by the book staff together with the professor of the course. In the case of Vesalian anatomy, the librarians prepared a notice board in which a copy of the *De Humani Corporis Fabrica* of the first edition of 1543 was exhibited, the reproduction of one or more tables, the *Epitome* and some anatomical tables taken from works prior to *Fabrica* in order to show the dif-

ferences with respect to anatomy before Vesalius. The teacher also organized guided tours in small groups of students with the possibility for them to physically browse the Vesalius' work. Students were asked to write a short essay on the lectures in the library, highlighting in particular what added value they have had in terms of teaching anatomy. Based on the students' essays, important observations emerged. Firstly, many were surprised by the modernity of the Vesalian anatomical tables, in their eyes more similar to those of the anatomical manuals in use than to the contemporary anatomical representations of Renaissance figurative art as they imagined. Moreover, they gained historical awareness of the importance of the act of anatomical dissection that Vesalius' work had contributed, conferring a perspective and a historical meaning to what the students witnessed daily during the anatomy lessons. A similar educational project was developed at the Falk Library of the University of Pittsburgh, where fourth-year medical students were asked to visit the library's historical-medical collections and choose a historical theme to be developed under the guidance of the professor and together with the librarian.

### **Medicine through print culture**

Anatomy has proven to be a congenial medical subject in order to promote the pedagogical use of collections of medical rare books. According to some recent didactic models, rare books with a rich anatomical iconographic apparatus are used in combination with historical-medical material from museums, in order to encourage students to exchange knowledge derived from direct experiences with the works and objects of the historical collections<sup>5</sup>. These are didactic models that can also be applied, thanks to their ductility, to other areas of medicine such as dentistry and nursing, allowing for the structuring of the lesson through the interaction of sensitive knowledge deriving from objects and books. As a result of these developments, the physical and reception spaces of well-known historical-medical libraries have also been rethought. The aim is to respond to the needs of a much wider audience, represented by scholars of areas of study such as art, history, anthropology and ethnography, part of the Medical Humanities, disciplines and subjects that privilege the epistemological potential of the materiality of objects. Approaches when using books and museum objects have also been reorganised in permanent exhibitions that make these resources more easily accessible to teaching as well<sup>6</sup>.

### **Teaching Medical History using primary sources**

The didactic and educational synergy between ancient books and objects has also been successfully tested at the University of Minnesota in historical teachings aimed at students majoring in medicine and the humanities. The combined use of some handwritten and printed sources, suitably selected in relation to historical-medical objects

and artefacts both in the classroom and in the library (led by a librarian), has educated students in the analysis of primary sources and their contextualization in the university course. Students were asked to write a paper on an object of their choice from the collection in combination with primary sources, describing for example the impact that medical technology has had on medical practice. The learning experience has clearly shown how the presence of historical-medical bibliographic and printed collections represents an added value at the pedagogical level for teachers who, through collaboration with the librarian, can introduce students to the material and physical historical-medical culture, expanding the learning methods beyond traditional approaches<sup>7</sup>. The educational use of these collections contributes to the formation of a useful critical perspective that can be easily applied to different areas of medicine<sup>8</sup>. The physical and material dimension of the rare medical book represents an added value at the pedagogical level with respect to the use of digitised resources. If the manuscript is a *unicum*, the printed copies of the same edition – being the manual and artisan print – are equally so, both in their typographical and editorial result, as well as their bibliographical aspect. Digitisation is undeniably a useful research tool for scholars. However, digitised manuscripts and old print works contribute to creating databases and not libraries. As the medical historian Jacalyn Duffin wonderfully summarised, “Information without analysis is not knowledge”<sup>9</sup>. The entire book process – from inventorying to cataloguing, classification and interpretation – is an essential tool to offer the scholar the chance to understand the past, with its evolutionary changes and therefore becomes a teaching support tool. For the same reason, the active involvement of the medical student in the library in a guided tour through the historical collections becomes a unique and irreplaceable pedagogical tool in making the student acquire, through a material experience, the awareness of the long journey of medicine and the richness of its history. This also educates him or her to place this work in a historical perspective while also looking critically at the current dimension of medicine as a moment in this journey. This educational potential has been well focused by masters such as O. Temkin. The consultation of ancient printed texts in medicine requires comparison with the thought of doctors of the past that should not be read in a devaluing perspective as an expression of an imperfect medical science and outdated knowledge. On the contrary, this heritage must be taken into account for the predictive and illuminating potential that the scientific experiences of the past hold when we compare them to those of the future<sup>10</sup>.

### **The Italian paradox**

The richness of the historical library heritage of Italian libraries is well known. However, instead of being a stimulus to develop new educational and training paths – also in relation to the use of historical-medical collections in medical academic contexts – this wealth seems to represent a limitation. Perhaps due to the enormous

amount of heritage scattered in thousands of locations among state-run libraries, secular and religious public and private institutions, the commitment of most Italian libraries and librarians is still mainly aimed at the ordinary management of the historical-book heritage as such and its more or less sophisticated mapping<sup>11</sup>. Through the realisation of projects that, however commendable in their effort of census and historical analysis, do not go beyond the boundaries of the subject of the library and books, in a sort of self-winding spiral. Some experiences are defined by the original effort to make the world of libraries interact with that of academic medical training, using different tools: the enhancement of special historical-medical collections of a biographical nature<sup>12</sup> as well as digitisation tools to make historical-medical collections more accessible to a national and international scientific audience up to an integrated open biomedical library model that is inspired by Anglo-American models<sup>13</sup>. These are actions that, in addition to the educational value, often respond to the attempt to give some vitality and visibility to those collections that, precisely because of their special character, often represent for the librarian the most difficult obstacle in the management of a library.

A pioneering didactical experience distinguished some universities of the Northern-Italy – Milan and Brescia<sup>14</sup> where the use of ancient medical books from private and public collections has been regularly included in historical medical teaching since 1985. The educational innovation introduced in graduated and post-graduated academic course of medical history became subject of pedagogical research in medical education, in particular in surgical courses<sup>15</sup>. The Lombard case represents undoubtedly a pilot experience to be considered as a model for a more extensive pedagogical innovation.

These are experiences worthy of attention for education and teaching, albeit still sporadic in the vast Italian landscape and which would consequently require much more specific projects at the national level for a systematic application. There are a number of critical issues to overcome for this to be achieved: the lack of resources for the proper management of historical-medical book collections is perhaps the most obvious problem with a prudent policy of public and private funding. However, the greatest difficulty is that of having library staff who can look beyond the boundaries of the library and books themselves, entering into that necessary alliance on the didactic and educational front, with the university professor of medical studies and history of medicine that is able to actively involve the library and its collections in a planned and engaging pedagogical path for students. The model to be followed is that of Anglo-American academic experiences, suitably adapted to the Italian context, despite some criticalities. The use of this model, in a perspective of international scientific comparison, requires a strengthening – and a review – of the training of library staff for a pedagogical use in general of historical collections<sup>16</sup> that goes beyond the boundaries of the history of the book and that, in the specific case in question, also knows how to

embrace the special contents of a historical collection with the support of university professors and researchers. With these premises, the pedagogical use of historical-medical collections, given the pervasiveness of the book heritage on the national territory, could become an integral part of numerous different university courses. This is particularly the case for libraries with rich medical-historical collections. They are not university libraries, but rather belong to other institutions (e.g. local authorities or governments) where the importance for educational purposes of medical-historical collections risks either disappearing or being overwhelmed by other institutional purposes of a general nature. In this case, the affiliation with the medical faculties of universities that are present in the territory is expressed through specific agreements for the enhancement and study of historical-medical collections. This could become the key strategy to avoid that these collections turn out to be forgotten and to make their specialist nature a point of strength rather than a weakness. A systematic collaboration with medical faculties in the territory could ensure the access to a specialised user to the library and for consultation of historical-medical collections. Moreover, it may represent an incentive to the specialized qualification of librarians curators of historical collections to integrate their basic skills. At an advanced stage of this partnership, the activation by medical faculties of long-term research units within these libraries in order to establish greater continuity between research, teaching and bibliographic and bibliological activities should not be excluded.

### **History of medical bibliography: a new didactic tool?**

While the use of historical-biographical collections in the teaching of the history of medicine has already been experimented, there is still a little used tool: printed historical-medical bibliographies<sup>17</sup>. Medicine, more than other areas of studies, enjoys a historical and bibliographic heritage that has been richly developed since the XVI century that documents over the centuries the exponential growth of scientific literature<sup>18</sup>. These are tools that can be successfully used on an educational level as guides to help students sort through historical-medical collections, using a method with which they are quite familiar. The different structure and chronology of the historical-medical bibliographies allow students to set different queries (entries) – as well as the consultation of a modern database – while building thematic pathways to support their research. In their use by students, the didactic collaboration between teacher and librarian is essential for a complementarity approach using their respective skills. The teacher traces the evolutionary paths of the medicine, while the librarian illustrates the methods of transmission and communication, analysing the devices built for this purpose, such as bibliographies. In the history of the medical bibliography, we must not forget those minor publications, such as printed catalogues of publishing houses, book fairs with sections dedicated to medicine or auction catalogues of private medical collections, usually present in historical book collections.

All of these are bibliographic materials that in any case have an educational value, showing students how access to new and updated knowledge, crucial in every century for training, the medical profession, and how education and training have been physically and materially guaranteed through the circulation of books.

## **Conclusions**

It is an objective fact that the presence of historical-medical collections of a certain relevance in university libraries or other types of libraries regularly attended by students of university courses of medicine represents a strength for the dissemination of a solid historical awareness of medicine. Moreover, this increases the strength of the alliance between library staff and academic staff – teachers and researchers – of medical faculties. In conclusion, the pedagogical use of these collections for teaching and training, based on the experiences analysed, can be carried out through:

- the direct involvement of library staff in university teaching, with specific lessons to be held at the library or in the university classroom with the use of facsimiles – anastatic copies – of rare medical books, in such a way as to facilitate the student's material and physical interaction with the ancient book;
- the active involvement of ancient or rare book material in the teaching plan in such a way as to encourage its use by students through the support of library staff who can also organize short thematic exhibitions such as teaching sessions to focus on a more in-depth study; and lastly, the integrated use of ancient books and objects for learning a medical material culture. This is a positively tested model that can be systematically extended to different medical disciplines.
- the signing and stipulation of agreements between university and non-university libraries that preserve historical-medical collections with medical faculties and departments for shared programs of valorisation, study and didactic use of the collections with co-financed projects of the aforementioned activities.

The presence of suitably trained library staff with the scientific and technical skills necessary in order to develop research tools to accompany the historical-medical bibliographic collections is a key element in this process.

The use of printed historical-medical bibliographies and texts suggests new pathways of didactic experimentation to measure the pedagogical value of historical-medical library collections while also further stimulating the historical-critical capacity of medical students.

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