QUADERNO

MATERIA MEDICA. WHY AND HOW DO WE HAVE TO PRESERVE OUR HEALTH-RELATED MATERIAL HERITAGE?

MATERIA MEDICA. PERCHÉ E COME DOBBIAMO PRESERVARE IL NOSTRO PATRIMONIO MATERIALE LEGATO ALLA SALUTE?

From hospital "knife" to cultural museum artefact

Da "ferro" ospedaliero a bene culturale musealizzato

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The University of Siena for almost thirty years has chosen to safeguard and preserve its scientific equipment no longer in use, to study it and to make it available to the public. This choice, at the time considered a "rescue operation" in a context of abandonment, was a fixed point in the process of changing mentality and the beginning of a non-occasional recovery of historical scientific assets. There was also the creation of an organized depository, in conjunction with the establishment of a Siena University Museums System (SIMUS). Over the years, the instruments recovered and cataloged have been valued through temporary exhibitions, but especially have become a fundamental tool for teaching and scientific dissemination to school students, as well as for career counseling. Today, SIMUS has a new great cultural opportunity: to become an actor in local development and to transform its cultural heritage into an effective means of communication with the outside. A new Medical Instrumentation Museum is the latest result of the research work carried out by the staff of the Center for the Protection and Valorization of the Ancient Scientific Heritage (CUTVAP).

Key words: Scientific cultural heritage, scientific museology, cataloging, science popularization, organized depository

L'Università di Siena da quasi trenta anni ha scelto di salvaguardare e conservare le proprie attrezzature scientifiche non più in uso, studiarle e renderle fruibili. Tale scelta, all'epoca considerata una "operazione di soccorso" in un contesto di abbandono, ha rappresentato un punto fermo nel processo di cambiamento di mentalità e l'inizio di un recupero non occasionale dei beni storico scientifici e della costituzione di un deposito organizzato, in concomitanza con l'istituzione di un Sistema Museale Universitario Senese (SIMUS). Negli anni la strumentaria recuperata e catalogata è stata valorizzata attraverso esposizioni temporanee ma soprattutto è divenuta lo strumento fondamentale per attività di didattica e divulgazione scientifica rivolta agli studenti delle scuole, anche in un'ottica di orientamento agli studi universitari. Oggi il SIMUS ha dinanzi a sé una nuova grande opportunità culturale: divenire attore dello sviluppo locale e far sì che i propri beni possano divenire un efficace strumento di comunicazione con l'esterno. E intende realizzarlo attraverso il nuovo Museo di Strumentaria Medica, l'esito più recente dell'attività di tutela e di ricerca condotta dal personale del Centro per la Tutela e la valorizzazione dell'antico patrimonio scientifico (CUTVAP).

Parole chiave: *Beni culturali scientifici, museologia scientifica, catalogazione, divulgazione scientifica, deposito organizzato*

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The evolution of knowledge and its diversification in various fields has led to the oldest universities, such as that in Siena, becoming custodians of extraordinary collections of cultural artefacts, constructed or acquired for purposes of research and education. The academic museum phenomenon is very specific and one still not fully studied but, especially in our country, it boasts significant dimensions and expressions of great historical/documentary value. These artefacts have undergone different fates, following that of the Cabinet or Institution where they were preserved, in some cases abandoned and in others highly valued.

Beginning in the 1990s, the University of Siena has made the exacting and courageous choice to safeguard and preserve its scientific equipment no longer in use and to study it, in order to make it available.

One of the greatest difficulties we have encountered, over almost three decades of daily work protecting scientific cultural artefacts, is tied to the nature of the items themselves: either too ephemeral, because often these were materials which, once they had fulfilled their function, were thrown away; or sometimes too specialized to interest ordinary citizen; or, absurdly, too important in their scientific purpose to think they might become museum "objects."

Thus, why should one safeguard scientific cultural artefacts, specifically those of a medical nature? Moreover, how? We asked these questions ourselves at the end of the 20th century when, clinic after clinic and ward after ward, the thousand-year-old *Hospital of Santa Maria della Scala* was closed and its public health functions transferred to new locations. Most people wished to leave behind instruments and equipment considered old and obsolete to go someplace outfitted in a modern manner with state-of-the-art tools.

Receiving curious looks, we began to put aside equipment and tools with the aim of saving them from disposal, and then studying and appraising them. This took place in the years when the Tuscany Region debated the possibility of protecting artefacts coming from Hospital institutions, but before legislation was passed on this subject, and fifteen years before the *Code for cultural assets and landscapes* (January 22, 2004 Legislative Decree n. 42) would identify among the "*items subject to specific protection provisions*" (Article 11) "*items and tools of interest for the history of science and technology over fifty years old*".

Yet, already in 1924, the Florentine doctor and historian of science Andrea Corsini in his essay *Per il patrimonio storico-scientifico italiano* (For Italian historical-scientific heritage), published in the journal *Archivio di Storia della Scienza,* called attention to the enormous scientific patrimony "*destined to fall into disrepair and dispersal*" in that it was "*neglected and not overseen by anyone*". In addition, in doing so he advanced a – to say the least – revolutionary proposal: to consider science and the tools connected to it "cultural assets" in the modern sense, i.e. something to be protected and transmitted to the collective memory. His worry, concerning a steady loss of said patrimony, with the resulting scattering of the original collections, owing in part to rapid technological development and advancements in said disciplines, is evident even in Siena's present if we check the historical inventories which record, among other things, significant discharges which led to the loss of almost all equipment from the nineteenth and the early 20th century.

Therefore, the University of Siena's decision, considered at the time a "rescue operation" amidst shocking dereliction, represented at the end of the 20th century a turning point in the process of changing mentality and the beginning of a non-sporadic recovery of historical-scientific artefacts and the formation of an organized depository, with eyes toward the future creation of a structured museum of the Medical art. Thus, Siena has a long, organized experience which has seen the salvation, protection and appreciation of scientific tools and equipment which in this year 2017 shall find an exposition space within the walls of Siena – in the 18th century church of Santa Maria Maddalena – devoted to creating the University Museum of Medical Equipment (*Strumentaria*).

The medical equipment of Santa Maria della Scala, "the Thousand-Year Hospital"

Everything began, as was just highlighted, in the moment when the old Sienese hospital was transferred to a new location. In its old location in front of the Duomo – which for centuries saw the welcoming of pilgrims, treatment of the ill, and above all, research and education for students of the medical school – equipment and tools no longer in use were abandoned, destined to be thrown away.

Some of these very tools, which could be saved, have become the starting nucleus of a collection which today includes, in the part devoted to medical instruments alone, around 6,000 artefacts from the 17th to 20th century: 18th - 19th century surgical tools and equipment from the ex-Hospital of *Santa Maria della Scala*; tools related to different disciplines, coming in large part from the Institutes of the University of Siena (psychological, ocular, anesthesiological, odontological, physiological, gynaecological and obstetric tools); apparatus and instruments coming from local Health Facilities and from private donations.

Supplementing these is the collection of scientific glassware – around 1,200 artefacts of the 19th and 20th century acquired through donations by some Institutions of the University of Siena and ARPAT (Tuscany's Regional Agency for Environmental Protection) – and a rich library, with catalogues of businesses and suppliers of the period, museum catalogues related to scientific equipment and a variety of documentation from University Departments and Institutes, transferred together with the collections.

This enormous patrimony has obvious value, which is not merely economic, but much more important if one con-

siders its importance in the history and evolution of medical science and at the same time the ability to preserve the memory of one of the oldest hospitals in the world.

Indeed, this latter aspect assumes a noteworthy significance.

There are varieties of definitions for "museum" in use today and each illustrates specific characteristics: nevertheless, even in the most widely accepted of these, an aspect is often left out which is typically Italian and of particular interest in our essay, which identifies the museum as a "*depository of a community's memory and identity*". In this sense, the work performed to save the historic-scientific assets of the Sienese hospital represented the foundation of a project for cultural recovery of a patrimony – the importance of which was only recognized by many later on – which is able to illustrate an important segment of a civic community's history which made knowledge and hospitality its key elements. Indeed, Santa Maria represented over the span of a millennium an important site welcoming foreigners and pilgrims along the Via Francigena, the seat of the Sienese academy's medical faculty, which is documented beginning in 1240, and from the 14th century a centre for treatment.

The creation of a University services Centre and an organized depository

It is impossible to think of saving and valuing such an imposing patrimony by placing it in a museum, without first tending to its safety, restoration, study, photographing and cataloguing. The appraisal of cultural artefacts is a complex process, which begins with them being studied to guarantee adequate preservation and safeguarding, to arrive at promoting knowledge of this patrimony and its public enjoyment.

For this, based on the choice made in the 1990s, the University of Siena formed an academic service Centre called the Centre for Protection and Appreciation of Antique Scientific Patrimony (CUTVAP), whose history follows and accompanies the evolution of the process of recognizing health and hospital tools and equipment as cultural artefacts and their subsequent safeguarding and appreciation. CUTVAP was born in 1994 thanks to the dedication and far-sightedness of some university researchers and staff who perceived the historical and scientific potential of tools, equipment and documentation destined for disposal or shredding [1].

Its history developed through a series of actions that brought about the creation of an "organized depository" (Fig. 1) which could handle the collections' growth, developing it through new acquisitions, the fruit of selection in periods when inventory was discarded and by potential donations from civic and private entities. Thus, not a traditional museum, but a gathering place in which it was possible to carry out, thanks to the expertise present, all the activities necessary to safeguard a scientific artefact and its future appreciation: conservational recovery and restoration, cataloguing, photographic recording, exhibition, and achieving improved training in these fields (Figs. 2,3).

Figure 1.
The organized depository.

Indeed the structure was composed of:

a) a section prepared specially for collections which had already been catalogued and were in the course of being studied: the true organized depository;
b) warehouses for gathering new acquisitions;
c) laboratories for photographic recording and restoration;
d) a specialist library.

Thus, a slim and dynamic technical structure, with the goal of safeguarding historical scientific patrimony, on behalf of the whole academy as well as outsiders.

Over the years, these activities grew thanks to the staff's specialization, above all in relation to inventory and cataloguing. The Centre was part of the workgroup made up of computer specialists and scholars in various disciplines, at the Institute of the Museum of the History of Science in

Figure 2.
Cleaning and restoration.

[1] In order to disseminate its activity of protection of the scientific cultural heritage, CUTVAP promotes the publication of a series of inventories of scientific instruments. Up to date the series "Materiali" reached 15 titles: http://www.simus.unisi.it/it/musei/cutvap/pubblicazioni (accessed: December 2017).

Figure 3.
Photographic shooting.

Florence, which developed the SIC (Scientific Instrument Catalogue), a program destined to catalogue scientific tools of historical interest – tested and approved by the Central Catalogue Institute (ICCD) of the Ministry of Cultural assets and activities – which evolved into the catalogue system dedicated to said assets today: the PST (Scientific and Technological Patrimony) system.

To fully understand the value of our work, it is always worth keeping in mind that in order to give an artefact value it is necessary that it first be protected and preserved, studied, photographed and catalogued. One must activate the "knowledge process" which is the foundation of cataloguing. Cataloguing is an "*essential moment in the protection of cultural patrimony*" (January 22, 2004 Legislative Decree n. 42): it is not just creating a list of artefacts, but it means activating a "cognitive project" (Fig. 4). It is a "reasoned knowledge-gathering" which allows an object to be framed within a system of scientific knowledge and historical-critical relations, fundamental for its protection and subsequent appreciation.

Developing the national catalogue system that facilitates the cataloguing of scientific artefacts was a decisive step toward effective protection work. Today the Centre's personnel continuously perform computer cataloguing activities using the *SIGECweb* platform, also taking care of the necessary photographic recording of the artefacts. At the same time, for each collection catalogued a printed inventory is created, published in the *Collanna Materiali*, which today boasts 15 volumes.

Alongside these activities, although occurring less frequently, there is the realization of, or participation in, tem-

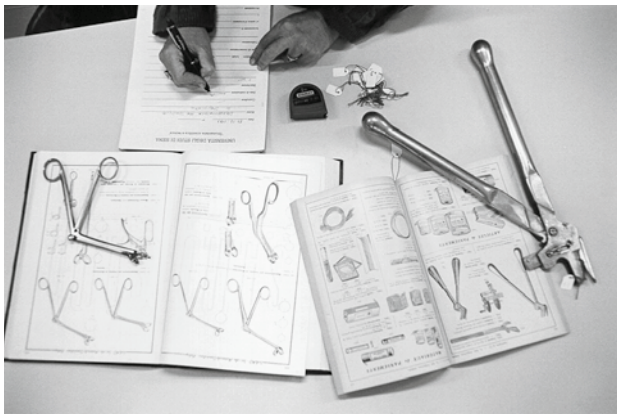

Figure 4.
File cataloging.

porary exhibition events which have as their primary "protagonist" the scientific tool, displayed according to museum criteria for *objet d'art*.

Also of great importance for the structure's goals is training in the sector of protecting historical scientific patrimony. For this, through the years, it has organized specific courses on protecting patrimony and on its cataloguing, as well as two offerings of a university masters on "Curation and management of museums and collections of naturalist and historical-scientific artefacts".

Days of Medical Museum Studies

From the experience just described and the spreading of interest in historical-scientific heritage in the field of medicine, which has gained increasing importance in recent years, in 2012, thanks to SIMUS's President Francesca Vannozzi, the idea was born for a day dedicated to Medical Museum Studies. Each year, the conference, which is hosted in turns by Italian Academies with museums and medical collections, is dedicated to a specific type of scientific artefact that characterizes the host University. The Italian Society for the History of Medicine (SISM), recognizing the strength of the idea, wished to insert these Days on its calendar of events beginning with its first celebration.

The Day of Medical Museum Studies has become by now a customary meeting for members of the Society for the History of Medicine and for those interested and dedicated to the issues of safeguarding historical patrimony in the health field. Even the selection of the location in a university city with academic collections and museums, which annually take turns hosting the Day, is important not just for proper appreciation of the local university's historical-scientific patrimony, but also to draw attention to a particular type of little-known scientific artefact: thus we spoke of the Paleopathological and Pathological Anatomy collections in Chieti (2012), of Obstetrics in Bologna (2013), of Dentistry in Torino (2014).

In 2015 in Siena, on the other hand, attention was drawn to a different type of scientific artefact with a large contribution to the historical materials which populate the university museums: tables and graphic materials, tools which Medicine has always availed itself of for educational purposes. The occasion arose from the commemoration of the bicentennial of the death of Paolo Mascagni, the "Prince of Anatomists", who spent most of his professional life in Siena.

Moreover, historical collections in Dermatology were at the centre of the 2016 days hosted in Florence, while the topic of *Medical Publicity*. *Forms of communication of artistic and museum interest in public and private collections* was discussed in the 2017 conference, held in Cagliari.

Through these Days and their particular knowledge-spreading approach, we believe the scientific museum can accomplish, with the irreplaceable aid of collections, its job of displaying and documenting the importance and function scientific research, in particular medical research, has had and continues to have in society's development. In this way, science can no longer be considered as just a simple acquisition of concepts, names and formulae but as an integral part of civil society, and it can become an active and unique element for its education and cultural elevation.

A precise cultural choice: artefacts as tools for the diffusion of scientific knowledge

If up until this point we have briefly recounted our history of responding the question "how to save a cultural scientific artefact", it is now our intention to explain the use we have made of said patrimony.

In 2007 the Sienese academy instituted a true University Museum System (SIMUS) which gathered together nine different museums in one coordinated structure. These offer exhibition itineraries dedicated to various fields of discipline – historic, artistic, archaeological, scientific and natural – realized through the collection of assets the university had put together over the centuries to serve as tools and aids for research, education and diffusion of knowledge. The museums which today form the Siena University Museum System (SIMUS) are: the Archive and Academic Historical Itinerary, the Museum of Medical Equipment (previously Collections of the University services Centre CUTVAP), the Collections of Physics Equipment, the Prehistoric and Archaeological Collections, the "Leonetto Comparini" Anatomical Museum, the Botanical Museum with the Botanical Garden and Herbarium, the National Antarctic Museum, the Museum of Earth Sciences and the Astronomical Observatory.

It is through the new SIMUS structure that a precise choice of cultural policy has been achieved.

While preserving the activities and expertise described up until this point, the university museums have begun to dedicate themselves in a strong way to appreciating its assets as a tool for diffusion of scientific knowledge. On one hand, the aforementioned idea according to which museums are an integral part of civil society and its culture and therefore oversee, generate and transfer knowledge, necessarily leads us to question the methods through which said knowledge can be shared and spread. Furthermore, in this particular historical moment in which information has assumed an unprecedented central position, the issue of diffusion of science is seen as a group of activities that vary but, nevertheless, aim to make science a public asset. Indeed this is a fundamental task for university institutions which, having the primary aim of research and education of young people, must act as a result toward the achievement and growth of social wellbeing, via cultural, social and environmental development (UNESCO, 1999, "Declaration on Science and the use of Scientific Knowledge").

In that sense, our artefacts assume a new life inserted into projects which have the goal of imparting and explaining science to young people and to those who are interested, to pique their curiosity, to supply them with a rather exhaustive framework of how the sciences can become optimal career outlets. And this, in our opinion, is a particularly fruitful way in which to gain value from cultural scientific assets and to allow science to assume a new and extremely trenchant role "in society and for society," oriented toward a process for the democratization of scientific knowledge.

This goal finds its ideal home in the realization of science museums, which offer experiences conceived and realized to put willing and active participation in action; intense experiences such as events which spark biunivocal discourses, where participants have equal weight and power.

With these objectives, the Siena University Museum System, fuelled by the desire to directly involve young people and schools has designed and realized the ESCAC project "Scientific Education for an Active and Aware citizenry", supported by the Tuscan Regional School Office - Province of Siena Territory. Said project, which this year celebrates its seventh anniversary, represents a particularly intriguing challenge regarding the ability of SIMUS and scholastic institutions to cooperate in the identification of methodological models capable of getting young people interested in the multi-faceted world of sciences, in a way that is active and participatory and at the same time simple and fun. Thanks to decisive action and sincere collaboration between the Province of Siena's educational sphere and the world of scientific museum studies it was possible to realize ludo-educational experiences which represent a useful complement to curricular education in the scientific disciplines. At the heart of this is the ability of the System and of the custodians and operators of the eight university museums that compose SIMUS to:

- effect synergies with the formal and informal educational institutions present in the province, directly involving teachers and students;

- value the collections and objects present in the museums by introducing them, when possible, into specific educational itineraries;
- motivate the museums' operators so that, putting their expertise and skills to work, they can become actors in the process of transmitting knowledge;
- diversify the museums' offerings according to the public who will profit from them, who will of course do so in different way and with different interests.

The method adopted in the ESCAC projects is that of an educational laboratory which actively involves students, thanks to the experiences crafted by them and their teachers together with the museums' personnel. Thus this is an active process for the subject who learns, who moves within the potential itineraries conceived by and realized in the museums, beginning with the objects and knowledge contained therein. The collections and materials preserved in the science museums are considered as useful "means" for "demonstrating" and conveying understanding of fundamental scientific concepts, a type of educational aid.

The current orientation of SIMUS is that of re-appropriating the role of the constituent museums in the past, which is that of a tool to facilitate education and the spreading of scientific knowledge, naturally revised and updated in light of the new media at its disposal and present-day requirements and objectives (Fig. 5). We chose to do this through those historical scientific artefacts which we rescued, studied and catalogued. Without ever forgetting of course – something fundamental in a time when we wish to work with children and at the same time also get adults to return to museums – that our scientific collections have characteristics, stories and particularities capable of contributing to the diffusion, awareness and pleasure of knowledge and, something unfortunately quite rare in our time, to creating an emotional connection.

Figure 5.
Popularization of science for young people.

Cultural scientific artefacts in the University's "third mission"

The recognition of medical instruments and anatomical specimens or models as cultural assets arises in large part from work carried out at the end of the 1990s by the CRUI (Conference of Rectors of Italian Universities) Commission of the delegated rectors of the university museums who, in perfect harmony with the Central Cataloguing Institute (ICCD) and the National Association of Science Museums (ANMS), fostered decisive action to value said patrimony, often not-widely known and thus not esteemed.

But in the last decade – thanks also to the promulgation of the 2004 Urban Code and the resulting recognition of scientific equipment as cultural artefacts – these extraordinary "deposits" of university assets are living out a new existence, introduced into exhibition itineraries which various academies are building ex novo or updating those organized in the recent past. Even if not new, today the sector appears to be urged on by numerous, profound developments: not least of which is the present-day "discovery" of the University's so-called Third Mission, into which the National Agency for Evaluating the University and Research System (ANVUR) has also placed academic museums with their activities capable of "*producing positive impacts even outside of their own university communities and even beyond the economic appreciation of knowledge*" (ANVUR 2013).

SIMUS has worked on this path for several years, and this is duly represented in the process of auto-appraisal (SUA-RD Third Mission catalogue) that ANVUR launched in 2015, with its initiatives aimed at various public segments which fit perfectly into the activities identified as *Public engagement*, or in the group of "*non-profit activities with value for education, culture and social development*" (ANVUR 2015).

Thus the cataloguing campaigns fostered over the years by the Siena university museums, the knowledge of scientific artefacts and their history, which is also the history of the various disciplines, their inclusion in educational and transmission activities all represent an extraordinary cultural substratum upon which to build the basis for this new Mission. A Mission which also gains strength from the participation of SIMUS in projects of the "Italian university museum network," financed by the Ministry of Education, University and Research with the goal of promoting an ever greater "*dialogue between museums and the global context, which takes advantage of the specific identification of their collections to promote an opening to lifelong learning activities directed at*

a diverse public". After the computer cataloguing of assets with the system created by ICCD, SIMUS museums are thus working on a project for the diffusion of scientific culture in society and on orientation in the scientific method and culture aimed at young people.

But what gives even more strength to SIMUS is the history one can "read" in the immense heritage which it preserves and which derives from years of experience working with school-age students and teachers, with the university's young students, with groups and associations present in the civil society. Already in 2008, in the Notebook of SIMUS' educational offerings it was written: "*our museums host and manage a multi-faceted patrimony of historical-scientific materials which are loaned out to educational courses focused on the topic of science as a whole: from the botanical collections to medical equipment, from educational models to collections of meteorites, from anatomical specimens to geological findings […]. The educational proposals and initiatives presented are meant to offer broad support to schools' annual education programs, with the goal of drawing in young people and fostering their interest in the science museum*", and – we might add – to perform a useful activity for preparation toward entering university.

It is clear that SIMUS has been decisively directed for years toward the proposal of visiting itineraries and educational laboratories created *ad hoc*, which in regard to the museums' history and collections and their personnel's expertise, are based on exploration and direct discovery by teachers and their students, i.e. on a constructivist approach given that learning is the result of a direct relationship and interaction with an environment designed to stimulate and spark a variety of intelligence types.

SIMUS has a great new cultural opportunity: to become an actor in local development and comport itself so its assets can become an effective tool for communication with the outside world, a sort of "window" opening onto the area for its inhabitants or those who live relatively nearby. In this way we can achieve important results in research and scientific diffusion, in education, and most of all in these new fields related to inclusion and active involvement of citizens, thus working together to create through informal learning methods new expertise, new knowledge and diffuse wellbeing.

The Medical Equipment [Strumentaria] Museum: a participatory place for accessible culture

After a long road, which has lasted almost thirty years, in recent months we decided to create a true Museum of Medical Equipment. The need to reorganize some spaces but, first and foremost, the desire to make some of the most beautiful and interesting pieces of our collection newly accessible has pushed us to tackle this latest challenge.

On one hand, if we accept the idea Giulio Carlo Argan pronounced back in November 1951 at the meeting of UNESCO-ICOM in Paris: "*… the birth of the museum corresponds to the positive recognition of its educational capacity*", we can definitely affirm we have worked hard and with good results so that our antique medical tools might become an indispensable aid in the diffusion of science and in educational projects which have been implemented for some time now. Thus we have completed an important preparatory course to achieving the realization of a science museum. We have identified and gained the loyalty of our public, offering educational, awareness-spreading and game activities where science, and in particular our antique equipment, has been the protagonist; we stood beside and actively collaborated with schools to offer scientific education characterized by an informal approach; we have worked to make our collection as accessible and understandable as possible to a diverse public with different needs and requirements.

The realization of this museum is thus the most recent result of the conservation and research activities conducted by enthusiasts of historical, medical and scientific heritage, led by Francesca Vannozzi, professor of History of Medicine and president of the Siena University Museum System since its foundation. The work of recovering and preserving antique equipment has unfolded alongside the reconstruction of the history of the art of medicine in Siena, in particular from the 18th to the 20th century, and of its specializations.

Indeed, this is the basis for the birth of the University Museum of Medical Equipment project, whose exhibition itinerary consists of artefacts characterizing the sciences at the base of Medicine – from Anatomy to Cytology, Histology and Embryology, from Medical physics to Chemistry and Pharmacology, from Molecular Biology to Physiology – and the tools for general medicine and some medical-surgical specializations. In this manner, we set out to create a moment of conjunction of the research activities that involve man and knowledge of his body, a truly perfect machine, and the work of spreading awareness, made possible by advances in knowledge, regarding possibilities for prevention, treatment and bettering of life conditions.

But precisely because of this long and structured course which is at its base, this museum cannot be a lifeless container of antique objects, characterized by a hallowed aura and accessible only to a culturally-predisposed elite. Instead, it is the result of everything we have realized in these years and briefly outlined in this essay. And thus the museum will once again become a place for research and diffusion of science, on par with the Greek *museion*, but also a place for preservation and safeguarding of cultural artefacts and, most of all, a place where these assets are given value through educational and social occasions.

At the same time this museum cannot and must not erase what has been built over the years, and it will therefore be a place where the equipment can "tell" its own story and also a

"window" opening out onto an even larger space, the organized depository, which is and will remain indispensable for our work in recovering, studying and cataloguing historical artefacts of a medical nature.

We have spoken earlier of the realization of a museum as our latest challenge; the reason shall soon be explained. In a historical moment such as the one we are living now, characterized by a profound global crisis of values and economics that is destroying social unity, a museum, offering knowledge and appreciating the past and what it can teach us, can contribute to the identification of new life models and civilization values, and act so that innovative development projects can be designed.

To achieve this, the museum must make knowledge of its collections and, even more important, perception of its continuing mission, simple. It must succeed in "modelling" its social function on the needs expressed by citizens, managing to establish a fruitful exchange of knowledge with increasingly broad and diverse target audiences. It can no longer entrust its "educational" function to an experience based on pure and simple contemplation, but it must be in a position to adequately develop and transmit news regarding its collections to those who enter in various ways and using different means of contact.

For this reason as well, the new Museum of Medical Equipment – in line with a foundational decision shared with all the museums of SIMUS – is also characterized by a continuous dedication to notably increasing the right to accessible and inclusive Culture through the destruction of physical and perceived barriers, in order to enhance and make available all the cultural patrimony it has at its disposal. This task, which puts at its centre the individual with his interests and diversity, the right of everyone to participate in collective life on an equal basis with others, becomes a guarantee of both physical access to the cultural container and perceptual and intellectual access to the contents it transmits.

The "container" which is going to host the museum in our case represents a further challenge. The site the University has selected is the church of a 16th century convent, with interior decoration completely redone in the 18th century (Figs. 6,7). The beauty of the place which still has its stucco and the three panels of its altar intact, a sole nave without transept as was used in Augustinian convent churches and the presence of considerable architectural barriers has not made for an easy project of staging the display, which has been accomplished with a very few, completely non-invasive interventions. Besides the crystal display cases located in a diagonal line corresponding to the entrance so as to interrupt – physically but above also conceptually – the principal axis of the church, the medical equipment and tools are positioned to correspond with the altars, also making use of their two levels for display.

On the chancel, a dentist's chair, with accessory equipment from the 1920s, flanks an antique wooden operating table dating back to the 1850s, a work of the artisan Federigio Sacchetti of Sinalunga. This is a particularly elaborate piece of equipment, which, thanks to a series of notches, allows for the adjustment of the back's height, from a seated to a completely prone position, and to brace the lower limbs as needed. Models in terracotta for the teaching of Obstetrics are positioned on the high altar, together with surgical equipment from the

Figure 6.
The new Museum of Medical Equipment.

Figure 7.
Old dental chair in the Museum.

Lorraine period, which helped the doctor with difficult deliveries. The itinerary continues with an Oculist examination station from the early 20th century, and models and specimens created over the centuries for educational purposes. We finally reach a small adjacent room, the old audience chamber for the cloistered nuns, where an autopsy table from the old Anatomical Institutes, now disappeared, a selection of antique surgical tools; a 19th century skeleton and some digitalized anatomical tables recreate a dissection area, a fundamental moment for anatomical research and education.

From this one derives, notwithstanding the smaller dimensions, a space, which allows for an immersive experience of the history of the medical arts in Siena, in addition to knowledge of a place, the Convent of Santa Maria Maddalena, which served as a boarding school for girls from the end of the 18th century. It then become a reserve hospital during the First World War, an anti-tuberculosis prevention centre in the 1930s which housed small children temporarily distanced from families with someone suffering from tuberculosis, and finally in 1938 home to a boarding school for nurses.

We are certain that the sustained effort shall prove fully justified given the conservation and protection of the cultural artefacts of medical interest representing a priceless patrimony. A museum can generate and transmit knowledge through said instruments, thus becoming a living and integral part of our society.

References

Orsini D, Vannozzi F. *Una nuova 'missione' per il Sistema Museale Universitario Senese*. EtruriaNatura. Periodico dell'Accademia dei Fisiocritici Siena 2015-16;11:128-31.

Vannozzi F. *Per una cittadinanza attiva e consapevole: le collezioni anatomiche per la didattica di ieri e di oggi*. Medicina nei secoli arte e scienza 2015;27:701-10.

Vannozzi F. *Catalogare il patrimonio scientifico e tecnologico: da SIC a STS a PST, storia di un percorso (e di una collaborazione)*. In: Pratesi G, Vannozzi F, a cura di. *I valori del Museo. Politiche di indirizzo e strategie di gestione*. Milano: Franco Angeli 2014, pp. 98-101.

Orsini D. *ESCAC, un nuovo progetto di educazione scientifica nella politica culturale del Sistema Museale Universitario Senese*. Museologia scientifica. Rivista dell'Associazione Nazionale Musei Scientifici (ANMS) 2013;7:138-42.

Vannozzi F, a cura di. *Il bello e la divulgazione della scienza. L'inesplorato mondo delle collezioni scientifiche. Viaggio tra i beni storico scientifici dei musei universitari senesi* (DVD). Firenze: Direzione Generale Politiche Formative Beni e Attività culturali della Regione Toscana 2008.