Health collections in museums: The case of the Oswaldo Cruz Foundation

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Introduction

A microscope for students, sterilizers and autoclaves, plaster-of-paris sculptures of patients’ goiters, dictaphones, lancets, modern vaccine guns, medals and medallions awarded by medical and scientific societies, precision scales, medical-surgical instruments and devices, equipment for manufacturing drugs and vaccines, a formicary, and more microscopes. What do all these objects have in common? What grants them unity and meaning? How did the museum collections at the Oswaldo Cruz Foundation (Fiocruz) take shape over time? Can they be considered a representative corpus of the history of the biological sciences and medicine in Brazil, as well as part of the country’s scientific and cultural heritage?

Oswaldo Cruz Institute’s Museums

Creating a science museum at the former Federal Serum Therapy Institute (Instituto Soroterápico Federal) – renamed in 1908 as Oswaldo Cruz Institute – had been one of the goals of Oswaldo Cruz (1872-1917) ever since he became the head of this institution, dedicated to experimental medicine and public health in the early twentieth century.

In 1918, when works were completed on the Moorish Pavilion (Fig. 1), many laboratories began using the facilities, which also included classrooms
and rooms assigned to glassworks. Around the same time, photographic and cinematographic offices were installed, along with sterilizers and refrigerated chambers. A science museum launched its activities then as well, becoming a guardian of the Institute's first collections, encompassing samples of pathological anatomy, parasitology, mycology, and entomology that researchers had gathered during their work.

The museum was designed to compile and maintain collections related to the Institute's ongoing activities – that is, microbiological and anatomopathological analyses that diagnosed diseases of interest to Brazil's public health services – and also to provide support for scientists from other research centers and to exchange collection specimens with them.

![Moorish Pavilion of the Oswaldo Cruz Institute in the early twentieth century, located atop a hill and facing the sea. Downtown Rio de Janeiro can be seen in the background, to the right (photo J. Pinto, Department of Archives and Documentation/Casa de Oswaldo Cruz/Fiocruz).](image)

Following the death of Oswaldo Cruz in 1917, his workroom was kept untouched and opened for special visits as the Oswaldo Cruz Museum (Museu Oswaldo Cruz). Objects of his personal and professional use, together with documents, books, and photographs that his collaborators deemed "heirlooms of the immortal Brazilian bacteriologist," formed the start of a historical collection, housed from that point on in a "devoutly preserved" place. The hero-making of Oswaldo Cruz and its corollary – the myth of the scientist and of Brazilian science – would find a sanctuary in this Museum.  

In terms of nature and roles, the differences between the two museums – the science museum and the Oswaldo Cruz Museum - would grow sharper throughout the decades. The former, dedicated to "safeguarding and exhibiting
scientific collections related to botany, medical zoology, [and] pathological anatomy, continued its close relationship with the research, technical and scientific agendas of the Oswaldo Cruz Institute and the General Directorship of Public Health (Diretoria Geral de Saúde Pública), while the latter, which had been founded with a memorial intention of preserving the history of the founding father and main figure in the life of the institution, gradually adopted a more public-oriented approach.

In 1962, following creation of the Documentation Service (Serviço de Documentação) as part of the Institute's new Division of Teaching and Documentation (Divisão de Ensino e Documentação), the Oswaldo Cruz Museum was integrated in the library and linked to other ancillary activities, like those conducted at the photography laboratory and by scientific illustrators. After the creation in 1970 of the Oswaldo Cruz Foundation (Fiocruz), and on the occasion of the commemoration of the 100th anniversary of Oswaldo Cruz in 1972, the Museum expanded its exhibition area. It was occupied three rooms in the Moorish Pavilion, dedicated to the memory of Oswaldo Cruz and the scientific work carried out at the Institute (Fig. 2). Around the same time, under the Presidency of Vinicius da Fonseca (1975-79) a project was initiated to revitalize the Institute, including the re-equipment of abandoned laboratories, constructing new facilities and refurbishing old ones. The same project increased work to preserve the historical heritage handed down to the new foundation and to share it with the public.

In parallel, institutional general educational and science education initiatives paved the way for the emergence of other museums, such as the Marquês de Barbacena Educational Museum (Museu Didático Marquês de Barbacena) and the Oswaldo Cruz Institute Museum (Museu do Instituto Oswaldo Cruz), open from 1977 to 1979.

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Fig. 2- Oswaldo Cruz Museum after reorganization on the 100th anniversary of Oswaldo Cruz, in 1972 (photo from the Dept. of Archives and Documentation/Casa de Oswaldo Cruz/ Fiocruz).
When the Casa de Oswaldo Cruz (COC) was created in 1986, the collections from these two museums were partially incorporated into the new museum, the Casa de Oswaldo Cruz Museum (Museu da Casa de Oswaldo Cruz), inaugurated the following year. After 10 years, the COC created the Museum of Life (Museu da Vida), which has a strong focus on science education. The museum collections had now a new life and programme.

Museum of Life collections

Fiocruz’s museum collections cover science and technology (S&T), particularly in the field of health, along with medicine and its specialties, from the last quarter of the nineteenth century to the present. Currently, the collection comprises c. 2,000 objects, with a predominance of laboratory equipment and equipment for manufacturing drugs and vaccines, medical and scientific instruments, laboratory and hospital furniture, glassware, chemical kits, antique medications, wearing apparel, coins, ceremonial and personal objects from the Institute’s scientists, and a picture gallery.

The majority of the objects have come from Fiocruz laboratories, departments, or units. Collecting the items is greatly due to recent efforts to increase awareness towards the preservation of Fiocruz scientific heritage among the community of researchers and technicians, resulting in a regular flow of donations to the Museum. New objects are also added to the collection through gifts from physicians and their families – for example, the important collection of obstetrics and gynaecological instruments donated by Sylvio Sertã, an eminent doctor from the state of Rio de Janeiro.

Museum objects and collections as historical sources

In conjunction with preservation and technical treatment activities, which have been ongoing ever since the 1910s, the Fiocruz’s museum collection is recognised for its potential as a research resource and a source of information on the history of the institution and the health sciences. It is with this potential in mind that research at the Museum of Life’s Museology Service (Serviço de Museologia) gives special emphasis to aspects of context and history, including manufacturers and commercial agents, material characteristics, manufacturing techniques, design, original functions, and uses. Furthermore, research also explores the values of the cultures that generated these objects, their significance at the time they were made and used, and their evaluation or comparison with other objects of the same class, combined with analysis of available documental sources.

When S&T health objects in museum collections are approached from a historical perspective, the study of public health policies, biological research agendas, agendas for fighting disease, and the industrial production of immunobiologicals and pharmaceuticals come side by side with, and
complements, research into instrument and equipment manufacturers, suppliers, and acquisition procedures. Likewise of research interest are the administrative and scientific lives of laboratories and departments where objects were generated, the applications and purposes of instruments, the work produced by researchers, and the careers of researchers, technicians and physicians. All things considered, a broad survey of primary and secondary sources is paramount, as well as the production of new sources, such as interviews and moving images recording interviews and laboratory practices. Reliance on these sources will provide a better understanding of the history of the institutional museums and continuous recognition of the heritage value of S&T health objects included in Fiocruz’s museum collections. Moreover, better knowledge of these diverse sources will enable the identification of social networks and actors involved in the production, circulation, and use of these objects by tying them to the different phases of the institution’s history, the history of medicine and by highlighting their origins and applications.

At the same time, the production of documental records is relevant to the methodology used in collections historical research, because it helps fill in gaps in existing sources while contributing to the study of the history of S&T objects used by the institution and its museums. This is the goal of the Museology Service, with an oral history project and a moving images program, both initiated in 2012. Some interviews with librarians and museologists who have worked at the Institute’s museums have already been conducted.

Historical research of the collection has yielded a series of results: it has produced new knowledge about S&T health objects and the history of Fiocruz museums; it has also resulted in a refinement of collection preservation, documentation, and communication processes especially the inclusion of new fields of cataloguing; the design of information tools such as inventories, guides, and catalogues; and the development of temporary historical and scientific exhibitions and of 'biographies' of objects for online publication.7

Object biographies have shown that the majority of scientific instruments and equipment preserved in the collection were manufactured abroad, mostly in Germany, France, the United States and Japan. Origin varied according to the period during which these countries played a prevalent role in scientific, political, economic, and trade relations with Brazil. Given the exceptional nature of the instruments manufactured in Brazil, these artefacts are beneficial to the analysis of aspects of the history of the sciences and health in Brazil and reveal tensions between the so-called central and peripheral sciences, the trajectory of science authorities, and the circulation of S&T knowledge and objects.

A fine example is the history of the viscerotome and viscerotomy, the former being an instrument used to puncture and extract fragments from the liver, and the latter a technique widely employed in autopsies during the years
of struggle against yellow fever in Brazil. This history also encapsulates a dispute for authorship of the instrument between U.S. physicians from the Rockefeller Foundation and Brazilians from the Yellow Fever Service (Serviço da Febre Amarela).

The 1928 and 1929 epidemic outbreaks of yellow fever in Rio de Janeiro and elsewhere in Brazil, combined with pathological diagnoses performed through microscopic examination of liver tissue from fatal victims (as exemplified by the rich material obtained during the outbreak in Rio), led epidemiologists to the firm certainty that the pathological condition of yellow fever patients' livers was unique and did not occur with any other acute infectious disease. This knowledge began to take shape in the 1900s, as a result of anatomical pathology of yellow fever studies from scientists at the Institute's school, especially through Henrique da Rocha Lima's work on hepatic lesions. In 1930, post-mortem examination of the liver tissue of yellow fever victims was introduced as a routine measure to identify cases of the disease in endemic areas. Prior to that, technicians had used scalpels and scissors to remove samples from corpses.

The viscerotome was a steel instrument in the shape of a channel, with a movable blade with a cutting tip. It allowed for the quick removal of post mortem pathological liver samples. It made it possible to increase the number of liver tissue samples from patients who had died with distinct signs of the disease up to ten days prior to autopsy. The instrument made an efficacious contribution to the diagnosis and epidemiology of yellow fever (Fig. 3).

![Fig. 3 - Viscerotome from the Museum of Life collection (Photo by Pedro Paulo Soares). Viscerotomy required a simple puncture, averting any mutilation of the liver](image-url)
body. The new technique decreased public's rejection of public health measures, because it replaced more invasive procedures to the corpse. The health technician would introduce the instrument through the abdominal wall (in the region popularly called the mouth of the stomach) and direct it towards the liver, stopping at the organ. The movable blade was then pushed to the end of the device so that it cut the liver and deposited small tissue fragments in the channel. The instrument was extracted from the body in one movement and the collected material was transferred to a vial containing a formaldehyde solution. The vial was then sent for laboratory testing, accompanied by the viscerotomy form, filled out by the technician. It was a simple procedure that did not require any great skill on the part of the operator, and theoretically anyone could be qualified to perform a liver puncture with the instrument after a brief training (Fig. 4).

Fig. 4 - Viscerotomy. Instructions for representatives of the Yellow Fever Service working at viscerotomy posts. (Manual de instruções, Brazilian Ministry of Health, Yellow Fever Service, 1937).

In December 1938, the physician Décio Parreiras, from Brazil’s Yellow Fever Service, published an article in *Folha Médica* in which he claimed to have invented the instrument.⁹ The claim was promptly disputed by Fred L. Soper, responsible for the Rockefeller Foundation’s yellow fever initiatives in Brazil. The Foundation had been combating yellow fever in association with the Brazilian government since the early 1920s. Soper insisted that credit for the invention of the new instrument should go to Elsmere R. Rickard, a Rockefeller Foundation physician stationed in Northeast Brazil.

In 1930, Rickard, worried that technicians using scalpels and scissors might pick up an infection, began developing a new tool to extract samples. He showed his invention to his superiors at the Rockefeller Foundation and unsuccessfully tried to patent it.¹⁰ Almost at the same time that Rickard presented his instrument, Décio Parreiras and Werneck Genofre started producing a similar tool, which they named Parreiras Genofre Spindle (Fuso Parreiras Genofre). Produced by Casa Lutz Ferrando in Rio de Janeiro, the device was tested by the Yellow Fever Service/Rockefeller Foundation and judged inadequate. According to Soper, the instrument was relegated to the
Service's museum as an example of a failed attempt. Rickard's viscerotome was adopted instead. It was produced at industrial-scale and employed in Brazil and other places where the U.S. agency worked. The late publication of Déci Parreiras article claiming authorship of the viscerotome, eight years after its large-scale use began, prompted a reaction by U.S. medical authorities, which was followed by Brazilian rebuttals thus sparking an interesting controversy.

Concluding remarks

Fiocruz's museum collections constitute an invaluable material witness to the trajectory of this Institute and of medicine in Brazil, and as such they hold great potential for historical research. Analyzing archives and other collections of the Casa de Oswaldo Cruz, allow us to expand our knowledge about aspects of the history of health sciences and technology in Brazil.

Current research brings new approaches and perspectives to the Institute's museum collections while simultaneously reaffirming the Museum of Life's role as a space for preserving, researching, and disseminating the Institute's tangible heritage in sciences and health.

Presentation of the Institute's tangible health heritage in exhibitions is enriched by interdisciplinary reflections from the history of the sciences, museology, and cultural studies. Once on display, this heritage gains a sensorial dimension, which is vital to helping the wide variety of museum audiences to understand and fully grasp its meanings. Likewise, when these objects are displayed in exhibits that succeed in relating history and memory to people's day-to-day lives, it invites a subjective dimension of experience, at times marked by ambivalent reactions. Such reactions are natural in medical collections public displays given their 'visceral presence' and the role they play as an emotional intermediary. These aspects are worth taking into account when developing initiatives in preservation, general education and science education in museums.

Notes

1 H. B. Aragão, 'Noticia histórica sobre a fundação do Instituto Oswaldo Cruz', Memórias do Instituto Oswaldo Cruz (1950), 48, 1-50, pp. 48-49.
2 Aragão, op.cit., 49.
4 Decree No.17.512, 5 November 1926, providing new Rules for the Oswaldo Cruz Institute, DJ 19261105, Coleção Histórica e Administrativa da Fiocruz, Departamento de Arquivo e Documentação/COC/Fiocruz, Rio de Janeiro.
5 Decree from the Council of Ministers 832, 3 April 1962, approving the Regiment of the Oswaldo Cruz Institute, Ministry of Health, DJ 19620403, Coleção Histórica e Administrativa da Fiocruz, Departamento de Arquivo e Documentação/COC/Fiocruz,
Rio de Janeiro.


