The Making of a Medical Museum: Recontextualizing the Gülhane Medical History Collection in Ankara, Türkiye

by

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The Making of a Medical Museum: Recontextualizing the Gülhane Medical History Collection in Ankara, Türkiye

Koç University

Graduate School of Social Sciences and Humanities

This is to certify that I have examined this copy of a master's thesis by

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To Büdü, my beloved budgie of 14 years, whose affectionate chirps and constant companionship brightened many late-night writing sessions.

ABSTRACT

The Making of a Medical Museum:

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Medical museums play a crucial role in preserving the material culture of medicine, enhancing awareness of public health issues, and integrating medical history, humanities, and art into medical education. Initially serving didactic purposes in the 19th century, medical museums began to reassess and revitalize their roles in the 20th century in response to wars, socio-economic changes, and technological advancements. Along with integrating more interactive musicological practices, medical museums of the 21st century are now addressing issues such as the ethics of owning and exhibiting human remains, the decolonization of collections, and the need to increase information and awareness about public health issues. Medical museums have responded to new challenges with diverse solutions, from developing online platforms and modern technologies to initiating collaborative curatorial projects with local communities.

This thesis examines the history and the current challenges facing medical museums in a national and international context. It then focuses on a case study: the Gülhane Medical History Collection, which is located in the Gülhane Research and Training Hospital and is affiliated with the Department of History of Medicine and Deontology at the University of Health Sciences in Ankara, the capital of Türkiye. The Gülhane Medical History Collection aims to achieve national and international recognition and be officially designated as a museum by the Turkish Ministry of Culture and Tourism. To evaluate and provide recommendations about the current curatorial practices, and potential of the collection, this thesis explores the exhibition strategies used at medical museums in Türkiye and around the world. It then examines many of the objects in the Gülhane collection to determine how they could be recontextualized to address some of the contemporary issues facing medical museums. Following an assessment of the current exhibition space, displays, and technical limitations, this thesis recommends future directions for documenting, conserving, and ethically managing the Gülhane collection. Additionally, it aims to propose practical and sustainable collection management policies and curatorial strategies that are aligned with ICOM's definition of a museum and follow the best practices in managing medical museums.

ÖZETÇE

Bir Tıp Müzesinin İnşası:
Ankara'daki Gülhane Tıp Tarihi Koleksiyonunun
Yeni Bir Bağlamda Değerlendirilmesi
İrem Alpay
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Tıp müzeleri, tıp ile alakalı maddi kültürü korumak, halk sağlığı konularında farkındalığı artırmak ve tıp tarihini, beşerî bilimleri ve sanatı tıp eğitimine entegre etmek açısından önemli bir rol oynamaktadır. Başlangıçta 19. yüzyılda büyük ölçüde eğitici amaçlarla hizmet veren tıp müzeleri, 20. yüzyılda savaşlar, sosyo-ekonomik değişimlere ve teknolojinin gelişimine yanıt olarak toplumdaki rolleri yeniden değerlendirilmeye ve canlandırılmaya başlanmıştır. 21. yüzyılın tıp müzeleri, daha etkileşimli müzecilik uygulamalarını entegre etmenin yanı sıra, insan kalıntılarının bulundurulması ve sergilenmesi gibi etik meseleler, koleksiyonların sömürgecilikten çıkarılması ve halk sağlığı konularında bilgi ve farkındalığı artırma ihtiyacı gibi konularla da ilgilenmektedir. Tıp müzeleri, önlerine çıkan güncel sorunlara, çevrimiçi platformlar ve yeni teknolojilere ayak uydurmayla beraber yerel topluluklarla işbirlikçi küratöryel projeler gibi disiplinler arası çalışmalar ile yanıt vermektedir.

Bu tez, ulusal ve uluslararası bağlamda tıp müzelerinin tarihini ve günümüzde karşılaştıkları zorlukları incelemektedir. Ardından bir vaka çalışması üzerinde yoğunlaşmaktadır: Türkiye'nin başkenti Ankara'da Sağlık Bilimleri Üniversitesi Tıp Tarihi ve Deontoloji Anabilim Dalı'na bağlı Gülhane Eğitim ve Araştırma Hastanesi'nde bulunan Gülhane Tıp Tarihi Koleksiyonu. Gülhane Tıp Tarihi Koleksiyonu, ulusal ve uluslararası tanınırlık kazanmayı ve Türkiye Cumhuriyeti Kültür ve Turizm Bakanlığı tarafından resmi bir tıp müzesi olarak belirlenmeyi hedeflemektedir. Bu tez, mevcut küratörlük uygulamalarını değerlendirmek ve koleksiyonun potansiyeli hakkında önerilerde bulunmak için, Türkiye'den ve dünyadan farklı tıp müzelerini incelemektedir. Daha sonra koleksiyondaki birçok objeyi, tıp müzelerinin karşılaştığı güncel sorunlara çözümleri ele alacak şekilde nasıl yeni bir bağlamda ele alınabileceğini araştırmaktadır. Mevcut sergi alanı ve teknik kısıtlamaları da göz önüne alarak bu çalışma, Gülhane koleksiyonunun belgelenmesi, korunması ve etik bir şekilde yönetilmesi için atabileceği adımları önermektedir. Bu adımlarla birlikte ICOM'un müze tanımı ve tıp müzelerini yönetmede en iyi uygulamalarla uyumlu pratik ve sürdürülebilir koleksiyon yönetim politikaları ve küratörlük stratejileri sunmayı amaçlamaktadır.

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TABLE OF CONTENTS

List of Figures ix

Abbreviations xix

Chapter 1: Introduction 1

Chapter 2: Global Perspectives on Medical Museums 5

2.1 Historical Foundations of Medical Museums 5

2.2 Key Characteristics of the 19th-century Medical Museums 6

2.2.1 Pioneer Figures and Museums 10

2.3 The 20th Century: A Period of Revitalization 23

2.3.1 Advocates for Public Health and Hygiene 27

2.3.2 Exhibits about the History of Medicine 29

2.4 Recontextualization of Human Remains in Medical Museums 31

2.4.1 Ethics and Display of Human Remains 34

2.4.2 New Curatorial Approaches Concerning Human Remains 37

2.5 Contemporary Practices of Medical Museums in the 21st Century 43

2.5.1 Maintaining Relevance in the Education of Modern Medicine 45

2.5.2 Advancing Inclusivity through Curatorial Projects 49

2.5.3 Enhancing the Display of Medicine 53

Chapter 3: Medical Museums in Türkiye 60

3.1 Health Museums 62

3.2 Medical Museums with Ethnographic Settings 67

3.3 Medical History Museums 71

Chapter 4: Gülhane's Role in Turkish Medical History 80

4.1 The Modernization of Medical Education and Military Medicine in the Ottoman Empire 80

4.2 The Establishment of the Gülhane Military Medical School and Hospital 84

4.3 Gülhane Military Medical Academy (GATA) Relocates to Ankara 88

Chapter 5: The Gülhane Collection: Past and Present 93

5.1 The History of the Gülhane Medical History Museum 93

5.2 The Current Curatorial Approach for the Collection 108

5.3 Assessing the Gülhane Medical History Museum: Legal Status, Limitations, and Long-Term Plans 148

5.3.1 Investigating Documentation Standards for the Museum Collection 151

Chapter 6: Gülhane as a Museum: Future Prospects 167

6.1 Considerations for Developing a Collection Management Policy and System 167

6.2 Proposing New Horizons in Curatorial Practice 182

Chapter 7: Conclusion 196

Chapter 8: Works Cited 203

LIST OF FIGURES

Figure 5.1: The entrance to the exhibition hall and the 'MÜZE' (museum) sign above. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 94

Figure 5.2: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 94

Figure 5.3: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 95

Figure 5.4: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 95

Figure 5.5: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 96

Figure 5.6: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 96

Figure 5.7: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 97

Figure 5.8: The saddle-mounted stretcher used by the Turkish Red Crescent. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 97

Figure 5.9: The dental set gifted by Emperor Wilhelm II of Prussia during his visit to Istanbul. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive. 98

Figure 5.10: Descriptive plates in English from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 98

Figure 5.11: Descriptive plates in English from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive..... 99

Figure 5.12: The entrance to the commemorative space in front of the exhibition hall. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 100

Figure 5.13: The memorial of 'Şehit Sağlık Subaylarımız' in front of the museum hall. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 100

Figure 5.14: The relief of healthcare workers and officers who served during wartime. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 101
Figure 5.15: The conservation work supervised by the personnel of GATA Command. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 102
Figure 5.16: The conservation work supervised by the personnel of GATA Command. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 102
Figure 5.17: Installing the water tanker used by the Turkish Red Crescent, near the museum entrance. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 103
Figure 5.18: The installation of the water tanker used by the Turkish Red Crescent, near the museum entrance. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 103
Figure 5.19: The installation of the commissioned artworks in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 104
Figure 5.20: The installation of the commissioned artworks in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 105
Figure 5.21: The double-sided relief created by artist Metin Yurdanur for Gülhane's 100th anniversary celebrations. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 105
Figure 5.22: The double-sided relief created by artist Metin Yurdanur in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive..... 106
Figure 5.23: The building of the Department of History of Medicine and Deontology, in which the museum was relocated. GATA, 2000s. From the Gülhane Medical History Museum Archive..... 107
Figure 5.24: The entrance to the Gülhane Medical History Museum and the Department of Medical History and Deontology, University of Health Sciences. Gülhane Research and Training Hospital, 2023. Photographed by İrem Alpay. 108
Figure 5.25: The mold and sample upper dental prosthesis belonging to Atatürk. Gülhane Medical History Museum, Anadolu Agency, 14 April 2018..... 109

Figure 5.26: The photo album depicting the members of the Central Committee of the Red Crescent. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 110
Figure 5.27: The dental reference set case, a gift from German Emperor Wilhelm II, displayed at the entrance of the exhibition hall. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 111
Figure 5.28: Schematic plan of the exhibition area at the Gülhane Medical History Museum. Created by İrem Alpay. 112
Figure 5.29: The display cabinet featuring ancient medicine in Anatolia in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 113
Figure 5.30 The informative label describing ancient medicine in Anatolia, located in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 113
Figure 5.31: The display explaining darüşşifas and healing spaces in Anatolia, located in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 114
Figure 5.32: The replicas of Sabuncuoğlu Şerefeddin's manuscripts exhibited in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 115
Figure 5.33: The display about modern medicine and medicine in Europe in Section 2. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 116
Figure 5.34: The book 'Excellent Guide to French Actions, Part 2: Non-Standard Actions', titled by Bitti Ben Rubi and published in the 1910-12 edition, displayed in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 117
Figure 5.35: The notebook containing information on the attitudes and behaviors of the Military Medical School Students between 1918-1922. The Gülhane Medical History Museum, 2023. Photographed By İrem Alpay. 118
Figure 5.36: A military diploma from 1908 belonging to the cavalry officer Abdullah Avni Efendi. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 118
Figure 5.37: The informative label about the 19th-century health services in the Ottoman army, along with the medical education books and a photo album of the

Mekteb-i Tıbbiye-i Adliye-i Şahane. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 119
Figure 5.38: 1927 A diploma from the Gülhane Tatbikat-ı Askeriye Mektebi ve Seririyatı, belonging to the assistant surgeon Mustafa Nusret Efendi. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 119
Figure 5.39: A certificate of appreciation given by the Iranian Red Crescent Society to the Turkish Red Crescent Society, displayed in front of the 1918 Military Medical School student ceremonial attire. Gülhane Medical History Museum. Photographed By İrem Alpay. 120
Figure 5.40: The display featuring the Gülhane Hospital and Imperial Medical School diplomas, along with photos of Gülhane's founding professors, medical school students. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 121
Figure 5.41: The display featuring the professorship certificate awarded to Georg Deycke by the Ottoman government, and the book 'Medical Internal Lessons' translated from German into Ottoman Turkish by E. Magnus-Alsleben. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 121
Figure 5.42: The display featuring photographs and documents from the foundation period of the Gülhane Hospital, through its relocation to Ankara. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 122
Figure 5.43: A ceremonial jacket belonging to the military surgeon Brigadier General Hasan Tevfik Belger, with a photo of Prof. Dr. Theobald Selling, who was the director of Gülhane from 1915 to 1918. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 122
Figure 5.44: Some tools used in the field hospitals during the Gallipoli Campaign and WWI. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 123
Figure 5.45: Some medals from the Gallipoli Campaign and the War of Independence displayed in Section 4. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 124
Figure 5.46: The display featuring Independence War Medals, War Orders, and first aid boxes used during the war, along with a photo album of military medical students. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 124

Figure 5.47: The display of war medals displayed alongside photographs showing medical practices from WWI and the War of Independence era, and first aid tools used during those times. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 125
Figure 5.48: Tools used for military medicine in the mid-20th century, displayed in a glass cabinet in Section 5. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 126
Figure 5.49: World Wars-era medical tools, medicine cabinets, and medications displayed in Section 6. Gülhane Medical History Museum. Photographed by İrem Alpay. 127
Figure 5.50: Various medical tools donated by the Gülhane doctors displayed in Section 7. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 128
Figure 5.51: The display featuring modern ophthalmology tools, complemented by an antiquity-inspired image of a 15th century miniature depicting ophthalmologist Kehlal created by Prof. Dr. İlter Uzel in Section 8. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 129
Figure 5.52: Some laboratory equipment and devices used for anesthesia featured in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 130
Figure 5.53: Anesthesia devices used in military medicine, spirit stoves, and a barograph in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 131
Figure 5.54: Surgical instruments used in operations, catheters, syringes, and treatment sets displayed in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 131
Figure 5.55: The prosthetic leg used by Gazi Hasan Ali Yurtseven (1918-1966), donated by his grandson, Doğan Yurtseven. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 132
Figure 5.56: The display featuring various orthopedic surgical, treatment tools, and prosthetics in Section 10. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 132

Figure 5.57: Section 11 displaying medical tools used in obstetrics, gynecology, and abortion kits. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 133
Figure 5.58: The letter sent in 1923 from the Red Crescent Society headquarters to Safiye Hüsniye Hanımefendi, a member of the Red Crescent Ladies' Centre displayed in Section 11. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 134
Figure 5.59: Section 11 display, presenting objects related to nursing. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 134
Figure 5.60: Section 12 featuring modern dental tools, a dentist's chair, and dental molds, complemented by images of Hesi-Re, the earliest known dentist, dental treatments by Sabuncuoğlu Şerefeddin, and dental care during wartime. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 135
Figure 5.61: The display in Section 13 featuring various pharmaceuticals and measuring vessels. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 136
Figure 5.62: The display of imported medicine boxes from the 20th century, donated by biochemistry expert Colonel Zafer Aksu. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 137
Figure 5.63: The display featuring medicine boxes and bottles with precision scales used in drug manufacturing in Section 13. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 137
Figure 5.64: Various medicine bottles and glass serums featured in the last part of Section 13, Gülhane Medical History Museum. 2023. Photographed by İrem Alpay. 138
Figure 5.65: Section 14 featuring various medical sets and tools used in field hospitals. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 139
Figure 5.66: The display of Section 15 from the northern side, featuring pathology specimens made with Hamdi's solution. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 140
Figure 5.67: The display of Section 15 from the southern side, featuring pathology specimens made with Hamdi's solution. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 141

Figure 5.68: A smaller-size reproduction of a patient transport wagon with the Turkish the Red Crescent emblem in Section 16 from the southern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 142
Figure 5.69: A smaller-size reproduction of a patient transport wagon with the Turkish Red Crescent emblem in Section 16 from the northern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 142
Figure 5.70: The saddle-mounted stretcher placed in Section 16, with the pathology specimens in Section 15 visible in the background. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 143
Figure 5.71: A panel titled “From Miasma to Microbe: A History of Asepsis-Antisepsis,” displayed with various microscopes in Section 17, viewed from the southern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 144
Figure 5.72: A marble bust of Hygeia gifted by the Red Cross in 1968, displayed in Section 17. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 144
Figure 5.73: The display in Section 18 featuring medical sets donated by Gülhane doctors from the northern side, with Section 13 visible in the background. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 145
Figure 5.74: The display in Section 18 featuring heating and sterilization pans, and field stoves from the northern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 146
Figure 5.75: Disinfection devices produced in the Military Medical Supply Factory, with a black-and-white photograph showing the factory. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 146
Figure 5.76: The view from the southern side of the display in Section 18, showing an enamel bathtub, cupping, and cautery tools. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 147
Figure 5.77: The overall view of the exhibition space in Section 17, as seen from the entrance. Gülhane Medical History Museum, Anadolu Agency, 14 April 2018. 148
Figure 5.78 A page from the inventory book of the Museum of Anatolian Civilizations. TBMM Milli Saraylar Obje Sayım, Deneyim ve Güvenlik Sistemi, by Rüstem Coşkun, MA Thesis, Istanbul University 2019, p. 7..... 152

Figure 5.79 Some unregistered and unorganized documents found in the storage cabinet below the display cabinets. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 153
Figure 5.80 Some unregistered and unorganized documents found in the storage units below the display cabinets. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 153
Figure 5.81: An Ohaus brand three-scale precision balance. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay... 157
Figure 5.82: A Chirana brand foot-pedal compressor. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay..... 157
Figure 5.83: An Ernitec brand optical lens. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay. 158
Figure 5.84: Senior Sergeant Nejat Başkaya's medical supplies box. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay..... 158
Figure 5.85: Various expired medicine and poison bottles found in a cardboard box from the storage cabinet under the display cabinets. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay. 161
Figure 5.86: Some poison bottles found in a cardboard box. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay. 161
Figure 5.87: Various medicines stored in a plastic bag in storage cabinet number 24 under the display cabinets. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay. 162
Figure 5.88: A plastic bag containing various medicines. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay. 162
Figure 5.89: Expired pills and broken ampoules at the bottom of the plastic bag. Gülhane Medical History Museum. Photographed by İrem Alpay. 163
Figure 5.90: Various medicines removed from a plastic bag and safely placed in a cardboard box. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay. 163
Figure 5.91: Some medical supplies and medicines with FSC numbers. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. 164
Figure 5.92: Identifying objects from the FSC according to their catalogue numbers. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. . 165

Figure 6.1: Discoloration inside the display cabinet caused by humidity and dust. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. 170
Figure 6.2: Documents and medicines stored in an unorganized manner in a plastic bag. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 171
Figure 6.3: A mid-20th century photograph exposed to humidity. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. 171
Figure 6.4: Pathology specimens showing discoloration and decay due to evaporation of the solution and exposure to air. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. 172
Figure 6.5: A pathology specimen where the solution has turned completely black due to excessive decay. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay. 172
Figure 6.6: The webpage of the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston. https://mhc.andornot.com/en. Accessed 8 July 2024. 178
Figure 6.7: The webpage of an object from the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston, https://mhc.andornot.com/en/permalink/artifact12168. Accessed 8 July 2024. 179
Figure 6.8: The webpage of an object from the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston, https://mhc.andornot.com/en/permalink/artifact12168. Accessed 8 July 2024. 180
Figure 6.9: A diplomatic passport of the Republic of Türkiye from 1927. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 190
Figure 6.10: Pages from the diplomatic passport with information written in French. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 190
Figure 6.11: Pages from the diplomatic passport with pictures of family members. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 191
Figure 6.12: Pages with visa stamps from the diplomatic passport. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 191
Figure 6.13: Pages with visa stamps on the diplomatic passport. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. 192

Figure 6.14: Pathology specimen showing chronic cavitary pulmonary tuberculosis.
Gülhane Medical History Museum, 2023. Photographed by İrem Alpay. . 194

ABBREVIATIONS

AAM	American Alliance of Museums
CIDOC	International Committee for Documentation
FSC	Federal Supply Catalogue
GATA	Gülhane Military Medical Academy (*Gülhane Askeri Tıp Akademisi*)
IAMM	International Association of Medical Museums
ICOM	International Council of Museums
NMHM	National Museum of Health and Medicine
PTCA	Percutaneous Coronary Angioplasty
RCN	Royal College of Nursing
RCS	Royal College of Surgeons
SBÜ	University of Health Sciences *(Sağlık Bilimleri Üniversitesi)*
TBMM	Great National Assembly of Türkiye (*Türkiye Büyük Millet Meclisi*)
TMoCT	The Turkish Ministry of Culture and Tourism
USNPS	United States National Park Service

Chapter 1:
Introduction

Museums are non-profit, permanent institutions that serve as custodians of information, artifacts, and cultural heritage, ensuring that what they preserve remains unchanged (ICOM). They are dedicated to educating and informing the public by sharing this preserved heritage through careful stewardship and dissemination of knowledge. Although museum collections are often perceived as the cornerstone of these institutions, they reflect human desires and cultural values. In the contemporary world, where globalization and the rapid advancement of communication networks and technology are changing cultural elements more quickly, museums are inherently tied to change. This is because the interpretation of collections is shaped both by their context and by the people involved. Therefore, it is more accurate to view museums not as institutions that present absolute and true knowledge but as institutions that are in a constant state of flux, continuously renewing themselves, encouraging the questioning of knowledge, and advocating for change (Knell, MacLeod, and Watson xix).

Change in museums is an inevitable constant, but the nature of this change varies depending on the geography, social changes, and cultural context of the collection each museum holds. Within the broader museum landscape, medical museums occupy a unique niche. They specialize in exhibiting and interpreting medical-related artifacts, including historical instruments, biomedicine, archival materials related to medical history, and ethically sensitive human remains such as anatomical and pathological specimens. Medical museums provide insights into medical history and practices, but their scientific value also contributes to academic disciplines, including medicine, sociology, anthropology, humanities, and art. They are situated at the intersection of medicine, technology, art, and society, demonstrating and interpreting how medical practices, health, and healing have evolved over time. Since the 19th century, museums have utilized collections of natural and artificially curated curiosities to explore the human body, advance medical education, and satisfy public curiosity. Throughout the 20th century, many changes, particularly in medical education, prompted a decline and subsequent revitalization of medical museums. These institutions not only served as tools

for educating the public about epidemic diseases, health, and hygiene as instruments of nation-states but also helped to develop and enhance our understanding of medical history. As we entered the 21st century, medical museums have actively adapted by recontextualizing their collections and practices to address current ethical issues and embrace modern principles like inclusivity, accessibility, and sustainability.

The Gülhane Medical History Museum in Ankara, Türkiye, which has remained relatively unchanged within the contemporary museological context since its establishment in 1988, now faces the challenges of determining the best path to meet current museum standards and to find a place in the repertoire of medical museums. Understanding the need for recontextualization of the collection, and the development of a new curatorial approach for the Gülhane Medical History Museum—situated within a teaching and research hospital and university in Ankara, Türkiye—requires an assessment of how it can meet national and international museology standards. To address how this recontextualization should be implemented, it is first necessary to examine how medical museums around the world have evolved from the past to the present and what steps they have taken when making changes. Subsequently, analyzing other medical museums in Türkiye and the evolving institutional history of Gülhane as a medical institution allows us to understand the changing context of the Gülhane Medical History Museum from its establishment to the present, and thereby determine the steps can be taken for the future. This thesis proposes changes in the collection management strategies and the curatorial approaches that have been used at the Gülhane Medical History Museum so that these are more aligned with both national and international museum standards.

In Chapter 2, this thesis explores a range of pioneering medical museums around the world to better understand institutional, curatorial, ethical, and interpretive aspects of medical museums and the transformations that have occurred in these institutions in the past. It begins in Section 2.1 by exploring the origins of medical collections and their typical characteristics, along with the influential figures associated with these pivotal museums, who, as collectors and/or curators, shaped their collections into institutionalized public museums from the 19th century onwards. This exploration in Section 2.2 provides foundational knowledge essential for understanding the development of medical museums and their long historical and institutional heritage. Then, Section 2.3 proceeds to examine the shifting paradigms in medical museums

throughout the 20th century, exploring the reasons for their setback and then, the necessity of their recontextualizations as institutions advocating for the history of medicine and public health. Section 2.4 delves into how these institutions have navigated the changing ethics of displaying human remains and adapted to contemporary trends and practices shaped by technological advancements and changing audience interactions with museums from the 20th century until the present.

The research conducted for this thesis focuses predominantly on medical museums in Europe and North America. I have chosen to focus primarily on Western medical museums, not only because of their long histories as museums but also due to the abundance of accessible studies and documented practices spanning various time periods, which allows for comparative and chronological analyses. The research presented in Section 2.5 does, however, include some medical museums that are not in the Western world and hopes to extend the study of medical museums to include the changing educational role of medical museum collections in Türkiye and other parts of the world and to better understand the social and cultural dynamics that have influenced the curatorial and engagement strategies of these museums in the 21st century.

Following the exploration of changes related to medical museums and their collections in various parts of the world, this thesis examines in Chapter 3 medical museums in Türkiye that emerged with different missions and visions under the themes of health, history of medicine, and traditional medicine in an ethnographic setting. It aims to explore how medical museums in Türkiye came into existence and analyzes their diverse institutional cultures and evolving curatorial approaches. This review of existing medical museums serves as a guide for the Gülhane Medical History Museum to navigate current trends and changes among medical museums in Türkiye. In addition to examining other medical museums, it presents the history of Gülhane and its place in modern Turkish medicine in Chapter 4 and determines the influences that shaped the institutional and curatorial approaches used in the Gülhane Medical History Museum since its establishment.

Chapter 5 focuses on assessing the physical aspects of the exhibition space, documentation work, conservation efforts, and other institutional facilities and resources currently provided by the Gülhane Medical History Museum, as well as the physical and

legal conditions it meets as a university collection seeking private museum status from the Turkish Ministry of Culture and Tourism (TMoCT). This overview is followed by an example of an initial documentation project and some recommendations based on the examination of national and international standards for a collection management policy and system.

Finally, the thesis concludes with Chapter 6 by proposing new curatorial and management strategies for recontextualizing the collection at the Gülhane Medical History Museum. This chapter also suggests how the future museum could improve its communication with many of its different stakeholders. The recommendations made here are based on insights gained from studying other medical museums in Türkiye and around the world that have been restructuring their management policies and recontextualizing their collections to enhance educational impacts, augment participatory practices, incorporate diverse community narratives, and adopt more innovative curatorial approaches which will ultimately enhance their visitors' experiences with medical collections.

This thesis also afforded me an opportunity to study the Gülhane Medical History Collection closely, taking place in an institution which I have a deep personal connection with. I was born in the Gülhane Military Medical Academy Hospital (GATA) and have also been a patient there. Over the years, I developed a profound affinity for the institution and its committed healthcare professionals. Working on this valuable collection for my MA thesis has been both a magnificent pleasure and a profound honor. I believe that the Gülhane Medical History Collection will receive official recognition from the TMoCT as a medical museum, by meeting the highest national and international standards. I sincerely hope that this thesis contributes positively to the success of that endeavor.

Chapter 2:
Global Perspectives on Medical Museums

2.1 Historical Foundations of Medical Museums

The origins of medical collections that comprise objects of the history of medicine along with preserved fragments of the human body were referred to as 'anatomopathological' by Paluschowski et al. and can be traced back to the Renaissance era when 'cabinets of curiosities' began to be created (208). Initially, these collections were eclectic assemblages of natural and artificial curiosities brought back from travels to unfamiliar countries (Arnold, Museums and the Making of Medical History 146). Owned by Renaissance apothecaries and physicians, wealthy individuals, and sometimes even royalty, they showcased natural and man-made wonders to demonstrate wealth and knowledge and foreshadowed the precursors of modern medical museums (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 12; Paluchowski, Gulczyński and Szarszewski 208). Rather than merely collecting and admiring their treasures, many early collectors transformed their museums into centers of experience and experimentation to acquire information or purely for entertainment in the form of public autopsies (Paluchowski, Gulczyński and Szarszewski 209). They engaged in tasting and testing their specimens, aiming to enhance their understanding of *materia medica* and to conduct anatomical dissections (Arnold, Museums and the Making of Medical History 146).

The role of medical museums in contributing to the study of anatomy, natural history, and/or pharmaceuticals gradually changed through the early modern period (the 16th and 17th centuries), transitioning from providing a broad spectrum of museum-based experiments and inquiries to a more focused interest in taxonomy (Arnold, Museums and the Making of Medical History 147). The 18th century was the era of the 'Encyclopédie', where we can see a notable shift in the practices of display and collecting. This period emphasized a systematic and rational approach to identifications and classification (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 14). Anatomists of that time accumulated a large number of typical specimens. They conducted more dissections and collected more objects as the field of surgical anatomy

evolved. This discipline required a profound understanding of the human body, which was primarily gained through fresh dissections. As a result, the anatomical collections of the 18th century, which provided both financial and cultural benefits to their collectors, became crucial elements of the medical marketplace, serving specifically the needs of medico-surgical collectors and their audiences (15).

The beginning of the 19th century marked a period of significant transformation in the world of medicine and in collecting practices (Paluchowski, Gulczyński and Szarszewski 214). The development of pathology as a distinct scientific field at the end of the 18th century, along with numerous other medical subdivisions emerged resulting from interest in dividing fields of knowledge, which was common during the Age of Enlightenment era and led to the establishment of dedicated collections from direct research (211). The human body came to be seen as a biological mechanism that could be understood through scientific approaches and methods developed during the Enlightenment (214). Furthermore, medical studies began to place more emphasis on practical experiences tied to the direct exploration of the human body through autopsies or indirectly via the study of various specimens (211). Anatomical and anatomopathological collections played a significant role as scientific and didactic aids in many university centers (214). From the 18th century onwards, collections in medical schools were increasingly viewed as essential components of the curriculum, and many significant medical museums were founded for this educational purpose (Arnold, Museums and the Making of Medical History 147).

2.2 Key Characteristics of the 19th-century Medical Museums

The transition from the Enlightenment's 'museum economy' to the Victorian 'exhibitionary complex' marked a significant shift in the material culture of medicine and anatomy toward large-scale institutionalization. This transformation led to an unprecedented qualitative and quantitative change in the form and function of the collections, which became central components of medical education in the training of both surgeons and physicians (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 19). By the end of the 19th century, the majority of medical museums mostly focused on formal medical education, as they were established or re-

established by medical institutions, often affiliated with hospitals and medical schools (Alberti, A history of Edinburgh's medical museums 189).

According to McLeary, the proliferation of medical museums in North America in the 19th century stemmed from an ideological tension between the perceived intellectual accessibility of texts versus objects (40). This led to the creation of numerous organic specimens and artificial models, such as those made from wax, plaster, and papier-mâché. The cheaper cost of anatomical models made from these materials also made them more popular and easier to disseminate. These specimens and models served as visual communication tools, enabling educators to convey anatomical or pathological concepts to students and researchers to share results and ideas with their peers (McLeary 40). The emphasis on using these physical models and specimens reflects a pedagogical shift in the late 19th century and early 20th century that favored experiential learning over traditional text-based methods (41). This shift aligned with American and European medical research's primary emphasis on the taxonomy, description, and classification of diseases (39-40). The layout of these museums was intentionally designed to convey medical knowledge about human anatomy and pathology through carefully planned spatial arrangements that displayed the spectrum from normal to abnormal and healthy to diseased. Specimens were systematically organized to provide students with an effective means of learning and retaining information related to the human body's order and the diversity of diseases, akin to how natural history museums demonstrated the natural world's order and diversity (29). Consequently, the medical museums were valued for their unique ability to captivate and impress visitors and to provide students with both a physical and intellectual space that enhanced educational activities (30).

These collections served as educational tools, enabling students to study various medical conditions that were not commonly encountered during hospital rounds. Medical specimens, including preserved body parts displaying different pathologies, were transformed into three-dimensional teaching tools, offering students a more tangible understanding of human anatomy than two-dimensional textbook illustrations or photographs. These specimens were preserved through various methods to prevent decay, enhancing their utility in medical education. Unlike dissections, which could be messy and were often performed by inexperienced students, preserved medical specimens

provided a dependable, clean, and reusable resource for teaching. As such, the practice of collecting and preserving human remains became a key step in professionalizing and modernizing medicine during this era (Redman 94).

To explore the institutional changes and educational practices of medical museums during the 19th century, Alberti examines the process of objectification that transforms the human body into material culture within these museums. He examines body parts treated as objects, investigating their collection, preservation, and display practices, as well as the spaces where they were stored, treating them as components of an entangled assemblage (Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 23-4). In the 19th century, despite its sacred and inalienable status, the human body was often traded within the medical marketplace (87). Museums were particularly initiative-taking in purchasing specimens early in the century to quickly develop extensive collections for educational use (88). Consequently, medical museums became essential components of industrialized Britain, serving as centers for the production of pathological knowledge (80). These museums played a pivotal role in fostering a professional community of pathologists and advancing the field of pathological anatomy (65). By integrating collections of both healthy and diseased specimens, medical museums became key centers for the study of pathology and medicine (55).

The spatial processes in medical museums transformed human flesh into stable museum objects through preventative preservation efforts (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 125). In discussing how specimens were displayed, Alberti introduces the concepts of ‘dividuality’ and ‘intermediality’, explaining these as parts of a composite person originating from various locations juxtaposed with other mediums, such as text on papers, photographs, and wax models, to represent how different variations of diseases that worked together to form a multi-authored map of morbidity in the medical museum (127-9, 159). Anatomists assisted in the creation of this map by providing optical technologies such as close-up photographs and magnifying glasses, increasingly prioritizing sight over other senses in museums (176). While tactile engagement with specimens was a key activity in Britain’s pathological societies, general museum visitors were discouraged from touching displays, as it was considered potentially damaging to the specimens (180-1). Furthermore,

Victorian museum standards demanded environments free from odors, destructive interactions, and the disturbing sight of corpses, which led to challenges in suppressing the smells and unpleasant visuals of morbidity (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 184; The Museum Affect: Visiting Collections of Anatomy and Natural History 386). As a result, the use of glass display cases, like vitrines, became more common and were used in the medical museum as it allowed the curators to physically separate the displays from observers, thereby protecting the specimens (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 182). Wax models were also employed to eliminate the 'disgust' element from morbid curiosities; efforts were made to remove this from the public sphere, making the medical museum among one of the few remaining legitimate venues for the display of specimens (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 189; The Museum Affect: Visiting Collections of Anatomy and Natural History 391-2).

While the owners of commercial anatomy shows were keen to admit anyone willing to pay a small fee, regardless of whether the audience was there for a spectacle of deviance or arousal, curators of medical museums, much like those expected of art gallery audiences, were presumed to possess the appropriate taste and behavior (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 193; The Museum Affect: Visiting Collections of Anatomy and Natural History 373). This distinction in intention is crucial since it aims to differentiate between street shows and museums, low and high medicine, and to separate an unruly crowd from well-behaved visitors. Curators of medical museums portrayed the museum as a place for distant, rational, and reasoned observation of the morbid body, where mere curiosity was discouraged and titillation strongly condemned (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 194). This approach made the interaction between the museum and its visitors didactic, as the experience and engagement of the audience were decided upon the intention of the curators (195). Consequently, sites for displaying anatomy and pathology were segregated and became "accessible only to those who knew how to react appropriately" (194). By the 1870s, commercial exhibitions had largely dwindled, and access to medical collections became more restrictive, while other types of collections grew more inclusive as the 20th century approached (173-4).

2.2.1 Pioneer Figures and Museums

The institutionalization of medical collections for educational use did not lead to a decline in private collections. On the contrary, medical practitioners themselves became some of the most prolific collectors of various objects. They had privileged access to body parts, and their teaching collections often blurred the lines between private and institutional holdings (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 19). One notable early example of this trend can be seen in the work of London-based Scottish brothers, lecturers, and anatomists William Hunter and his brother John Hunter, who independently amassed one of the two most significant anatomical collections of that era. In 1763, William Hunter proposed to the government the creation of a medical school and museum, which he financed himself on Great Windmill Street, London. John Hunter, who also had come to London to work for him in 1748, was building up his own collection as a practiced surgeon and anatomist skilled in preparing specimens (17-8).

William Hunter, born in 1718 in Scotland, was deeply influenced by Enlightenment ideals during his formative years at the University of Glasgow, which shaped his later career in London as a pioneering anatomist and obstetrician (Keppie 1). Driven by a passion for both natural history and the arts, his extensive collecting activities—expressed in a 1768 letter to a friend, "At the moment I am sinking money so fast…I am now collecting in the largest sense of the word"—laid the foundation for the Hunterian Museum. His collections, ranging from medical specimens to coins and rare books, were each selected with the purpose of furthering knowledge and education (18).

Upon his death, William Hunter bequeathed his entire collection to the University of Glasgow, establishing the Hunterian Museum in Glasgow in 1807, which was meticulously organized to serve as an educational resource (Keppie 40). Throughout the 19th century, the museum expanded its scope and adapted to the evolving educational needs of the university, playing a crucial role in the teaching of medicine, art, and science (79). At the same time, it became a major attraction in Glasgow, enhancing the city's reputation as a cultural and scientific center (64). It drew both local residents and visitors from afar by allowing a limited degree of public access to its collections, in addition to playing a role in the academic environment of the university.

In the mid-19th century, the museum also faced challenges, such as the depletion of the Hunterian Fund, the need for more space, and better care of the collections due to the problems caused by the outdated heating system and drainage affecting the basement floor (Keppie 74). Additionally, its location in the heart of industrial Glasgow led to a deterioration of objects within the museum; the objects with paper suffered from the humidity and pollution of the local atmosphere, and labels became difficult to read due to residues left from the pollution and mold (78). Despite the newness of the current museum building, the increasing industrialization and pollution resulted in moving the museum to Gilmorehill, the outskirts of Glasgow, in 1870, which doubled the museum space (79). However, in 1900, after a new anatomy building at the northeast corner of the existing University of Glasgow complex was constructed, the anatomical and pathological collections were transferred there. This move placed the collections closer to the medical school dissecting rooms than ever before and shifted the museum's focus towards becoming more research-oriented and less a space that promoted public displays (93).

Besides William Hunter, the prominent role played by William's younger brother, John Hunter —as a renowned surgeon, anatomist, and collector— significantly influenced the field of medical anatomy through his innovative approach to collecting and displaying anatomical preparations in London (Chaplin 2, 217). His collection functioned as a nexus where dissection, preservation, and educational display intersected. In his thesis, Chaplin studies John Hunter through a model of 'museum oeconomy,' emphasizing the interrelated practices of collecting, preserving, and displaying body parts as a means to educate and engage both the medical community and the public (9, 25, 225). Hunter assembled his own collection so it would not be just a collection of specimens; it was an integral part of his broader educational aspirations. He desired his medical collection to serve as a practical resource for medical students and a venue for public enlightenment about human anatomy and medical science (10, 260). This implies a shift in perspectives of how medical knowledge was transmitted and who had access to this knowledge (168). Chaplin also delves into how Hunter practiced and then later, after his death, where the collection was kept. It was displayed at the Royal College of Surgeons (RCS) of England in London and influenced societal perceptions of medicine, dissection, and the collection of human remains (134). He suggests that Hunter's work helped to cultivate a broader acceptance and appreciation of dissection and anatomical studies as a

virtuous form of scientific inquiry (11, 155). By placing John Hunter's work within the wider historiography of medicine and museums, Chaplin argues that his contributions went beyond immediate medical instruction and had lasting impacts on the development of museums as educational institutions.

Nevertheless, different scholars discuss John Hunter and his collection from diverse perspectives. According to Cunningham, John Hunter's motives as a collector and anatomist can be better ascertained by looking at the writings of Richard Owen and his presentation of Hunter's collection after Hunter's death (23). The core collection, part of a larger ensemble, retained a distinct identity under John Hunter's nearly 40-year program, it transformed after his death in 1793 to the conservator Richard Owen (Cunnigham 23). Owen aimed to keep the collection at the forefront of research in a new discipline: comparative anatomy. Even though John Hunter focused a significant part of his collection efforts on procuring specimens for comparative anatomy, this discipline did not exist formally during Hunter's lifetime (25). However, we can see that John Hunter's impact and legacy of anatomy and medical collections have been passed down to subsequent generations.

When John Hunter died in 1793, his collection consisted of around 17,000 preparations of human and animal parts, both healthy and diseased, both anatomical and pathological specimens, along with some curiosities, artworks, and fossils (Cunningham 26). Eventually, after his death, the collection was purchased by the Parliament for the Royal College of Surgeons in London in 1800. The collection was not accessible to the public until 1813, and even then, access was extremely limited (25, 28). From the perspective of the Royal College of Surgeons, there was initially no need for a catalogue of the collection, and, consequently, no basis for an exhibition (31). It was only after Richard Owen's formal appointment as conservator in 1827 that the collection was catalogued (25, 32). Owen, influenced by his studies of Cuvier's comparative anatomy lectures in Paris, organized the catalogues for Hunter's collection according to this methodology. This methodology led him to interpret Hunter's physiological collection within the Cuvierian framework[1] (49-50). While Hunter's students had used the collection

[1] Georges Cuvier (1769-1832), a French naturalist and zoologist, known as a founder of modern comparative anatomy. To see further: https://embryo.asu.edu/pages/georges-cuvier-1769-1832.

for public lectures prior to Owen's tenure, Owen's lectures on Cuvierian comparative anatomy repositioned John Hunter as a pioneering comparative anatomist in the eyes of the members of the Royal College of Surgeons and later historians, cementing his status as a leading modern anatomist in the early 19th century, although it is not an authentic account of John Hunter (41, 52).

Another key figure in England known for his extensive and obsessive collecting at that time was Henry Wellcome, who owned what is considered the largest medical museum ever, and his personal collection may be among the most valuable medical-related collections. (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 19). During the late 19th century, Sir Henry Wellcome, an innovative pharmaceutical entrepreneur, and businessman, dedicated himself to assembling an extraordinary collection of artifacts, showcasing his vast interests in medical history and various cultures (Larson 24). Since he was not a physician himself, his relationship with the arts and culture was more flexible and comprehensive than that of many of his collector peers (150). This broader approach positioned general medicine within a wider context, aiming to encompass "the entirety of medicine's global past and present across all relevant mediums," in contrast to the narrower focus of medical collections built specifically for university teachings and professional physicians. (Bailey 31). Bailey argues that Wellcome's collection of the material culture of medicine was closely tied to the work of colonial anthropologists and archaeologists, that it was politically infused with notions of both the prehistoric and 'primitive,' serving as a justification for categorizing non-European and non-industrialized communities (31-2).

Wellcome's first exhibition, which later became a museum, opened in 1913 in London, deliberately coinciding with the International Medical Congress. This event attracted 5,000 delegates from twenty-eight countries, providing the museum with an enormous international audience (Larson 143). The displays in the first room, known as the Hall of Primitive Medicine, featured an eclectic mix of dancing masks, 'fetish figures', collections of ancient skulls and human remains, weaponry, and witch-doctors' costumes, as to showcase the diverse cultural practices for health from a perspective of 'curiosity and wonder' (144-5). This array was a departure from the typical orderly presentation of surgical instruments and laboratory equipment traditionally displayed in

a medical history museum (144). Next, visitors would pass through a small display area, which contrasted sharply with the previous anthropological exhibit, featuring objects related to the science of parasitology and the history of the microscope, before reaching the museum's main room, the Hall of Statuary (145).

The exhibit in the Hall of Statuary was designed to awaken admiration and respect from the visitors by displaying healing deities from China, India, Ancient Egypt, Ancient Greece, and the Roman Empire—great civilizations from which Western science and medicine have inherited (Larson 146). The exhibition continued with displays of diverse topics related to medicine and pharmaceuticals as well as instruments of torture from various regions. The basement of the museum, however, featured a series of reconstructed rooms from different historical periods, complete with costumed mannequins depicting scenes from a 16th-century hospital, various apothecaries, pharmacies from the 17th and 18th centuries, an Ottoman drug shop, and a Roman surgery (147).

At the opening ceremony, Wellcome emphasized that his museum was not merely a collection of curiosities for amusement, but a serious research institution aimed at aiding students and researchers, although he acknowledged his flair for creating engaging exhibitions (Larson 149). Wellcome claimed his museum's exhibits were educational, but the press considered them mere entertainment, particularly in the Hall of Primitive Medicine, where exotic, poorly labeled objects contrasted with neatly organized surgical objects from the displays of Western medicine, highlighting a superficial understanding of so-called primitive cultures and ancient societies (151). Most journalists, and likely many visitors, left the museum with a reinforced pride in Western medical practice and a limited grasp of the significance of ancient or foreign medical customs, thus reaffirming the perceived superiority of Western biomedical research over other medical and healing traditions (151-2).

By the 1930s, the idea of educating both the public and medical students was advocated by S. H. Daukes, director of the Wellcome Museum of Medical Science at that time, in his publication *The Medical Museum Based on A New System of Visual Teaching* (1929). Daukes argued that while medical museums are essential for medical schools, they must also expand their mission to serve future generations (Daukes 11). He suggested moving beyond traditional displays of pathological collections to create a

comprehensive repository of medical knowledge (15). Daukes recommended utilizing diverse mediums, such as photographs and paintings, to provide a vivid and complete understanding of medical topics (23-4). He envisioned that large public medical museums would increasingly play a crucial role in the broader education of the public (62).

Due to the influential figures mentioned above, London became the hub of British medical collections and museum culture in the 19th century. However, there were more than 100 pathological collections and museums in England during the 19th century (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 28). Besides London, Edinburgh was another center with proprietary anatomy schools. During the 19th century, Edinburgh's medical museums, notably the Surgeons' Hall Museums and the University of Edinburgh's Anatomy Museum, played prominent roles in medical education and public engagement. Established primarily for educational use, these museums were utilized for the training of medical professionals by incorporating different collections into the curriculum, such as those donated by John Thomson in 1804 and Alexander Monro Secundus in 1798 (Alberti, A history of Edinburgh's medical museums 190).

These collections were integral to teaching, offering direct access to anatomical and pathological specimens during lectures and practical demonstrations (Alberti, A history of Edinburgh's medical museums 189). Additionally, the museums served the broader public by demystifying medical science through exhibitions and lectures, thereby enhancing a greater understanding of medical practices among the general population (190). As medical education evolved in Edinburgh, these museums adapted, continually expanding their collections and educational roles, cementing the city's reputation as a premier center for medical learning and public scientific education.

Similarly, in the United States, following the Civil War, medical museums played a crucial role in the evolution of medical education, gaining prominence as their collections expanded to include human remains used in studies of physical anthropology and comparative anatomy, intending to advance racial science (Redman 13). Redman claims that the medical museums established around the Civil War (1861-65) were initially created to facilitate knowledge-making for medical students (113). As public awareness of health and hygiene grew over the ensuing decades, medical museums

became an integral part of the cultural landscape. They aimed to promote established medical practices, distinguishing themselves from less credible healing practices. Additionally, developments in anthropology, such as the study of race through cranial analysis and research into ancient American medicine, began to shape the exhibits and collections within these museums (Redman 113). Consequently, in the period following the Civil War, private physicians and early amateur collectors established a tradition of collecting the remains of soldiers in the United States. However, it was the medical officers acting on behalf of the Army Medical Museum who pioneered the systematic collection of skeletons for a major museum collection, sending them back to Washington to provide material for the study of military medicine and surgery (Redman 14; Arnold, Museums and the Making of Medical History 152).

Founded in 1862 by Surgeon General William Hammond, the Army Medical Museum of the United States was primarily established to gather specimens of pathology specimens from the battlefield during the Civil War. Following the war, the museum broadened its scope to include collections dedicated to comparative anatomy, reflecting the teaching of notable figures such as Samuel George Morton, Charles Darwin, and Thomas Jefferson (Redman 20). This shift marked the museum's transition from merely collecting specimens to exploring broader scientific theories, particularly those relating to the anatomical differences among races. The museum's collections expanded to include a diverse range of human remains, with a particular focus on Native American specimens, although remains from other ethnic groups from continents like Europe, Africa, Oceania, and Asia were also incorporated over time (21). With approximately two hundred more specimens being accessioned each day, the museum had amassed over a million specimens by its 100th anniversary in 1962 (Arnold, Museums and the Making of Medical History 153).

The Army Medical Museum's role as a research center was prominent; for instance, it was also where the first vaccine against typhoid was developed, and it became a focus of intellectual and scientific life in Washington D.C. by the 1870s (Arnold, Museums and the Making of Medical History 153). As the museum's focus expanded and became a subject for popular literature and science magazines and publications, it began to be a tourist attraction point for the public and conveniently located near the

neighborhood of professional physicians' offices in Washington D.C. Six thousand visitors came in 1867, a figure that tripled within four years, despite being open only four hours a day and with restrictions on children's admittance (Redman 22, 99). The Army Medical Museum attracted a unique mix of visitors, including soldiers who were drawn to see exhibits related to their own experiences, such as lost limbs and various deformities, but also the bones of their comrades displayed there (Redman 98, Woodward 239). The museum also captivated the imagination and interest of the general public with displays of abnormal deformities and skeletons from various races worldwide. Journalistic coverage from the time suggests that visits to the museum often prompted deep reflections on life and death (Redman 99). Physicians expressed concerns that the public's interest was primarily in the more macabre aspects of the exhibits as the number of casual visitors quickly surpassed those attending for professional or educational purposes. Stories about the museum in the media played up its more sensational aspects, blending public fascination for the grotesque with a growing curiosity about advances in medical science (99).

In *Lippincott's Magazine of Popular Literature and Science*, a popular magazine that dates back to 1871, an American surgeon, Colonel J. J. Woodward, does not just describe the visitors and the use of the museum by the public and medical practitioners but also describes the space of the first museum in Ford's Theatre in Washington D.C. He states that the space is "devoid of any pretension to architectural beauty" and "has rather a gloomy aspect," maybe due to the fact that it was where President Lincoln was assassinated (Woodward 239). The museum space was divided into six sections, dedicated to surgical, microscopical, anatomical, and comparative anatomy, as well as a library with miscellaneous articles, numerous records, and books that were "all systematically filed in such a manner as to permit ready access" (234). One of the largest exhibits, the anatomical cabinet collection dedicated to collecting human skulls, became a significant part of the museum exhibitions. These exhibitions not only displayed human skeletons but also included a considerable collection of animal skeletons to provide comparative insights between humans and animals (Redman 22). The museum's evolving collections and displays were also deeply integrated into the ongoing scientific discussions of the time, particularly those concerning racial science (24). The specimens helped advance early theories of race and later contributed to the studies of human

prehistory and evolution, reflecting the museum's role in bridging the gap between medical education and broader scientific inquiry in that era (Redman 26).

The Army officials as well were encouraged by the medical professionals' use of the collections, particularly because attempts to establish an army medical school faced significant obstacles throughout much of the late 19th century (Redman 97). This intention is further highlighted in a publication of the American Medical Association from 1919, which states that the high dependency on physicians and military people in positions of power will be required to determine the importance and contributions of medical officers (Mayo 3, 6). The writer and medical doctor C. H. Mayo claimed that in an era in which hospitals, surgical methods, sanitation, and hygiene were standardized, the Army Medical Corps should be standardized with training in military instruction, field service, public health service, and hospital intern services (Mayo 8,10). For this reason, the collection of the Army Medical Museum possesses immense value for its medical records of the Civil War in its library, along with plaster casts, drawings, wax models, and specimens to visualize the character of war wounds (9). Mayo further points out the importance of the museum as an institution dedicated to teaching preventative medicine and surgery at that time, in addition to "educating the public in scientific matters pertaining to health and disease" (10).

The focus on public and professional education through medical collections was not unique to one locale in the United States, and there were several cities in both the United States and England where medical collections and education flourished. For example, Philadelphia emerged as a center of 19th-century American medicine, renowned for its numerous medical museums that drew the interest of the local population (McLeary 26-7). However, the fundamental function of the early phase of the Army Medical Museum was like an experimental workshop to educate medical students and practitioners about human injuries rarely seen on the battlefield (McLeary 97, Redman 97). When physician Thomas Dent Mütter donated his personal collection of 1,344 artifacts, including bones, wet specimens, medical photographs, and casts, as well as a number of paintings to the College of Physicians in Philadelphia, his aim was to achieve a similar purpose: creating an educational space for medical students (McLeary 26, Redman 96). Like his peers Henry Wellcome and the Hunter brothers in England, Mütter as well

envisioned his collection, valued at over $30,000, to serve both scientific and humanitarian purposes (Redman 96). He expressed to the College of Physicians of Philadelphia his intention to establish a Pathological Museum accessible to all physicians and medical students free of charge (Redman 68).

Founded in 1787 as a private medical society, the College of Physicians of Philadelphia had amassed a small permanent pathology collection through donations in the late 1840s (Redman 96). Initially, this collection was solely intended to provide illustrations and samples for use by the college members during meetings and lectures and was not meant for use by students or the public (McLeary 66). The Fellows of the College generously contributed their private collections to the museum, accumulated over their medical careers. Initially, the museum successfully gathered a significant array of medical instruments and specimens. However, interest in the collection among the Fellows eventually waned by the time Mütter donated his own collection (Redman 96).

When Thomas Dent Mütter, now a professor from Jefferson Medical College, donated his collection in 1858, he did so with his proposal aimed at fostering medical education and extending medical knowledge. The donation came with specific conditions. The College had to build a fireproof facility for the museum, employ a door attendant to manage incoming specimens and ensure the museum was accessible to medical professionals and students while allowing the general public to view the collection under certain conditions (McLeary 67). His demands also extended to the operational aspects of the museum, requiring a curator to manage the specimens, provide information, and oversee visitor interactions so as to maintain decorum (68).

In 1863, a year after the establishment of the Army Medical Museum, the Mütter Museum inaugurated a new building. Initially, access to its expanding pathological collection was restricted to the Fellows of the College. However, the Anatomy Act of Pennsylvania passed in 1867, allowed medical institutions in the Philadelphia area, including the College of Physicians, legal access to human cadavers for dissection and preservation, thereby broadening the scope and capabilities of the museum (Redman 96).

In the late 19th and early 20th centuries, the Mütter Museum eagerly pursued an expansion of its collections, particularly focusing on cranial specimens that illustrated

prevailing Western theories of racial classification and comparative anatomy. This initiative reflected a broader interest in using medical collections to support studies in physical anthropology, heredity, and human prehistory, aligning with the museum's goal to further the understanding of racial science within the historical context of the United States (Redman 108-9, 111). Despite its educational importance, public access to the museum remained limited during this period, reflecting contemporary views that regarded medical museums as primarily beneficial for professional development rather than public education (112).

By the early 20th century, the museum occasionally opened its doors to entertain both medical professionals and the general public and embraced its dual role: an educational resource and a unique attraction (Redman 111, 113). The College of Physicians of Philadelphia recognized the collection's significance in documenting medical history, thereby ensuring its maintenance into the 20th century (Jones 20). Efforts to enhance accessibility were realized when exhibits were moved to more accessible ground-floor halls (112, 114). These developments highlight the Mütter Museum's complex role as both a crucial scientific resource and a public curiosity.

Another influential medical collection in North America came out of the Faculty of Medicine and Health Sciences at McGill University in Montreal, Canada, which opened in 1829. Here, anatomical and pathological specimens had accumulated over the years and were used to create a medical museum in 1892. By 1894, the museum had expanded to fill two rooms in the medical building, featuring an array of wax models, papier-mâché and plaster figures, skeletons, and illustrations (Stelmackowich 55). However, the collection needed to be managed, cataloged, and developed. In 1898, Maude Abbott was appointed as curator of McGill's medical collections by William Osler, the latter revered as the 'father of modern medicine' in the US and Canada (53). Before her appointment, Abbott visited the Army Medical Museum in Washington D.C. and studied the organization of prominent medical museums in Baltimore (56). Despite the low status and salary of the curatorship position, Abbott accepted the position of curator, reflecting the limited opportunities for women in academic medicine at the time (57).

Abbot found McGill's medical collections disorganized, as they lacked a standardized classification system. Abbott revolutionized the management of these collections by implementing a modern ordering and classification system, which she developed over the next 25 years. This system went beyond simple labeling and established an expandable clerical system (Stelmackowich 60). Abbott's efforts culminated in a comprehensive and continually updated catalogue that set new standards for cataloguing medical collections.

Abbott also enhanced the educational use of the museum's specimens. Starting in 1901, she conducted informal teaching sessions, which by 1904 had evolved into an integral part of McGill's medical curriculum (Stelmackowich 61). She advocated for the educational power of museum demonstrations over traditional lecture-based learning, emphasizing the visual and tactile learning experiences that museums provide. Her work led to the recognition of the museum as an essential educational tool, as evidenced by a 1910 report that ranked McGill's anatomical and pathological museums among the best in North America for teaching (64).

Abbott's influence extended beyond McGill. Her leadership and recognition in the medical community led her to play a pivotal role in founding the International Association of Medical Museums (IAMM) in 1910, enhancing her international stature. Despite the university's initial reluctance to fully integrate her into its faculty, McGill eventually awarded Abbott a lectureship in the Department of Pathology and an honorary medical degree in 1910, eight years before the university admitted women to its medical faculty. However, the medical museum was the place that provided Maude Abbott with a secure environment to develop her expertise and gain international recognition (Stelmackowich 65).

As managing editor of the IAMM Bulletin, Abbott promoted the professionalization of medical museum curators and shared innovative classification methods and standardization practices, establishing her cataloguing approach as a model for the international community (Stelmackowich 66). As the curator of the museum, she collaborated with medical artists, photographers, and publishers to create her 'Medicine at McGill' exhibition, which won awards due to the display of her research through diagrams, charts, and electrocardiograms without exhibiting actual specimens. Her

subsequent exhibit in 1932 incorporated fifty actual specimens along with more detailed visual aids, enhancing her reputation through her innovative use of visual techniques to convey medical knowledge effectively (67).

During the 1920s and 1930s, medical education and practice at McGill University had undergone significant changes, shifting away from traditional medical museum education as new scientific disciplines like experimental pathology and bacteriology gained prominence (Stelmackowich 69-70). Horst Oertel, who served as Chair of Pathology at McGill University from 1918 to 1938, significantly emphasized 'pathological morphology' as an academic discipline and the provision of autopsies, thereby enhancing the roles of both the Royal Victoria Hospital and McGill University. Coupled with his unsupportive views on Abbott, this focus shifted the attention away from the museum activities (Adams 180-1). This transition led to a deemphasis on preserved specimens and a growing skepticism within the faculty about the utility of the medical museum, which some people viewed as an unnecessary luxury "filled with sentimental junk" (Stelmackowich 70). As a result, funding and support for the museum waned, leading to staff shortages and reduced resources.

Despite these challenges, Maude Abbott remained committed to the museum, advocating its research and educational value through her position in the International Association of Medical Museums (IAMM). However, the museum's decline occurred after her death in 1940; the museum rapidly lost its main advocate, leading to its closure and the subsequent transformation of the IAMM into the International Academy of Pathology (70-71). The once-celebrated collection was relegated in date here to a small, locked basement, reflecting the profound shifts in medical education and the fading legacy of historical medical collection, until it was reopened just a decade ago, in 2012, under the name 'Maude Abbott Medical Museum'. Recent interest in the architectural aspects of the museum suggested a growing appreciation of their role not only in medical education but also as architectural artifacts that offer insights into the history of medicine and museum practices. Recent interest in the architectural aspects of the museum suggests a growing appreciation for its role not only in medical education but also as an architectural artifact that provides insights into the history of medicine and museum practices. This appreciation is exemplified by the museum's inclusion in CNN's 2013 list

of ‘weirdest medical museums’, alongside other notable medical museums (Adams 171, 183).

2.3 The 20th Century: A Period of Revitalization

In the 19th century, numerous objects related to the material culture of medicine were accumulated, utilized, and displayed in various contexts, ranging from entertainment to education, from material for scandal to tools for quackery, from firsthand experiential objects for medical students to public education on health topics. The medical museum significantly influenced the development of pathology and medicine, providing representation of the human anatomy and its diseases through a range of approaches, from two-dimensional drawings to three-dimensional exhibits of both natural specimens and models. These collections served as tangible proof, offering insights worth a thousand words, and allowed students and physicians to visually comprehend and prepare for diseases they had not yet encountered in clinical settings (Gulczyński, Paluchowski and Halasz 126).

While medical museums established or reformed in that time primarily focused on education, their educational scope was often limited to specific communities e.g., practitioners, physicians, surgeons, and medical students. The 19th century was also marked by the era of democratizing knowledge in museums, with institutions opening their doors to audiences from diverse social, cultural, and economic backgrounds. Despite this, medical museums formed a distinct category that did not completely align with the developments of many other types of museums of that time. Eventually, they became increasingly isolated from the broader heritage sector, leading to scant records of their use and jeopardizing their continued existence (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 202). Perhaps for this reason, various studies suggest that the extensive collections assembled in the 19th century witnessed a decline in relevance throughout the 20th century, and they were not uniformly valued, even among collections designated for professional use (Burmeister 245).

The decrease in funding and accessibility for preserving collections during World War I and World War II significantly impacted most museums in Europe, including medical museums, leading to numerous collections being destroyed, scattered, or

relocated (Gulczyński, Paluchowski and Halasz 125). For instance, during WWI, the RCS of Edinburgh took precautions by moving specimens to the basement to protect them from potential aerial attacks, which restricted access (Henry 37). Access to the Wellcome Museum of Medical Science became restricted to specific groups of teachers and students, excluding the general public during the world wars (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 202).

The Orfila Museum of the Institute of Anatomy in Paris, established in the 1830s to mirror the Hunterian Museum's educational role, was less fortunate. The waning interest and reduced funding during the World Wars led to the deterioration of its collection, and some of its wax models were even melted down to make candles during WWII (Burmeister 245). Another example of decline is in medical collection from the 19th century affected by the wars was found by the anatomy professor August Rauber from Tartu, Estonia. The museum, established in the Old Anatomical Theatre in Tartu in 1890, played a crucial role in enhancing lectures through the use of models and original specimens (Toomsalu and Arend, Medical Collections in Tartu Old Anatomical Theatre - From August Rauber's Anatomy Museum to a Multifunctional Research and Edutainment Centre 11). Regrettably, many of Rauber's museum exhibits were lost amid wartime upheavals, and the museum could reopen only in 2005 as the Medical Collections at the Faculty of Medicine of the University of Tartu (12). While medical museums such as the one at the RCS of England underwent extensive rebuilding after wartime damage, the collection at St. Thomas' Hospital in London was dismantled, and the medical school collections at the University of Birmingham experienced a reduction (Hallam 53).

The medical museums in the United States did not face the dangers of wartime destruction, dismantling, or dissipation of the collection due to lack of funding. Instead, their missions and standings as museums were minimized. During the period of the World Wars, the focus of the Army Medical Museum shifted toward becoming a research-centric pathological institute and consultation center (M. Rhode 196; Rhode and Connor 190). Eventually, after WWII, the museum transformed into the Armed Forces Institute of Pathology and subsequently scaled back its museum activities (Arnold, Museums and the Making of Medical History 154; Rhode and Connor 182). Except for the exhibits in the main hall, the rest of the display spaces were converted into offices for military use

throughout the wartime period. However, it is noteworthy that despite wartime and later travel restrictions, the museum still attracted around 200,000 visitors annually (M. Rhode 196).

In response to armed conflicts and injuries, the Army Medical Museum revitalized its exhibitions with new displays in the mid-20th century, focused on wartime hazards like shell shock; it added divisions for motion pictures and photography, highlighting the era's technological advances with enhanced displays. This technological influence extended into medical education through the rise of laboratory medicine and the expansion of specializations across various medical fields. Consequently, the relevance of traditional collections, such as bottled pathology specimens in solutions and historical medical technologies, as the specialization in medicine grew, diminished the museum's wide-ranging roles, including the role it had played in medical education (M. Rhode 196, Rhode and Connor 190).

Douglas Waugh M.D., the former executive director of the Association of Canadian Medical Colleges, observed that the decline of medical museums was not just a post-war phenomenon but continued throughout the late 20th century. In his essay from 1990 titled *The Decline and Fall of our Medical Museums*, he notes that while some renowned museums in England remained preserved and widely used during that period, and Canada's celebrated medical museum curator Maude Abbott gained international acclaim, Canadian medical museums were nevertheless experiencing a downturn (236). This decline was attributed to several factors: the demand for additional space led to the reduction of museum collections, and advancements in photographic techniques that provided excellent specimen records reduced the reliance on physical pathological materials in medical education. Consequently, the few surviving anatomical and pathological specimens in these collections came to be seen merely as relics of a bygone medical era, relegated to hallways and other forgotten spaces (Waugh 236).

Indeed, Gulczyński et. al. also note that the latter half of the 20th century saw a marked decline in the appeal of medical museum collections to students and physicians (125). The number of pathology collections decreased because fewer autopsies were being performed, there were advancements in imaging techniques and improvements in hospital diagnostics and treatments (Gulczyński, Paluchowski and Halasz 125).

Moreover, the rise of microscopic techniques in pathology, including histology and molecular pathology, coupled with the advancement of photographic methods for archiving pathological data, contributed to the declining relevance of traditional methods of learning through tangible specimens for educating medical students (Zannata and Zampieri 413). This shift also led to a gradual decline in specimen preservation skills (Gulczyński, Paluchowski and Halasz 125). Although some museums have managed to maintain their collections, these often include lesion specimens that have become extremely rare or are no longer visible due to advances in modern treatment methods, making them unavailable for direct examination (126). Confronted with limited funding and diminishing professional interest, medical museums gradually lost their leading role in mid-20th-century medical education and the interest of medical professionals as the era grew more obsessed with new technologies and modes of representation (Burmeister 246; Åhrén 113).

By the 1960s, 19th-century anatomical collections had ceased to captivate 20th-century audiences. It is unclear whether the diseased bodies displayed were even perceived as horrifying, as these collections were reduced to mere novelties (Burmeister 250). Additionally, the wax models from the 19th century initially introduced as a more palatable substitute for actual dissections, were seen as outdated relics from the Victorian era (246-7). Anatomical museums no longer provoked the same level of professional anxiety among curators, with audiences no longer expecting to acquire medical knowledge from wax models in such settings (246). Consequently, this shift prompted professional criticism from doctors concerned about the accuracy and potential negative portrayal of modern medicine, fearing that the displays could mislead and horrify the public due to the outdated surgical practices presented (246, 253). In the modern era of 'objective' science, defending the maintenance and utility of collections filled with wondrous and ghoulish items became untenable (Arnold, Museums and the Making of Medical History 149).

Despite the evolving status and role of pathology in medical practice and education, pathology branched into chemical, physiological, clinical, and experimental sub-disciplines. Correspondingly, museum collections also became more diversified and specialized (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century

Britain 198). This shift should not be interpreted as a decline of medical museums but rather as a period of reassessment and redefinition. Similarly to how hospital-based medicine became more 'scientific' during the late Victorian and Edwardian periods, medical museums were also revised and reorganized to align with newer scientific principles. The establishment of smaller, specialized museums mirrored broader trends in the medical profession, influencing the rise of new disciplines within academic institutions, and they contributed to the evolution of medical schools (Reinarz 436). Despite a growing focus on clinical training, this shift did not signify the demise of museum-based medicine; instead, it highlighted the diversity of topics museums and exhibitions addressed.

2.3.1 Advocates for Public Health and Hygiene

The narrative of medical museums is deeply intertwined with the evolving perspectives on public health and hygiene. Beyond educating physicians and displaying comparative anatomy, these collections have also served to advance public understanding and awareness of health and hygiene practices. From the beginning of the late 19th century, there was a gradual transition from the sanitarian reform movements to the new applied sanitary engineering and laboratory technologies in bacteriology. This shift created significant changes in health and medicine, giving rise to what was termed 'sanitary science.' This transition of terminology also reflects a shift from 'hygiene' to 'health' and from 'state medicine' to 'public hygiene' (Brown 2). While rapid industrialization spurred economic progress, it also led to a dramatic increase in urban populations, exacerbating sanitation, water, and sewage issues, which became major concerns across societies. These problems not only troubled the public but also caught the attention of medical professionals, who were previously on the periphery of public consciousness. The convergence of these factors played a pivotal role in the establishment of health and medicine exhibitions at international expositions in Chicago, Buffalo, Louisiana, and Philadelphia in the late 19th century. The expositions in question occurred amid a significant conflict between proponents of traditional medical practice and the new professionals tasked with overseeing the nation's health (2).

In addition to temporary exhibitions, in England, The Parkes Museum of Hygiene, established in 1876 at University College London, became a central component of the

Sanitary Institute and continued to display instructional exhibits in various subjects related to public health until the 1950s (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 198; Arnold, Museums and the Making of Medical History 149). The University of Birmingham also established a new Department of Industrial Hygiene, which included plans for acquiring a new collection of medical objects (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 200). The aforementioned Henry Wellcome's Museum of Tropical Medicine and Hygiene, which later evolved into the Wellcome Museum of Medical Science, is an early example of a museum in this new era with specialized collections dedicated to public health and hygiene (198). The museum was not only dedicated to advancing the study and promotion of hygiene and public health, but it also made significant contributions to the 1933 Chicago World's Fair exposition with a substantial medical section from the Hall of Science, which formed the fundamental collection of the Chicago Museum of Science and Industry (198, 200). Furthermore, these museums and health expositions borrowed and utilized pathological specimens, which gained increased recognition within the context of public health and hygiene. This was particularly notable since the expositions were large-scale events that attracted a vast attendance (200).

Public health institutions continued to be particularly relevant during WWI, influencing not only medical collections but also the broader museum sector. These institutions highlighted critical issues such as the challenges of the food economy and the dangers of infant mortality (199). Following WWI, as nation-states and central governments expanded their influence, medical museums increasingly served as instruments for promoting public education on health, sanitation, and hygiene (Arnold, Museums and the Making of Medical History 149). The development of state medicine and public hygiene established a framework where diseases were seen not only as a medical concern, but the prevention was considered a societal responsibility, primarily falling under the jurisdiction of the state (Brown 2). For example, the Museum of Hygiene at the University of Athens, established in 1932, the Healthcare Museum in Serbia, founded in 1930, and the Museum of the School of Public Health in Zagreb, Croatia, were all established with governmental support. These museums primarily attracted schoolchildren and were dedicated to promoting the principles of hygiene with wax models, paintings, posters, and moldings (Doxanaki 74).

2.3.2 Exhibits about the History of Medicine

Another trend of redefinition observed in medical museums during the 20th century was a significant increase in both the number and variety of exhibits that focused on the history of medicine. This shift aimed to broaden the scope of medical topics covered, enhancing relevance for both medical professionals and the public while also fostering academic interest in the history of medicine (Arnold, Museums and the Making of Medical History 149). For instance, the Serbian Medical Society's Museum of Serbian Medicine was founded in 1955 within the Department of the History of Medicine and Pharmacy. The museum primarily sustained itself through contributions from Serbian doctors and their families, as well as some outside acquisitions, showcasing the evolution of Serbian medicine from the Middle Ages through the end of WWII (Simić 325). Nowadays, the exhibits are organized into categories such as anthropology, the Middle Ages, 19th-century medicine, the Serbian Medical Society, the School of Medicine, medical apparatuses, the Serbian Military Medical Corps, and the Serbian Red Cross (326-7). Additional examples of medical museums exhibiting the history of medicine include the Museum of History of Medicine at the University of Belgrade, established in 1937, and the Museum of History of Medicine in Varna, Bulgaria, which display the evolution of medicine from antiquity through the Renaissance and the progress of medical services post-Bulgaria's liberation (Doxanaki 74).

In addition to these newly established museums, older institutions specializing in pathology and anatomy repositioned themselves within the discourse of the history of medicine. Padua's medical museology has roots extending back to the late 18th century with the anatomical and pathological specimens collected by Italian anatomist Giovanni Battista Morgagni (Zannata and Zampieri 401). Officially established in the 1870s as the Museum of Pathological Anatomy, it fell into disuse by the 1930s, although its collection remained intact (408, 412). Some specimens were loaned to the Museum of History of Medicine in Padua (Musme), which is dedicated to educating the general public. This partnership with Musme has provided a new platform for disseminating knowledge from the Museum of Pathological Anatomy, offering insights into the medical practices and pathologies of the Padua region across the centuries, and contributing to the narrative of medical history (413).

In 1919, the College of Physicians of Philadelphia relocated the Mütter Museum, which, by 1970, still largely resembled its 1890 counterpart, utilizing the same display cabinets and exhibits. The College redefined the Mütter Museum's role, transforming it from a repository of historical medical objects to a significant historical entity in the study of medical history (Jones 23). The Army Medical Museum's trajectory reflects similar patterns. In 1962, alongside the publication of *The Armed Forces Institute of Pathology: Its First Century* by Dr. Robert Selph Henry, initiatives began to relocate the museum from the National Library of Medicine to its traditional site on the National Mall in Washington D.C., aiming to showcase the medical achievements of the US Armed Services (Rhode and Connor 191; Sheridan 115). This location drew approximately 765,000 visitors annually (M. Rhode 197; Rhode and Connor 191). However, the museum's building was eventually demolished, and the facility was not repurposed for public access until it was renamed the National Museum of Health and Medicine in 1988 (M. Rhode 197). Despite the growth of its collections, its location on a military base restricted public access (197). By its 150th anniversary in 2012, the museum had relocated to a more accessible site in an industrial park in Silver Spring, Maryland, but still within a military complex that limited visitor access and expansion potential (197-8). Despite suffering collection losses over the past 150 years due to the deaccession of repetitive and deteriorated specimens, the museum consistently attracts non-professional audiences, thanks to its long-standing institutional commitment to narrating the history of military medicine in the United States (198).

In England, Steve Study, a professor at the University of Edinburgh in history of medicine, articulated the evolving mission of the Pathological Museum of the RCS of Edinburgh in 2006:

> *"… In its place, new meanings are being created. The Pathological Museum of the Royal College of Surgeons of Edinburgh is being reinvented as a historical and educational resource whose interest extends far beyond the confines of the medical profession. For doctors and laypeople alike, the Museum and its contents now offer a vantage from which to survey, not just the varieties of bodily illness, but the history of medicine itself. Where once the specimens were scrutinised chiefly for what they told of the physical manifestation of disease, new audiences can read in them a very different kind of story about patients and doctors and the changing nature of medicine…"* (116).

Arnold outlines the historiography of medical museums beginning four centuries ago and initially used for medical research. These museums were later used for medical education, and by the late 19th and 20th centuries, their focus shifted towards public health education (Arnold, Museums and the Making of Medical History 154). Moreover, the proliferation of self-consciously 'historical' medical museums by the end of the 20th century resulted in a diverse legacy of types of institutions and collections that exist today (154). Furthermore, the older collections have evolved through various stages, each leaving a new imprint, particularly on the anatomical and pathological collections into which they have been integrated.

Among the more problematic objects in these collections are human remains; the display of these in medical museums has undergone profound changes and has been influenced by ongoing scholarly and ethical debates concerning race, science, and the phenomenon of decolonization as a prevailing museum practice.

2.4 Recontextualization of Human Remains in Medical Museums

The majority of medical collections include the preservation of human body parts through methods such as injection or storage in fluids, transforming them into museum objects and material culture (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 3-4). Dead bodies have long been subject to scientific scrutiny without significant public opposition, as their use for medical training and research since the early modern era has generally been accepted as necessary for the advancement of doctors and medical professionals (Balistreri 26). The exhibition of anatomical specimens legitimized dissection as a scientific method and alleviated societal and ethical concerns associated with the practice (Kenny 39). Originally intended to standardize educational experiences and deepen understanding of the human body—an endeavor only partly achievable through fresh dissections—the perception of dead bodies in medical museums, as well as the utilization, display, and significance of human remains, have changed significantly throughout the modern era (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 4, 11, 15). Viewing human remains brings out complex cultural dimensions, as diverse cultural groups have distinct perceptions and rituals surrounding death. Recognizing these cultural differences illuminates why the display of preserved human remains might evoke horror or

discomfort in some viewers, though such reactions are not universally shared (Balistreri 31; Doğan, Thys-Şenocak and Joy 4, 17).

The collection of bodies and displays in medical museums, however, are generally interpreted and perceived as devoid of any religious, ethical, or moral concerns (Balistreri 22). The display of bodies forms part of a network of relationships among patients, practitioners, collectors, curators, and audiences that render them into commodified social entities (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 7). These connections reflect power dynamics and contribute to the body's objectification (94). Like living individuals subjected to objectification, human remains are often treated merely as tools, regarded as interchangeable, subjected to violation and dissection, and considered as properties.

The ownership of human remains is reflected in the control that collectors and institutions exert over these specimens, which are often seen as extensions of the authority held by medical practitioners. Such practices demonstrate similar patterns with power dynamics in colonial exploitations, where European powers seized many Indigenous human remains (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 98). For instance, Euro-American medical practitioners and anthropologists regarded Native Americans as a distinct species that warranted intensive scrutiny, particularly to substantiate racial theories based on cranial studies and the hierarchy of civilizations (Balistreri 23). The process reflects deep-rooted social hierarchies, including racial and class disparities, notably illustrated by the procurement and display of cadavers, often unclaimed bodies, in anatomical studies and museum collections (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 98).

S. C. Kenny critically examined the role of medical practices in the Antebellum South,[2] highlighting how deeply embedded racial prejudices influenced the medical exploitation of enslaved individuals (35). Physicians within this racially charged context utilized the bodies of enslaved people not only as tools for medical research but also as means to reinforce racial hierarchies, contributing to the development of medical museums that showcased these bodies as both scientific objects and symbols of white

[2] Southern United States before the Civil War (1861-65).

dominance (Kenny 61). This exploitation extended to the establishment of medical theories such as "negro anatomy and pathology," which distorted medical understanding and perpetuated racial stereotypes. By commodifying enslaved bodies for dissection, experimental research, and display in medical collections, these practices not only dehumanized the individuals but also ingrained a legacy of racial discrimination in the medical profession, starkly contrasting with the enslaved community's spiritual resistance and conceptualization of their own bodies (62).

M. Hendriksen discussed the African, and Asian-origin beaded babies preserved as wet specimens in historical anatomical collections in Leiden, Utrecht, Amsterdam, Groningen, and St. Petersburg (179). Since the specimens are mostly white due to the solution that was used, adding bead decorations emphasized the geographical origins of the babies and presented them as acquisitions from Indigenous communities and specimens of an exotic "other" (Hendriksen 180-1, 184). Although discussions about them diminished after the mid-20th century, recent academic studies on the Leiden anatomical collections have highlighted their cultural and academic significance (186, 189). Improved cataloguing and management have increased public visibility and appreciation of these collections with unknown origins, which eventually raised ethical and moral issues as the problematic remnants of the colonial past (189-90).

While racial classification continued to be promoted in museum exhibitions until the end of WWII, the primary focus of many displays began to shift during the post-war period (Redman 193). Redman claims that many physical anthropologists focused on the communicative aspects of human evolution and joined in the categorical rejection of the concept of race (194). The sporadic resistance from Indigenous groups evolved into a unified, multicultural, and global discourse through the 20th century, altering the nature of collecting and the practice of displaying human bodies since this posed ethical challenges related to colonialism and scientific racism (195). Medical museums have collections of human remains and are therefore deeply involved in current discussions about the ethical considerations of the public display of these collections (Alberti, Morbid Curiosities: Medical Museums in Nineteenth-Century Britain 12).

2.4.1 Ethics and Display of Human Remains

In the museum sector, ethics are recognized as the guidelines for best practices that professionals should follow, though they often lack legal authority. They are designed to shape thinking, uphold ideals, and assist museum staff in evaluating practices, deterring misconduct, and making informed decisions. Since the 1970s, there has been an increased focus on ethical considerations, with museum professionals becoming more culturally aware and socially sensitive. Ethical guidelines generally encourage respect for the communities and beliefs represented, particularly when dealing with sensitive materials or handling items without provenance, including issues related to the repatriation of objects as well as human remains (Gazi 1).

An increasing concern for ethical standards in the museum profession led to significant changes in the treatment of human remains according to international museum guidelines, particularly in the International Council of Museums' (ICOM) "Code of Ethics" first issued in 1986. This code emphasizes the respectful acquisition, research, display, or return of human remains and sacred materials, aligning with the beliefs and interests of the originating communities (Förster, Fründt and Preuß 3; Licata, Bonsignore and Boano 3). It also encourages museums to engage in dialogues about returning cultural properties to their countries or peoples of origin (Förster, Fründt and Preuß 3). Following extensive consultations, the United Kingdom's Department of Culture, Media and Sport issued *Guidance for the Care of Human Remains in Museums* in 2005. Moreover, in 2007, the *United Nations Declaration of the Rights of Indigenous Peoples* recognized Indigenous rights to the repatriation of remains, advocating for fair and transparent procedures developed with the Indigenous groups involved (3).

Indeed, the examination and legislation of ethics concerning human remains has emerged, to some extent, from the broader discourse on decolonizing museum practices. Museums, acknowledging their colonial origins—from their founders and collectors to their donors and the very buildings they occupy—are increasingly compelled to explore decolonization strategies. One strategy in the museum decolonization process, although still an ongoing debate, is relinquishing control and redistributing authority to transform institutional decision-making (Peers 55). For instance, from 1998 to 2018, the Pitt Rivers Museum in Oxford, developed long-term collaborations with the Haida people, focusing

on issues related to the display and repatriation of Haida artifacts and human remains that belong to the community (Peers 47, 56, 58-9). This partnership permanently incorporates Indigenous perspectives into curatorial practices and fosters ongoing, deeper community engagement (59-60). These decolonization practices can enhance collaboration, reinterpret narratives, and encourage co-creation, innovative ideas, and practices. It is crucial for museums to ensure a safe space that is able to promote critical engagement and self-reflection about their histories and the origins of their collections, especially if they include human remains.

Central to the efforts to address human remains is provenance research, which is pivotal for initiating the process of repatriating the remains. For instance, in 1947, the University of Edinburgh became a pioneer in the repatriation of human remains by agreeing to return the remains from the collection of the RCS belonging to Uva revolutionary leader Keppetipola to Sri Lanka, then known as Ceylon. From the 1980s onwards, other Indigenous communities started to request the return of ancestral remains from the University of Edinburgh and other British institutions. By 1990, amidst much debate, the University of Edinburgh adopted a proactive repatriation policy, leading to the return of remains to Australia, New Zealand, and Hawaii in subsequent years (Alberti, A history of Edinburgh's medical museums 194). Far from depleting the collections, these actions established the University of Edinburgh as a leader in ethical museum practices and forged new international relationships enhanced by provenance research that facilitated the identification of the remains.

A later example of museums addressing the issue of human remains is the Science Museum London, which acquired a significant portion of the Wellcome collection in the 1970s, including 800 human remains and objects containing human remains (Bud 70). The museum's board of trustees developed a new policy for the respectful storage and treatment of these remains, including repatriating some items to their Indigenous communities. For instance, in 2006, three skulls believed to be of Australian Aboriginal origin were repatriated, and in 2012, a Hawaiian skull was repatriated (70).

Italy, on the other hand, came later to the discussion of managing human remains, which started after some repatriation requests from Australia and New Zealand (Monza, Ciliberti and D'Anastasio 134). However, an interesting study by Monza et al. concerns

two case studies of mummies and their provenance in terms of their ethical way of display. The first one is the Gorini Collection in Museo di Storia Naturale Paolo Gorini, in the city of Lodi, founded by Paolo Gorini, who performed mummification techniques for anatomical demonstrations, and the recent addition of the 'Giuseppe Paravicini Collection' from the 20th century, includes mummified remains primarily from mentally ill patients, reflecting the continuation of Gorini's work by his disciple Giuseppe Paravicini (134). Since the subjects are psychiatric patients from the 20th century, their identities are well-documented, potentially allowing their descendants, who may still be living, to be traced (135).

The second study is the 'Celano child,' a mummified child's head displayed at Museo Universitario di Chieti (Chieti University Museum) in the city of Cieti, Abruzzo region. After the analysis of the mummified specimen, it was determined to be between 50 and 100 years old along with the signs of having been cut with a blade and saw, with additional marks of cutting and beating (134). However, according to *The Swiss Medical-ethical Guidelines and Recommendations*, if direct familial ties and tangible memories do not exist, specimens that hold unique value to medical history and culture may remain in collections, legitimizing their exhibition as well (135). On the other hand, for their display to be justified morally, the museum had to take several measures. Most recommendations related to human remains in museums state that human remains should be exhibited in a limited manner so that visitors do not encounter them unexpectedly. Moreover, the accompanying explanatory panels should help visitors learn about the context and significance, thereby stimulating conversation, sensitivity, and respect, all within a framework of transparency and accountability (135).

The issue of unknown provenance is also for the aforementioned 'beaded babies.' Due to the lack of information about their ancestry, there is no one to claim the remains. One argument is that objects should not be exhibited at all if their provenance is unknown (Hendriksen 191). However, this approach risks ignoring their historical value and makes it impossible to raise public awareness about the problematic nature of such objects (191). Moreover, while the remains are often perceived as trophies of scientific racism, the collector may have been primarily interested in human diversity, which in turn contributed to the advancement of science. Since there is no single opinion on the subject,

the Museum Vrolik in Amsterdam still exhibits them permanently, while the Tropenmuseum in Amsterdam chose to deaccession with the rest of the physical anthropological collection (192).

Each museum presents a unique case study through its history, the provenance of its collections, and its exhibitions, where different ideas, strategies, and legislations come into play according to the situation. Although the display or deaccession of human remains with unknown provenance remains a topic of ongoing debate, most museums address questions related to the human remains in their collections and assign them new meanings.

2.4.2 New Curatorial Approaches Concerning Human Remains

Many medical museums have not only reconsidered the ethics and legislation related to their collections containing human remains but have also re-narrated and reinterpreted these collections while considering the needs and reactions of the audiences and communities they serve. Because of the criticisms about the remains from visitors, such as perceptions that they are “pornographic” and “unwholesome,” M. Craske aimed to correct the historical narrative surrounding the historical museum of Rackstrow that existed during the 18th century in London (75). In his study in 2011, Craske highlighted the role of the founder, Benjamin Rackstrow, in maintaining the educational standards for the museum and the contribution of the museum to public education in anatomy with the reassessment of primary sources and new evidence related to the museum’s interaction with medical communities (75). In 2019, the Marburg Museum Anatomicum in Marburg, Germany, took the initiative for provenance research for the bisected body of a pregnant woman and her fetus because of the criticisms from stakeholders, including historians, medical professionals, and the public (Aumüller and Lenk 2). As a result, the narrative for the specimen in the exhibition was found to be based on a fictional story from a novel, leading to the display being recontextualized to acknowledge the history and dignity of the individual (8).

The Hunterian Museum at the RCS in London, another medical museum grappling with concerns about ethics and display of human remains, underwent a period of refurbishment starting in 2017 and reopened on May 16, 2023 (Hunterian Museum at

the Royal College of Surgeons of England will reopen to the public on Tuesday 16th May). One of the main concerns regarding the human remains at the museum involved retention and consent. At the entrance to the exhibition space, visitors are welcomed by an illuminated sign next to an 18th-century style Wunderkammer:

The Museum contains many hundreds of specimens of human remains, gathered before modern standards of consent were established. We recognise the debt owed to those people – named and unnamed – who in life and death have helped to advance medical knowledge (Boyce 1841).

The museum has also included a similar notice on its website, adding the words: "Some people may feel uneasy about viewing human remains and should consider whether visiting the Hunterian Museum is right for them"[3] (Hunterian Museum - About). The recontextualization of John Hunter's collection emphasized his contributions to surgical medicine. However, the museum was missing the patients' perspectives and narrative elements. Consequently, the museum added a section featuring video stories about contemporary patients and surgeons, which is also available on their website as the *Transforming Lives* series (Transforming Lives). N. Boyce, in a review of the reopened museum, stated, "The Hunterian Museum began as a collection of tissues, organs, and instruments; its new role as a collective of narratives will prove equally valuable to the profession", hinting to the hope for engagement with both medical professionals and the general public (1841-2).

The initiative for recontextualization and acknowledgment of human remains is also the case for another reopened museum, the Maude Abbott Medical Museum in Montreal, Canada. As mentioned in this chapter previously, the museum was opened in 2012 with the reunion of its pathology and anatomical collections in the Strathcona Anatomy and Dentistry Building in 2013. The museum has placed a plaque titled "In Memoriam" saying:

Most specimens in the Maude Abbott Medical Museum are human organs derived from autopsies and mounted in formalin filled glass jars. At the time they were collected, specific consent to preserve and use these organs for teaching was not obtained from either the patient's family members. Instead, it was understood that a patient admitted to a teaching hospital consented to such a donation, a practice that has been abandoned for many years. Since the use of organs at that time was accepted as a normal procedure

[3] To see further visit: https://hunterianmuseum.org/about (accessed on May 5, 2024).

meant to advance the understanding of disease and aid the training of future doctors, we have decided that the collection should be preserved and exhibited despite the absence of specific patient consent. We owe our thanks and sincere appreciation to the many nameless individuals who 'gave of themselves' in this manner so that others may learn. (Vries-Jenkyns 21).

By acknowledging the lack of patient consent, the Maude Abbott Medical Museum clarified its mission as an educational institute and the meaning of human remains in its collection, thereby hoping to legitimize their display. Thomas Schalke, the director of the Berlin Museum of Medical History at the Charité University Hospital, also mentions this legitimization. He argues that the legitimization stems from museum visitors recognizing that anatomical dissection is a standard educational practice in German medical schools (Schalke 130).

Rudolf Virchow, considered one of the pioneers of modern medicine, established the pathology museum in Berlin in 1899 (Schalke 120). Unfortunately, it was destroyed during WWII but reopened in 1998 as the Berlin Museum of Medical History in the original building (117). The museum remains committed to Virchow's scientific methods and aims to share the experiences of those who seek medical help when their health is threatened, hoping for recovery (121). It highlights that modern medicine's foundations were laid by the research and experiments of anatomists and pathologists, who learned to distinguish diseases (122, 124). Therefore, the main exhibition hall is dedicated to exhibiting numerous specimens that reflect Virchow's biological approach (124). The museum seeks to display the overall advancements in modern medicine, aiming to provide its visitors with "relaxation" and "entertainment" while meeting expectations through unique exhibits, such as special collections of human remains (129). Moreover, it aims to motivate young people to be curious about the medical, historical, and ethical aspects of disease, death, and dying by engaging directly with human specimens (135).

The Berlin Medical Museum at the Charité certainly is not the only medical museum that targets a young audience. The medical collection of the Faculty of Medicine at the University of Tartu, Estonia, was relocated to the Science Centre AHHAA in 2012 (Toomsalu and Randjärv, Medical Collections Today 72). Ever since then, the museum staff of the medical collection directed a movement to develop educational programs related to medical specimens and models (74). In collaboration with the Estonian National

for Health Development and the Tartu Department of Social Welfare and Health Care, social ads and brochures have been circulated to promote healthy lifestyles and raise awareness about risky behaviors (75). To spark an interest in biology and medicine among schoolchildren, young visitors are given the opportunity to pick up plastinated specimens with rubber gloves and thoroughly inspect them under the guidance of a tour guide (89, 75). The educational initiatives feature in-depth explanations and detailed examinations of wet specimens, science theater events, and firsthand workshops in a laboratory where participants can dissect organs such as a pig's lungs, heart, or eyes (75, 85). Equipped with protective gear and supervised by instructors, the children learn about the anatomy and function of the organs in detail (85). These educational efforts have significantly increased interest in medical collections, attracting international visitors to the Science Centre AHHAA (88).

There are also visitor studies that include interviews and numerical results demonstrating public support and interest in the display of human remains. For instance, a comprehensive visitor study by Balistreri, which involved two hundred in-person interviews conducted in 2014 during the Body Worlds & the Cycle of Life exhibit at the Milwaukee Public Museum, revealed that 79% of visitors fully support the display of human remains. Additionally, 6% support the display if it does not involve religious figures or mummies, 9% are in favor if there is an educational context, 5% approve if the donor has given consent, and only 3% oppose the display altogether (Balistreri 100). The interest of audiences in the display of human remains has also strategically influenced the curatorial approaches of the Mütter Museum and the National Museum of Health and Medicine (NMHM), as will be discussed below.

The NMHM had been lacking a sustained sense of wonder and visitor-driven curiosity because it focused solely on meeting the immediate needs, beliefs, and requests of its stakeholders (Bayles 108-9). Visitor studies from the 1990s showed that there was less interest in exhibitions related to health; however, the narrative combining the historical event of Lincoln's assassination with modern medicine, enhanced by new interactive tools, significantly captured the main attention (124). However, visitors were disappointed by the scarcity of human remains on display, as they preferred these over technological installations (125). Following mixed opinions from museum staff about

displaying human remains and diverse levels of curiosity among their audiences, a 1999 study they conducted revealed that visitors found all specimens appropriate for display, as they enhanced the educational experience (133-5). Consequently, the curatorial approach for the museum in the 2010s was centered on narrative-driven, illustrative exhibits that balanced health and human remains. This approach also juxtaposed 19th-century diseased specimens with more recently acquired healthy specimens (137-8).

When the museum relocated to its new location in Silver Spring, MD, the curation agenda shifted to focus on modern medicine and public health. Exhibits featuring healthy and diseased specimens were enhanced with technological tools to offer a diverse experience (Bayles 140). Although the focus was on displaying the wonders of general biology, the exhibitions featuring specimens related to injuries from military medicine, coupled with the history of military medicine, attracted greater public interest (143). Since the museum prioritized more didactic forms of education over enhancing the visitor experience itself, it also introduced the Visible Display Storage application—a practice that emerged in mid-20th century U.S. museology for museums under pressure from critics to democratize knowledge (144, 149). The current approach of the museum balances visitor preferences for viewing human remains displays with educating the public (155).

The Mütter Museum discussed earlier, has been described as “a museum within a museum” displaying a variety of body differences and pathologies as “performative practices” (Bayles 37, 40). During the 1970s, an increased number of public visitors led to the museum facing judgmental observation and criticism, rumors, and media exposure, branding it a “hall of horrors”, which initiated a change in the curatorial approach (31-2, 36). The changes made in 1986 aimed at reassessing the design for easier viewing and more informative labeling; however, the museum’s narrative missed incorporating elements of wonder and awe (41-2). The museum adopted an object-based curatorial approach, presenting biology not merely as what we already know but as what we can learn through the museum (25). With this approach, it was also aimed to decentralize the authority of interpretation from the museum as a decision-making entity (44). However, this practice contrasted with narrative-driven knowledge production and disrupted the potential for individual identification of human remains. Consequently, the museum

turned to its stakeholders to help frame its public image and determine the representation it should adopt to correct the image of it as a "hall of horrors" (51).

From the 1990s to the 2000s, the standard approach for displaying human specimens typically involved incorporating them into health-focused exhibitions and museum practices. (Bayles 52). Due to low audience interest, the Mütter Museum shifted its approach to encourage all forms of curiosity, including wonder and morbidity. It capitalized on its reputation as "weird" and "creepy" to market itself, aiming to attract a larger, younger, and more diverse audience and marketing the museum as "a place where you can be curious in a public and safe way about how the body works" (53-4). Moreover, the museum invited filmmakers known for scary animations, but this was heavily criticized for turning the museum into a commercial enterprise (54). However, this strategy paved the way for including non-medical, interdisciplinary contributors in the curatorial discourse.

The Mütter Museum pioneered an initiative by inviting artist J. Y. Lee, who lacks a background in anatomy or medicine, to design an exhibition aimed at eliciting comfortable and inoffensive emotional responses from visitors (Lee 108). As an artist, Lee emphasized the individuality and diversity of biological specimens as artifacts that are part of cultural history. For instance, he viewed the specimens in the Hunterian Museum, which had combined human and animal features not just as biological curiosities but as early examples of xenotransplantation. He considered them precursors to organ transplantation in medical treatment, representing them as significant historical artifacts and symbols of hope for future medical successes (105). Similarly, Lee viewed the Mütter Museum's collection of orphaned fluid specimen artifacts as being embraced and preserved with care in the museum (108). Even though they have no practical use in today's healthcare industry, they also possess a unique aesthetic value from an artistic perspective (109). It opened another pathway for medical museums to sustain the public display of human remains through recontextualization, achieved by crossing disciplinary boundaries (104, 109).

Another artist who drew inspiration from the human remains at the Mütter Museum was Valentina Lari. Her film, *The Deformity of Beauty: A Last Dance with the Mütter Maidens*, wove a surreal narrative around the pathological collection encapsulated

behind glass panels (Talairach 124). It aimed to immerse viewers in the secrets and mysteries of medical wonders, and this creative approach earned her the prestigious Amsterdam Film Festival Van Gogh Award for World Cinema-Experimental Film in 2012. Additionally, the Hunterian Museum at the RCS featured Karen Ingham's 2009 film and installation, *Narrative Remains*, which centered on six human specimens from the collection. This work provided semi-fictional first-person post-mortem narratives of their deaths (124).

Besides these artistic interpretations of human remains in globally renowned museums and meticulously maintained collections, there is also a project by Laurence Talairach, a literature-science scholar, involving the Toulouse collection at the Medical Faculty of Toulouse in the University of Toulouse III, Paul Sabatier, France (Talairach 122). This collection, no longer used for teaching, had been neglected and lacked proper conservation (124). Collaborating with Valentina Lari and others from diverse disciplines —including literature, science, art, pathology, a dropped-out medical student, and technical staff— Talairach led the production of a 15-minute film titled *Liminality* (124-6).

Liminality drew on themes of suspension and deferral and aimed to reignite a sense of wonder about the human remains in the museum through the interplay of fascination, repulsion, and sorrow. Viewers were guided through the museum space in an engaging, Gothic-styled narrative, thoughtfully chosen by Talairach as the most suitable genre (Talairach 125). Her aim was not just to revisit the collection's role in the history of medicine and its teaching evolution but also to focus on fostering reflective engagement without manipulating emotions or provoking sensations (125-6). Talairach's initiative investigated how literature can serve as a tool for transforming or reflecting upon medical practices, ultimately aligning the project with contemporary approaches in medical humanities that influence medical practice and education (122, 127).

2.5 Contemporary Practices of Medical Museums in the 21st Century

Museums in the 21st century have embraced several key concepts to maintain their societal roles, starting with inclusivity to ensure accessibility and a welcoming environment for all visitors, regardless of background or ability. Digital integration has

followed and has helped to expand their reach and enhance visitor engagement through innovative technologies. Museums are also emphasizing interactivity to enrich the visitor experience and deepen community ties, while ethical considerations in managing collections along with the art of narrative storytelling take the lead. These adaptations demonstrate the commitment of museums to remaining relevant and responsive within a continually evolving cultural and educational landscape.

Medical museums represent a distinct subdivision within the creative and cultural sectors of museums. Their operational foundation today is based on integrating health and well-being with the material culture derived from medical science (Arnold and Chaplin, Afterword: Wellcome Collection and the post-medical museum 229). The scientific and clinical aspects of health and medicine are also recognized as culturally influenced, evident in shared languages, educational systems, institutional practices, and the historical evolution of observation, categorization, and power structures. Medical museums reflect and are shaped by the cultures, habits, beliefs, and values of their visitors in relation to health, medicine, and the body. Consequently, today's medical museums aim to enhance the value of medical and scientific knowledge by acknowledging its complex cultural dimensions and presenting these insights to the public (L. Whiteley, K. Tybjerg and B. V. Pedersen 60).

Today, many medical museums are infusing the contemporary museological discourse into their display of health and medicine from cultural and historical perspectives through interdisciplinary approaches supported by academic research and engaging in museum education activities to expand access and outreach. Simultaneously, they are tasked with recontextualizing the material culture of medicine and enhancing the museum-visiting experience with innovative exhibition strategies (Arnold and Chaplin, Afterword: Wellcome Collection and the post-medical museum 229). Their mission involves acting as a conduit for conveying medical or scientific knowledge to both aspiring practitioners and the general public and crafting narratives that cover both the history of medicine and its subdisciplines, as well as the experiences of practitioners and patients, facilitated by medical humanities (230, 232). Additionally, their role involves presenting challenging objects and controversial histories, including the handling of human remains, which positions medical museums as significant and active participants in contemporary public discourse (233).

According to the study by Chizha et al., a medical museum is a sociocultural phenomenon that employs exhibitions and collection management while applying cultural, educational, and research to influence the target audience's social values on life and health (10530). Through the mission of collecting, caring, and displaying historical and contemporary diagnostic tools, treatments, and disease prevention strategies, medical museums can act with the vision of providing educational content on scientific and practical measures to maintain and improve health (Chizha, Slyshkinb and Zheltukhinac 10530). Typically, they function as structural components within larger organizations, whether as subdivisions of educational, medical, or research institutions or as parts of a governmental branch focused on public health (10529, 10531). Therefore, it is crucial to examine them as integral parts of their parent institutions to understand their evolving social roles today (10532). Some case studies show that medical museums have proactively addressed the challenge of preserving their educational role by adopting alternative operational methods. However, these initiatives have also sparked additional debates and challenges, which we will examine in detail in the following sections.

2.5.1 Maintaining Relevance in the Education of Modern Medicine

Advancements in modern clinical practices, as well as in genetics, molecular, and cellular biology, have shifted many medical museums away from their historical roots, transforming them into research facilities for biological and biomedical research (Söderqvist, Bencard and Mordhorst 250). Furthermore, developments in multimedia and information technology have led to the decline of traditional medical museums and anatomical theatres, diminishing their educational role in contemporary medical education (Diaz-Perez, Raju and Echeverri). However, medical museums can provide more than just web-based learning in medical education. Medical museums and the display of their specific exhibits can serve as valuable resources for individuals and small groups engaging in independent, self-directed, and collaborative learning with tangible objects (Söderqvist, Bencard and Mordhorst 251).

For instance, the Medical Council of India requires the inclusion of museum visits for students in certain specialties like pathology and pharmacology within the medical curriculum. These museums display a variety of drug samples, and students are periodically expected to study these drugs and their different dosage forms (Parmar,

Tripathi and Gajbhiye 147). As educational tools, medical museums can facilitate student engagement, thereby enhancing learning and promoting a higher level of visual literacy and memory by connecting basic pharmacological science with practical clinical applications (151). Furthermore, they can enhance firsthand observation skills as well as interpersonal and communication abilities within a medical context, including direct interaction with anatomical and pathological specimen collections. Additionally, researchers who work on medical collections can have the opportunity to re-examine old specimens using contemporary techniques and potentially more advanced tools in the future (Söderqvist, Bencard and Mordhorst 251).

Technological advancements are not detrimental to medical museums; rather, they can enhance them (Söderqvist, Bencard and Mordhorst 251). There is a place and a future for online museums focused on subjects like pathology and pharmacology, as these can be more engaging and interesting for students, and they are accessible from anywhere (Parmar, Tripathi and Gajbhiye 151). For instance, a study by Venkatesh et al. highlights the advantages of an MRI virtual pathology museum that serves as a permanent digital archive for rare and fragile specimens (e120). This not only facilitates the future expansion of collections but also allows students to access a wider range of pathology specimens and broadens the reach to a larger audience (Venkatesh, Wang and Seet e121). While online databases focus solely on the efficiency and accessibility of information with a search-oriented interface, an online museum can feature virtual tours, interactive elements, and guides that help to contextualize the displayed objects, mimicking the layout of a physical museum.

While physical interaction fosters sensory connections, online museums cater to diverse learning styles, such as Web3D, Augmented Reality (AR), and other interactive web applications (Fedushko and Sierov 84; Parmar, Tripathi and Gajbhiye 151). Digitizing pathology specimens enhances self-directed learning, improves teaching tools, and supports the correlation between radiological and pathological learning, all while overcoming the spatial and financial constraints of medical museums (Fedushko and Sierov 83; Venkatesh, Wang and Seet e121-2). The availability of virtual medical museums proved to be a prominent information resource, particularly during the COVID-19 lockdowns (Fedushko and Sierov 88). It may be useful, therefore, for medical museums today to look at how they can enhance their online interfaces to engage more

robustly with medical schools and institutions that are teaching medicine, particularly topics such as pathology and radiology.

Besides the virtual museums, the use of broadcasting and websites significantly enhances the public outreach of museums, improving accessibility and interaction with the multimedia content of medical museums (Kiourexidou, Antonopoulos and Kiourexidou 1; Söderqvist, Bencard and Mordhorst 251). According to a heuristic evaluation[4] of forty-seven medical and anatomy museum websites conducted by Kiourexidou et. al. in 2019 revealed that museums can enhance user interaction through clear, pleasant, and convenient navigation features, including search fields, breadcrumbs, sitemaps, FAQs, and other elements that boost user experience (Kiourexidou, Antonopoulos and Kiourexidou 1, 9). The study also demonstrated that website content can actually improve the attractiveness of actual museum visits (9).

Another educational component offered by medical museums stems from the objects on display, which are more than just medical tools and equipment. These items can raise discussions on design and art in medicine, materials, and social history, serving as interactive teaching tools for the history of medicine (Mohr and Seville 292). For example, a survey conducted by Chen and Chou (2014) on fifty-one participants demonstrated that the Taiwan Medical Museum had a positive effect on the performance of an integrated training program that applied problem-based learning for teaching medical history incorporating humanistic values such as responsibility and empathy (Chen and Chou 90, 94).

Building on the educational value of these objects, medical museums also play a crucial role in facilitating broader discussions about the social and ethical dimensions of medicine. Despite concerns about conservation and damage that have led to underutilization, selected pieces from the Hull Grundy Collection at the Museum of Medicine and Health, University of Manchester, were featured in a few short-term exhibitions focusing on historical and contemporary topics. (Mohr and Seville 292-3). These included issues such as non-recyclable medical equipment and the problem of plastic waste, particularly highlighted during the COVID-19 pandemic (292). The

[4] A usability engineering method for finding the usability problems in a user interface design so that they can be attended to as part of an iterative design process.

assemblages of objects that medical museums offer can be integrated into the history of medicine courses and medical humanities programs to spark discussions on medical ethics and the humanitarian aspects of medical history, including education, poverty, conflict, and access to healthcare; as this approach can enhance the intellectual and cultural awareness of medical students and facilitate the teaching of the history of medicine and medical humanities in an interdisciplinary manner (293).

The history of medicine did not emerge as a standalone discipline or gain popularity until the 21st century, and it was often deemed unimportant by many medical schools around the world. For example, in East Asia, due to the lack of trained medical historians and the hierarchical gap between medicine and social sciences that limited cross-disciplinary collaborations, it was not until 2012 that arts and social sciences began to be integrated into medical education in Hong Kong when a six-year core curriculum in medical humanities was introduced for undergraduate medical students (Wu and Wong 72-5). This curriculum included contributions from history, literature, philosophy, sociology, visual and performing arts, and religious studies. As part of this curriculum, students were required to attend a mandatory three-hour workshop titled *Museum of Medical Sciences: Walking the Path of the Plague* at the Hong Kong Museum of Medical Sciences (HKMMS). This workshop focused on the 1894 bubonic plague and the 2003 SARS epidemic, examining historical events, public health policies, and the socio-cultural responses of society (75).

Later, the workshop was enriched with fifty oral history interviews and the creation of an online archive for narratives from individuals involved in the fight against COVID-19 and proceeded with its mission as an online workshop during lockdown (76, 81). The spatial layout of the actual museum allowed students to immerse themselves in the exhibition, breaking away from the one-dimensional approach to historical knowledge and offering an alternative method of learning aided by story-telling and sensory stimulus (77-8). The online workshop made the teaching of medical history more relevant from the students' perspective, as it helped them draw connections between historical debates and contemporary politics that could affect their future careers (82).

Another interesting project for teaching medical history and medical humanities in museums highlights two underexplored and relatively uncommon aspects of these

fields: first, the use of gamification as a participatory learning practice. and second, catering to nurses as a primary audience. For example, the card game *Mind-Boggling Medical History* was created through a collaborative effort involving the University of Oxford, the Royal College of Nursing (RCN) Library and Archive Service, and small focus groups consisting of nurses, teachers, museum professionals, and academics who provided consultation, contributions, collaboration, and co-creation (Chaney and Frampton 1, 5). It presents controversial medical theories and past medical opinions, offering a tour of medicine and healthcare through the ages (2-3). The game aims for the players to distinguish between past and present as well as fact and fiction in medical history with amusement and curiosity elements (3). The game was played by attendees at the RCN's 2018 exhibition on women's health history and the 2017 Curiosity Carnival in Oxford (6-7).

The project brought attention to a broader inclusiveness issue: nurses and other healthcare staff are underrepresented in both the curatorial processes in medical museums and as primary subjects of medical museum exhibitions. It is noteworthy that the Royal College of Nursing (RCN) established its own museum in 2013 (Chaney and Frampton 8). The foundation of medical history and medical humanities programs lies in leveraging tools like narrative building and cultural context awareness to enhance empathy, primarily focusing on the doctor-patient relationship and exploring the dynamics and dialogue between doctors and patients (Saffran 105). To foster greater inclusivity, Crawford et al. proposed the term 'health humanities' (Crawford, Brown and Tischler). However, the challenge for medical historians and practitioners of medical humanities to become truly integrated into medical museums extends beyond incorporating other medical staff into museum projects. It also involves representing all members of the public and requires a more critical curatorial approach that addresses the multiple histories of medicine without merely relying on single-source historical narratives and perspectives from a single discipline.

2.5.2 Advancing Inclusivity through Curatorial Projects

The George Marshall Medical Museum in Worcester, UK, a historical medical museum dating back to the 18th century, launched a new exhibition called *The Infirmary* in 2013. It provides a good example of inclusiveness in curatorial projects. This exhibition

utilizes oral histories from doctors, nurses, and volunteers who worked at Worcestershire Royal Hospital, along with a display of historical medical artifacts, to narrate both the history of medical care and the history of the institution. By incorporating life stories and interactive technological elements enriched with educational features, the museum enhances accessibility and caters to local and regional residents, including school children, introducing them to medical history in an academic context (Andrews 160). Additionally, the museum has introduced 'Debating Space' initiative to foster public engagement through ethical debates on sensitive topics such as assisted suicide (Andrews 161). According to Perry, medical museums, by engaging in ethical debates on contentious issues like abortion, risk inciting clashes between groups and placing scientific authority under critical scrutiny, however, they also challenge the role of medicine in helping communities discuss divisive issues such as what is considered normal and abnormal (4). This has initiated a recontextualization of how disability, race, and mental health are represented in medical museums.

Museums of the history of psychiatry were among the first to critically approach medicine's relationship to mental illness (Perry 5). Traditionally, most representations in medical museums have been from the perspectives of practitioners. Outdated psychiatric treatments have led to a shift away from chronological displays that detail changes in medical theory and practice (6-7). Instead, these museums now favor thematic exhibitions that highlight individual experiences, hoping to engage with a broader audience (7). Another significant shift in interpretation involves the representation of disability, as museums are increasingly focusing on providing access for visitors with disabilities. The portrayal of bodily differences and medical interventions aimed at 'fixing' these visitors often perpetuated discrimination against people with disabilities. The University of Leicester's Research Centre for Museums and Galleries has led efforts in the UK to critically examine disability representation in museums, particularly through initiatives like 'Rethinking Disability Representation in Museums and Galleries', which involved collaborative reinterpretations of historical figures and disabilities, including the medical collection in the Royal London Hospital Archives and Museums (7-8). A subsequent exhibition, *Exceptional & Extraordinary* Project, occurred in the Hunterian Museum at the Royal College of Surgeons in 2016 and broadened these efforts, involving artists with disabilities in performances that challenged medical museum narratives and practices,

emphasizing the need for a rights-based understanding of disability (8). Furthermore, the Pauls Stradiņš Museum of the History of Medicine in Latvia, the Museum of the History of Medicine in Catalonia, the Wellcome: Medicine Galleries at Science Museum in London, and the Thackray Museum of Medicine in Leeds collaborated with people with disabilities in an effort to incorporate their experiences into the interpretive frameworks and content of their exhibitions (9).

Although the inclusion of critical colonial and racist histories in medical exhibitions has been slower compared to the inclusion of exhibition topics related to disability and mental health, the 2018 exhibition *Racism: The Invention of Human Races* in the Dresden Hygiene Museum in Germany tackled public health education during the era of National Socialism. The museum, which had propagated eugenic ideas during that era of history, also addressed its connections to present-day racism (Perry 10). Moreover, Rijksmuseum Boerhaave in the Netherlands initiated revisions of exhibition texts that dealt with racial histories, leading to the 2019 international workshop *Race in the Medical Museum: Collections and Exhibitions*. This workshop emphasized the importance of not merely addressing race and racism through temporary exhibitions but fundamentally revising narratives to reflect intertwined histories and foster deeper engagement through open-ended discussions, enabling broader dialogue and reevaluation of established narratives (Perry 14). Several medical museums, such as the Science Museum London, due to the provenance of many of their collections, which reflected collecting activities of the colonial era, did not limit themselves to addressing the issues associated with these objects through not only temporary exhibitions and workshops; they also integrated these considerations into all curatorial efforts. These more recent changes in medical culture and public perception regarding diagnosis, therapeutics, mental health, and disability, in addition to colonial heritages, have prompted museums to move away from exhibitions that present not only a chronological history of medicine; rather, exhibitions are now moving towards more thematic displays that focus on personal, public, and patient-centered narratives.

The exhibition of *Medicine: Wellcome Galleries* at the Science Museum in London is an example of an exhibition that has personalized its curatorial approach by moving away from solely narrating the progress of science and medicine; it also includes the personal experiences and stories of patients, alongside those of doctors (Bond, Dabin

and Emmens 1). Initially exhibited in 1913 in London, the Wellcome collection aimed to showcase the past and future of medicine and science and its place in different cultures (2). However, in 1980, the *Glimpses of 1History* exhibition used dioramas and room sets to demonstrate to the public historical and alternative treatments, and the 1981 exhibition *The Science and Art of Medicine* opted to present medical achievements chronologically from ancient times to the present (4-5). By the 1990s, inspired by new historical and sociological approaches, curators incorporated patients' experiences into the narrative, especially in the 1994 *Health Matters* exhibition, which juxtaposed dramatic objects from the collections with archival films (6).

By the 21st century, many medical museums have started to display diverse stories entirely focused on narrative by fore-fronting thematic exhibitions such as *Medicine: The Wellcome Galleries* (Bond, Dabin and Emmens 7). This transformation has been enhanced by the integration of digital media, interactive display techniques, and contributions from various artists commissioned to enrich the storytelling experience with visuals that intersect art and medicine narratives (Barrett, Crook and Quinn 10). The museum's 'narrative galleries,' divided into different sections, reflect the human experience in Western medicine from the 16th century onwards, exhibiting technological advancements (Bond, Dabin and Emmens 8). Each section presents narratives about various aspects of biomedicine, medical-related technologies, moments, and ideas, each told from different perspectives and highlighting unique challenges.

The first section of the gallery, *Medicine and Bodies*, aims to demonstrate how various technological medical devices like MRI and X-ray, which are used to examine the body and extract data, are life-changing from an engineering perspective (Bond, Dabin and Emmens 11). It also explores how these technologies have altered our observation and perception of the body, the interventions of medicine, and, most importantly, their impact not only in the field of medicine but also on culture, art, and society (13). The second section, *Exploring Medicine*, displays objects that invite contrast; the objects are presented as if in a curiosity cabinet, but they are not supplied with informative panels, aiming to spark visitors' curiosity and encourage them to learn the stories behind the objects by asking questions to museum staff (18-9). The third section, *Medicine and Treatments*, comprises personal stories and experiences gathered through oral histories, short films, and newly acquired personal objects through

collaboration and co-creation methods, similar to exhibitions inspired by Nina Simon's *The Participatory Museum* (9-10, 20). In this section of the exhibition, the curator drew inspiration from a former exhibition, *Glimpses of Medical History*, featuring an actual setting of open-heart surgery from the 1980s, which can now, in this iteration, be digitally augmented by visitors (25).

Parallel to the *Medicine and Treatments* section, the *Medical Communities* section of the exhibition shifts away from personal stories to explore the responses to concepts of disease and health among different social groups, communities, and populations through hand-made objects in various mediums, centering on the concept of shared humanity (Bond, Dabin and Emmens 31). This section also critically examines psychiatric hospitals and medical isolation through objects created by psychiatric patients (34). The last section, *Faith, Hope, and Fear*, is inspired by the uncertainties of medicine and treatments, the concepts of dying and death, and the responses of different religious and spiritual communities to the end of life (39). This section features emotively and ethically complex objects collected by Wellcome from a range of cultures, which are removed from their original individual contexts and the unique stories of their owners. They are displayed to highlight commonalities rather than differences (39, 41).

2.5.3 Enhancing the Display of Medicine

In the 21st century, although the scope of responsibilities that museums, as public institutions, have within society has expanded, museums are fundamentally based on collecting and displaying both intangible and tangible material artifacts (Söderqvist, Bencard and Mordhorst 437). Medical museum collections feature emotionally evocative artifacts, such as surgical and medical instruments, which serve as poignant reminders of the subjective experiences of individuals who underwent treatment processes. These instruments, common across many medical museums in continental Europe, vividly embody the historical context of healthcare practices and the personal stories tied to them (Arnold and Söderqvist, Medical Instruments in Museums: Immediate Impressions and Historical Meanings 724; Söderqvist, Bencard and Mordhorst 433). For instance, Henry Wellcome collected a variety of amputation saws, distinguished by their shapes, widths, and the spacing of the saw teeth, as well as the metals used in the blades and the materials and textures of the handles, which were exhibited together alongside obstetrical forceps

in a glass case within the Medicine Man exhibition at the British Museum in 2003 (Arnold and Söderqvist, Medical Instruments in Museums: Immediate Impressions and Historical Meanings 724-5).

The Medical Museion in Copenhagen, Denmark, is renowned for being one of the largest medical museums in Europe, housing a collection that includes 10,000 registered surgical items (724). It features unique collections of microscopes, pharmacological utensils, radiological apparatus, odontological instruments, and obstetric equipment (Söderqvist, Bencard and Mordhorst 433). Additionally, the museum possesses 20,000 physical objects such as pean forceps, tweezers, staplers, drills, retractors, scalpers, trocars, sets for amputation and trepanation, along with instruments for bloodletting, scarification, and phlebotomy, among others (Arnold and Söderqvist, Medical Instruments in Museums: Immediate Impressions and Historical Meanings 724).

These artifacts are often inherently meaningful because they evoke various emotions, memories, and associations in visitors, inciting fear, excitement, disgust, curiosity, wonder, and sometimes even physiological reactions, thereby attracting an audience (Söderqvist, Bencard and Mordhorst 433-4). However, the curatorial work for these objects relies on indirect and objective information transferred between doctor and patient, similar to data from stethoscopes, thermometers, and syringes, thus pushing subjective opinions and physical touch-based conversations to the background (Arnold and Söderqvist, Medical Instruments in Museums: Immediate Impressions and Historical Meanings 722). However, considering the aesthetic, subjective, emotional, and sensuous aspects of these objects alongside their scientific features, the enrichment of their historical significance can be explored within a larger social and cultural understanding (719, 723). For instance, the Medical History Museum of Gothenburg in Sweden invited nine artists, writers, and researchers to collect diverse stories about technical objects, with each participant selecting a random object to explore its significance and reinterpret it through visuals and creative writing in 2013 (Mouwitz 318-9). Their interpretations were displayed alongside the museum's interpretive labels as a temporary exhibition called TINGET I (Thing-In-Itself), allowing visitors to choose between different interpretations of objects and how these items are significant not only in the history of science but also for cultural heritage (320). Besides pursuing cultural meaning, adopting a more experiential approach that engages the senses—touch, smell, taste, and, if possible,

handling—can elevate the engagement and appreciation museum audiences have of medical instruments (Arnold and Söderqvist, Medical Instruments in Museums: Immediate Impressions and Historical Meanings 723, 729).

For example, the *Medical Sensations*: *Experience Doctoring* exhibition at the Canada Science and Technology Museum in Ottawa in 2018 explored the five senses using medical instruments to demonstrate historical diagnostic techniques (Sibbald E1562). Visitors could listen to heartbeats through a stethoscope and distinct types of coughs to discern illnesses, while an image of a urine wheel from 1506 illustrated the diagnostic approaches that used taste and smell to determine diabetes (E1563). Additionally, visitors could touch reproduced three-dimensional specimens of diseased tissues, as well as see the historical wax models and moulages, which are displayed alongside their corresponding MRI visuals (E1564). Despite the latest trends in museology that focus on 'thingness' and sensory engagement without explicit meaning, as seen in medical exhibitions, the exploration of an object's meaning and its cultural context continues to be a dominant approach. This is especially true as contemporary medical history becomes increasingly integrated into medical museum collections, emphasizing the importance of understanding the broader significance of each item (Söderqvist, Bencard and Mordhorst 434).

The research on contemporary medical history shows that the digital revolution and a molecular-based medical approach have caused biomedical objects to become bland and anonymous (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 117-8). Biomedicine has made interventions into both healthy and sick human bodies increasingly less visible, tangible, and sensory, both in terms of diagnosis and treatment (Söderqvist, Bencard and Mordhorst 437). For this reason, biomedical objects newly added to the collection are moving beyond merely evoking emotions or attracting attention and providing narratives of people. Instead of solely provoking curiosity or evoking memories, these objects represent the future of medicine and need to be included and curated in the medical collections of tomorrow (436).

Among the missions of many medical museums is to collect tangible and material artifacts; how will medical museums sustain themselves in the future with medical

approaches and objects that are becoming increasingly intangible and less object-oriented? In addition to contextualizing biomedicine socially, culturally, and historically, museums must now move beyond the conventional outreach model of a unilateral flow of information from curators to visitors and embrace modern medicine while also considering how to expand exhibition strategies to include intangible heritage (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 118; Söderqvist, Bencard and Mordhorst 437). The most notable studies on this issue are associated with Medical Museion in Copenhagen.

Opened in 1906 as a public exhibition specially prepared for the 50th anniversary of the Danish Medical Association, Medical Museion in Copenhagen has, since the beginning of the 21st century, dedicated itself to recontextualizing its mission (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 116). It focuses on four main experimental innovations: revisiting the ancient Greek concept of the *mouseion*—temple of the muses—to create a space for multidisciplinary work, sharing modern biomedical science with audiences instead of solely focusing on early medical history, highlighting the aesthetic aspects and the importance of medical and scientific objects as material culture, and finally, as a university museum, securing support from stakeholders through experimental projects and enhancing the engagement of the public with science and medicine (Arnold, Bencard and Tybjerg 54-5).

For contemporary knowledge-making, Medical Museion employs a methodology that bridges research and museum practice through experimental projects, actively using historical collections, engaging PhD and postdoctoral students in project creation, supporting academic activities at the university, and fostering collaborations with interdisciplinary artists (Arnold, Bencard and Tybjerg 53, 62). By leveraging academic and creative networks, Medical Museion aims to narrate the past, present, and future of biomedicine as a space for reflection and contemplation on science and art (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 119; Arnold, Bencard and Tybjerg 57). It conducts this by producing diverse curatorship projects through collaboration with different academics, professionals from various fields, and cultural practitioners who

explore topics related to public health and various aspects of medical humanities (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 119; Arnold, Bencard and Tybjerg 57, 61).

One of the early curatorial projects at the museum, *Split+Splice: Fragments from the Age of Medicine*, was exhibited from June 2009 to April 2010 (Fleming 1). This exhibition forefronted the co-curation work of an interdisciplinary and international team of curators, designers, museum professionals, and scholars from fields such as biomedicine and fine arts. The exhibition emerged from three years of sustained academic collaborations and workshops facilitated by the academic support it received as a university museum (1-2). Awarded the 2010 Dibner Award for *Excellence in Museum Exhibits* by the Society for the History of Technology, this innovative curatorial project aimed to do more than just transfer scientific knowledge didactically (5). As described in the exhibition brief, the exhibit space was designed to represent the often-unseen aspects of contemporary medicine, creating an environment where visitors' bodies become interactive elements within this setting. This approach enabled the audience to engage with the museum's existing collection objects in a non-medical manner, which was open to critique and playful exploration (8). It aimed to encourage the audience to think deeply about the social, cultural, and historical dimensions of science, recognizing how bodies are dynamic and how objects are full of histories, along with the conditions under which medical knowledge is produced evolve over time (4).

Another co-curation project by Medical Museion, *Biohacking: Do It Yourself!* was realized in 2012 through a collaboration between the University of Copenhagen's Center for Synthetic Biology and two biohackers from the local biohacking space, *Biologigaragen* by establishing a small DIY biology lab (Davies, Tybjerg and Whiteley 117). Using the concept of 'biohacking' as a metaphor for co-curation, the museum as an institution operating under the university, aimed to facilitate scientific research through an external collaboration while also renewing interest among stakeholders (117, 128). The co-curation approach here involved not only integrating diverse narratives but also incorporating people into the design process and co-developing the physical setup of the exhibition (119, 129). The created biohacking laboratory allowed participants to craft and practice science as biohackers, demonstrating the "behind-the-scenes" of science in the making as a method for facilitating firsthand public engagement events (117, 128).

The theoretical research of the graduate students and artist collaborations at the museum fostered the exhibition projects at the museum. For example, some research by PhD students about the phenomenological approaches to improving object encounters through touch, smell, and museum atmosphere directed the practical strategies of two exhibitions (Arnold, Bencard and Tybjerg 66). One of them was *Obesity: What's the Problem?*, opened in 2012 to explore controversial opinions about gastric bypass surgery. Instead of directly answering questions about obesity or displaying an obese body on a full scale, it fostered dialogue by encouraging the audience to use their own bodies and cultural backgrounds to view the issue from the perspective of a gastric bypass recipient (Whiteley, Tybjerg and Pedersen 63).

Another exhibition, *The Body Collected*, in Medical Museion in Copenhagen, which opened in 2015, juxtaposed historical specimens with contemporary medical specimens like genomes, cells, and DNA patterns from a medical point of view (Whiteley, Tybjerg and Pedersen 63-4). This exhibition underlined that medical science possesses its own culture, and the exhibition provided a space where personal, ethical, cultural, and existential considerations could be debated and reflected upon (64). It also featured artworks, including *Heirloom*, by artist Gina Czarnecki and scientist John Hunter, an installation that grew portraits of the artist's daughters from their own cells on glass casts of their faces (Whiteley, Tybjerg and Pedersen, Displaying the Researched Body: Growing Cell Portraits in a Medical Museum 86). The 2017 exhibition *Mind the Gut* emerged from a two-year curatorial experiment in Medical Museion that invited artists, scientists, and academics to collaborate on a specific theme: exploring the psychosomatic relationship between the brain and the stomach (Arnold, Bencard and Tybjerg 71). This was aimed at recontextualizing contemporary biomedical practices and their impacts on daily life, illustrated by concepts such as "gut feelings" and "gut reactions" (Whiteley, Tybjerg and Pedersen 64).

A common feature of these exhibitions mentioned above is the use of the medical museum as a platform to combine historical and contemporary materials and ideas that exhibit diverse and often contradictory perspectives on medical thinking across different time periods, locations, and contexts. Medical Museion illustrates this by depicting the cultural and design processes that humanize research, using various surgical tools intended for the same purposes. Additionally, the curators highlight the sensory

interaction between surgical instruments and the body, demonstrating how human bodies have been studied, collected, and understood within medical practice and research.

In order to display contemporary medicine, Medical Museion actively collects biomedical objects. For example, it hosts an annual "Garbage Day," during which scientists from the medical faculty are invited to contribute items they no longer use in their laboratories (Arnold and Söderqvist, Reawakening the Curious Muses: Research, Curatorship, Collections and Publics at Copenhagen's Medical Museion 118). Moreover, the recent exhibition from 2021, *Corona Will Also Be History One Day*, features objects from past epidemic outbreaks alongside items acquired during the recent pandemic (127). As a university museum engaged in transdisciplinary research with various stakeholders, the Medical Museion aspires to visualize contemporary health concerns and public experiences to document the medical history of the future (127-9).

Chapter 3:
Medical Museums in Türkiye

Following the discussion on the evolution and impact of medical museums around the world, it is essential to understand the historical development, transformations, current approaches, and recent initiatives of medical museums in Türkiye to better comprehend the context and significance of the Gülhane Medical History Museum. In this chapter, I will first investigate the earliest medical collections and museums, then proceed to examine medical museums across three main categories, starting with 'health museums.' These early medical museums were established in the early 20th century, during a time of increased public engagement in museums, primarily due to efforts to promote public health awareness and protect against infectious diseases. Secondly, I will explore museums that have an ethnographic focus and provide a unique context specific to Türkiye because they display traditional medicine within historic hospitals and healing structures through an ethnographic curatorial approach. Lastly, I will examine medical museums focused on medical history, including those like the Gülhane Medical History Museum, which were established through university and other academic collaborations and have either fully evolved or are still in the process of evolving from collections into museums.

The origins of medical museums in Türkiye can be traced back to the 19th century, beginning with the collection, identification, preservation, and scientific display of natural science specimens. This process of musealization was intertwined with the modernization of science and medical education, utilizing these collections for practical training, and developing scientific exhibition methods during this period. The *numunehane*, recognized as the first natural history museum in the Ottoman Empire, was established by a German pharmacist, Friedrich Wilhelm Noë (1798-1858) in 1839 within the *Mekteb-i Tıbbiye-i Şahane* (Imperial School of Medicine). The *numunehane* was designed to provide modern medical education similar to what was offered in Europe, and the space included a museum and herbarium with collections related to botany, mineralogy, geology, zoology, anatomy and teratology brought from foreign countries and later expanded with specimens collected domestically (Günergun 337; İleri, "Müzesiyle İftihar Edecek Bir

Mektep": Robert Kolej'de Bir Doğa Tarihi Müzesi 236; Objects of Nature and Scientific Knowledge on the Move: The Robert College Natural History Museum in Istanbul 6).

As examples of anatomy and teratology objects, the collection included two separate papier-mâché models depicting female anatomy and various stages of pregnancy. These were purchased in 1837 from French anatomist Louis Thomas Jérôme Auzoux. Additionally, there was a conjoined twin specimen that was born on the island of Siros and is believed to have been added to the museum collection later. The pathology, anatomy, syndesmology, and angiology collections were enriched in 1841 since Sultan Abdülmecid granted permission for cadaver dissection (Aykut 44). Furthermore, a set of craniotomy preparations and vascular injection tissue kits, along with a 600-piece pathological anatomy kit purchased from European medical schools in 1845, were also part of the collection (Aykut 44).

The museum was referred to as *numunehane* in the archival records as well as a *cabinet anatomique* in the *Gazette Médicale d'Orient*, a newspaper published by the *Cemiyet-i Tıbbiye-i Şahane*, the Imperial Medical Society, in the Ottoman Empire, and was most likely established solely for medical education, as there is no record of it being open to the public (Aykut 43). Unfortunately, this collection did not last long, as most of the collection, library, and laboratories, including the entire anatomy and pathology collection, were destroyed in a large conflagration in Beyoğlu on October 11, 1848 (Günergun 337). After the fire, the rescued natural history, and physics collections in the new building on the Golden Horn, and the conjoined twins' specimens, acquisition attempts of which were made in 1849 and 1850, are also mentioned in *Vekayi-i Tıbbiye,* the Bulletin of Medicine (Aykut 45). However, Dr. Auguste Ferro, an Italian surgeon and gynecologist and a member of the Imperial Medical Society, published an article in the Gazette Médicale d'Orient in 1865, criticizing the absence of a botanical garden, chemistry laboratory, anatomy amphitheater, and even the cabinets of comparative anatomy and pathology at the school (Aykut 46). In 1870, the administration of the Imperial School of Medicine commissioned Dr. Karl Eduard Hammerschmidt (1799-1874) to establish a new natural history museum within the Imperial School of Medicine (Günergun 337; İleri, Objects of Nature and Scientific Knowledge on the Move: The Robert College Natural History Museum in Istanbul 6).

Known in the Ottoman Empire as Abdullah Bey, Dr. Hammerschmidt, an Austrian mineralogist, entomologist, and physician, emphasized the necessity and importance of the museum at the Imperial School of Medicine in his 1872 publication in the *Gazette Médicale d'Orient*, based on European medical and science education practices (İleri, "Müzesiyle İftihar Edecek Bir Mektep": Robert Kolej'de Bir Doğa Tarihi Müzesi 236-237; Objects of Nature and Scientific Knowledge on the Move: The Robert College Natural History Museum in Istanbul 1). Leveraging his networks in Vienna, Abdullah Bey acquired books and samples of mineralogy, geology, botany, and anatomy, facilitating the creation of a Natural History and Medical Library, which included 54 types of anatomical injections, fixations, and preparations along with 24 microscopic pieces donated by Dr. Josef Hyrtl, a Professor of Anatomy and palace advisor in Vienna (Aykut 46; Günergun 338; İleri, "Müzesiyle İftihar Edecek Bir Mektep": Robert Kolej'de Bir Doğa Tarihi Müzesi 237). This initiative not only supported the teaching of zoology and botany for practical sciences like medicine, veterinary medicine, pharmacy, and dentistry but also signified the museum's role in modernized medical education and illustrated the increasing interest in Western positivist thought and scientific approaches among scholars and physicians in the Ottoman Empire (İleri, "Müzesiyle İftihar Edecek Bir Mektep": Robert Kolej'de Bir Doğa Tarihi Müzesi 237; Tunç, Museums of Medicine and Health: Curating Public Health 71). All this also helped to establish a direction for the later medical museum practices in the region.

3.1 Health Museums

With the didactic use of medical museums in Europe expanding from professional medical education to public exhibitions on health and hygiene since the early 20th century, the establishment of the *Sıhhi Müze* or Health Museum in Istanbul in 1918 demonstrates that the Ottoman government took similar initiatives when responding to the increasing prevalence of infectious diseases such as tuberculosis, syphilis, smallpox, typhoid, typhus, and malaria, as well as the surge in migration to Istanbul caused by the Balkan Wars at the end of the 19th century (Doxanaki 73-4; Kaynak, Sıhhi Müze'den İstanbul Sağlık Müzesi'ne (1918-2015) 28; Topçu and Tokaç 99). Following his appointment as *Sıhhıye Müdür-i Umumisi*, the General Director of Health in 1917, Abdülhak Adnan Adıvar, with his medical training from *Mekteb-i Tıbbiye* (the School of Medicine) in the

Ottoman Empire, and further education in Paris, Zurich, and at the Charité Hospital in Berlin, had the opportunity to observe health and hygiene museums in Europe (Tunç, Museums of Medicine and Health: Curating Public Health 71-2). Inspired by these models, he initiated efforts to establish an example of this type of museum in Istanbul and commissioned Hikmet Hamdi, a doctor and a painter, to lead this project. In 1917, Hamdi, sent by Adıvar to museums in Berlin, Frankfurt, and Dresden, translated and reproduced visuals and panels depicting infectious diseases, which garnered significant public interest at the *Hilal-i Ahmer* (the Red Crescent) exhibition, leading to his appointment as the museum's director (Tunç 72).

Initially located in a single room within *Sıhhiye Umum Müdürlüğü* (the Public Health General Directorate), the collection later expanded due to the increasing number of descriptive panels and moulage models, including disease pathology moulages made by an Ottoman pathologist, Hamdi Suat Aknar and additional moulage works by the museum's technician Halit Hakkı Bakır (Topçu and Tokaç 99). Despite challenges from the hasty evacuation during the wartime conflicts in the early 20th century that damaged the collection, and the post-republic transition to Latin script in 1928 requiring the reproduction of a new collection, the museum hosted over 200,000 visitors between 1919 and 1922 and later served as a model for health museums in various Anatolian cities established during the early years of the Republic. This institution also helped promote public health education, and generated publications about health and hygiene in the new alphabet (Döger and Kurum 44; Kaynak, Sıhhi Müze'den İstanbul Sağlık Müzesi'ne (1918-2015) 29).

During the early Republican period, the Turkish Minister of Health, Refik Saydam (1923-1937), among the publications written in simple language that intertwined citizenship, education, and public health for the newly established national state was the *Sıhhi Müze Atlası* (the Atlas of Health Museum) (Acımış and Kılıç 32; İlikan-Rasimoğlu 19). Printed in 1926 with a run of one thousand copies, this publication not only mentioned *Sıhhi Müze* in Istanbul but also the *Hıfzısıhha* (public health) museums in Ankara and İzmir (Acımış and Kılıç 32; Topçu and Tokaç 98). It is speculated that the Refik Saydam Hıfzısıhha Institute in Sıhhiye, Ankara, established in 1924, which housed a *Kimyahâne* (vaccine production) and Bacteriology sections, may have also housed this above-mentioned health museum (Topçu and Tokaç 98; Tunç, Spaces of Healthcare and

Hospitals in the Late Ottoman Empire and Early Turkish Republic; Tunç, Hıfzısıhha Institute in Ankara: Building the Healthy Citizen of a Young Republic; Yılmaz and Çügen). While it is unknown when exactly the health museum was created or what later became of it, the institute seems to have ceased functioning and has been only used for storage by the *Halk Sağlığı Genel Müdürlüğü* (General Directorate of Public Health) since the 2000s onward. Plans for restoring this historic building, designed by German architect Theodor Jost, as a health museum and library were proposed by the Ministry of Health and the General Directorate of Foundations for 2009-2010 (Tunç, Spaces of Healthcare and Hospitals in the Late Ottoman Empire and Early Turkish Republic; Yılmaz and Çügen). However, there is no currently accessible information about the status of this project, nor why the museum has not yet opened.

Although there are no other published sources mentioning the *Hıfzısıhha* museums in Bursa and İzmir in 1926, Göçmen and Acımış discuss the opening of health museums in Bursa, Izmir, Giresun, and Konya in 1939, and later in Kars, Erzurum, Gaziantep, Trabzon, Manisa, Aydın, Kayseri, Gümüşhane, Malatya, and Ordu in subsequent years (Göçmen and Acımış 14; Topçu and Tokaç 98). All these museums had closed by the late 1960s and 1970s (Göçmen and Acımış 14). The replacement of health museums with telecommunication tools as a means of public health education can be considered a reason for their closure. Similarly, by the 1960s, the *Sıhhi Müze* had lost its function as a museum, and its collection was stored in warehouses until it was displayed in a temporary exhibition in 1995.

This historic building of the *Sıhhi Müze* was used as an additional structure by the Provincial Health Directorate (İl Sağlık Müdürlüğü). The initiative began in 2007 under the guidance of an advisory board to redevelop the museum's infrastructure and spatial designs. Kaynak states that, within the scope of the newly planned museum's mission, it aims to serve as a cultural institution in health, not only advocating for public health but also fostering interdisciplinary collaborations to preserve the cultural heritage of the health sector (İstanbul Sağlık Müzesi'nin Sanat Yönetimi Açısından İncelenmesi 87). Therefore, the museum intends to offer an experience that moves beyond object-focused museology to serving as a hub for science, culture, art, and community by incorporating accessible and inclusive exhibition design and activities that accommodate people of all abilities, aligning with contemporary museological approaches as well as new

management and marketing strategies (Kaynak, Sıhhi Müze'den İstanbul Sağlık Müzesi'ne (1918-2015) 30-1; İstanbul Sağlık Müzesi'nin Sanat Yönetimi Açısından İncelenmesi 87-8). This new vision presented by the museum is a reflection of the diverse disciplines of the experts involved in the museum's planning, including art history, archaeology, art management, visual arts, museum studies, educational sciences, art administration, and digital art and design (Kaynak, İstanbul Sağlık Müzesi'nin Sanat Yönetimi Açısından İncelenmesi 29).

In her thesis, Kaynak offers recommendations for the Istanbul Health Museum from an art management perspective which supports the development of an exhibition narrative that allows for the conceptualization of different themes in the new museum (İstanbul Sağlık Müzesi'nin Sanat Yönetimi Açısından İncelenmesi 105-6). This involves creating thematic exhibitions and educational programs using interdisciplinary approaches, ensuring that the museum can sustain itself in a rapidly changing cultural and artistic environment through contemporary museological practices (107, 111, 156). Advocating for audience-focused design in these thematic exhibits, Kaynak emphasizes the prominence of understanding the audience profile and expectations (108). In another thesis proposing a curatorial approach for the Istanbul Health Museum, Alemdar recommends interactive display techniques based on audience research, conducting surveys to investigate various health-themed museums in Türkiye and around the world (99-100). She observed that the adoption of dynamic exhibition designs and technological tools such as touchscreens, holograms, biosensors, simulations, and multi-dimensional displays, which encourage active participation, expanded the target audience, and increased visitor numbers at several health museums (Alemdar 99-100). Consequently, she suggests similar strategies for the Istanbul Health Museum and the incorporation of mechanical and technological interactive applications, including X-ray applications and augmented reality (AR), in both its exhibition areas and educational activities (Alemdar 101-2).

Guided by the new mission and vision of the museum, with a focus on preserving the historical building from the Ottoman period while adhering to modern museological standards, the restoration process initiated in 2011 was completed along with all the technical infrastructure of the museum, culminating in its reopening to the audience in 2019 as the Istanbul Health Museum (Kaynak, İstanbul Sağlık Müzesi'nin Sanat

Yönetimi Açısından İncelenmesi 89; Sağlığın Tarihi İstanbul Sağlık Müzesi'nde). Unfortunately, due to the COVID-19 outbreak in 2020, the museum was closed and the historic building was subsequently reallocated to the Turkish Communications Directorate (T.C. İletişim Başkanlığı), and the collection removed. Currently, there is no information on the whereabouts of the collection or if a new building will be designated for the collection.

Another health museum that opened the same year is the Samsun Surgical Instruments and Health Museum,[5] inaugurated on December 3, 2019, World Disability Day. This museum, which primarily houses medical collections such as thermophores, canes and crutches, patient chairs, stretchers, bedpans, violet ray machines, prosthetics, dental tools, and various obstetric and surgical instruments from the 18th and 19th centuries, claims to be a 'living museum'[6] concept. It aims to organize thematic exhibitions and activities to contribute to public health, increase health literacy, and promote preventative medicine (Müze Hakkında).

One other health museum that underwent restructuring and recontextualizing is the Bursa Health Museum, which initially opened in 2006 within the Bursa Ali Osman Sönmez Oncology Hospital. It has a collection of medical tools and medically related objects (Döger and Kurum 45). Reopened in 2018 by the Bursa Metropolitan Municipality as the Bursa Museum of Health History, the museum also embraced a 'living museum' mission and vision, offering renewed exhibition spaces, health-themed conferences, free health screenings, and activities promoting preventative medicine ('Sağlık Tarihi Müzesi' açıldı). Despite being closed again in 2020 due to the municipality's downsizing policy, the museum was reopened on February 29, 2024, as the Dr. Ceyhun İrgil Health Museum[7] in its own building (Bursa'da Sağlık Müzesi 4 yıl sonra açılıyor). The museum now includes 1,200 square meters of renovated exhibition space with a collection of approximately 4,000 objects donated by 700 people, featuring

[5] For further details and photographs from the Samsun Surgical Instruments and Health Museum, see: http://www.cerrahimuze.org/ (accessed on July 10, 2024).

[6] The type of museums that recreate historical settings to replicate different time periods are known as living history museums. For further reading, see Scott Magelssen, *Living History Museums: Undoing History through Performance* (Lanham: Scarecrow Press, 2007).

[7] For further details and photographs from the Dr. Ceyhun İrgil Health Museum, see: https://www.nilufer.bel.tr/kategoriler/tesisler/muzeler/nilufer-belediyesi-dr-ceyhun-irgil-saglik-muzesi (accessed on July 12, 2024).

new narrative sections that chronicle the history of health, veterinary, and pharmaceutical sciences during the Republican era, along with Türkiye's first female doctors and nurses, as well as a section of pathology specimens acquired through donations (100 yıllık sağlık devrimi, Bursa'da açılacak müze ile geleceğe taşınacak). It is important to note that several of the health museums currently operating in Türkiye have opened in recent years, highlighting a renewed interest in medicine and health-related museums in the country following a period of decline and cessation of health museum operations until the 1970s.

3.2 Medical Museums with Ethnographic Settings

The museums mentioned in this section are housed in *medreses* and *külliye* structures, which were built in Anatolia during the Ilhanids (1256-1335), Seljuks (1016-1308), and Ottoman periods (1299-1922). These institutions and their corresponding buildings were constructed by sultans and the elite of the era, funded by *waqf* (pious foundation) revenues for educational and charitable institutions that aim to provide medical training and treatment for physical and mental diseases (Üçer 11). These buildings have been restored to function as museums, a transformation that also reflects their historical identities in their curatorial approaches (Özrili and Özrili 26).

One of the first examples of these ethnographic medical museums is the Gevher Nesibe Şifahiye and Medical History Museum, which was opened in 1982 by the Institute of Medical History at Erciyes University in Kayseri as a result of restoration initiatives started in the 1960s (Selçuklu Müzesi (Gevher Nesibe Tıp Tarihi Müzesi); Özrili and Özrili 33). Gevher Nesibe, the sister of Sultan I. Gıyaseddin Keyhusrev, commissioned the construction of a medical school and hospital in 1205-1206 as per her last will before she died of tuberculosis (Dündar, Emekli and Şener 87; Özrili and Özrili 33; Yetimoğlu and Akyol 17).

After the *medrese* complex was transferred to the Kayseri Metropolitan Municipality in 2012, it was closed for renovation (Selçuklu Müzesi (Gevher Nesibe Tıp Tarihi Müzesi)). With initiatives from the municipality, the collection was expanded to include artifacts from the Byzantine (306-1453), Great Seljuk (1016-63), Anatolian Seljuk (1077-1308), and pre-Ottoman Anatolian Beylik periods (1081-1423) (Özrili and Özrili 33). Although the museum was reopened on February 21, 2014, as the Museum of

Seljuk Civilization, it still retains its identity as the Gevher Nesibe Museum of Medical History[8] (Selçuklu Müzesi (Gevher Nesibe Tıp Tarihi Müzesi)). The *şifahiye* (hospital) section continues to exhibit a vast collection related to diseases, treatment methods, and instruments from that era, as well as pharmacology and pharmacy tools, and treatments involving water, music, and colors (Selçuklu Müzesi (Gevher Nesibe Tıp Tarihi Müzesi); Özrili and Özrili 33).

The museum, utilizing interactive multi-sensory technological display tools, is also one of the first in Türkiye to use Braille[9] in its exhibition spaces (Özrili and Özrili 34). Additionally, it features diorama-style exhibition areas that depict the socio-cultural life and treatment practices of the period in an ethnographic setting (Selçuklu Müzesi (Gevher Nesibe Tıp Tarihi Müzesi); Özrili and Özrili 34). The museum's diverse display tools, which encompass historical medical practices from the Islamic period, the Anatolian Seljuk era through, the Ottoman period, also serve as a training ground for medical history and deontology courses for medical students. For example, as part of the academic collaboration between Kırşehir Ahi Evran University Faculty of Medicine and the museum, since the 2016-2017 academic year, new medical students have been participating in visits to this museum during their orientation week. These visits aim to visualize concepts such as the physician's identity and professional ethics while also exemplifying the relationship between medicine and the arts and culture from a historical perspective (Köken 225).

Another significant example of a medical museum with an ethnographic setting in a historical structure is the Bayezid II Health Museum,[10] which was opened on April 23, 1997, through the efforts of Dr. Ratip Kazancigil from the Department of Medical History and Deontology at Trakya University (Sultan II. Bayezid Külliyesi Sağlık Müzesi). Founded in 1488 by the Ottoman Sultan Bayezid II to serve as a *darüşşifa* (hospital), the *külliye* provided treatment for both physical and mental illnesses; it is one of the *darüşşifas* where therapeutic techniques involving the sounds of water, pleasant

[8] For further details and photographs from the Museum of Seljuk Civilization (Gevser Nesibe Medical History Museum), see: http://www.kocasinan.gov.tr/selcuklu-muzesi (accessed on July 15, 2024).

[9] Braille: a tactile writing system used by people who are visually impaired.

[10] For further details and photographs from the Bayezıd II Health Museum, see: http://www.edirne.gov.tr/sultan-ii-bayezid-kulliyesi-saglik-muzesi and https://saglikmuzesi.trakya.edu.tr/ (accessed on July 18, 2024).

aromas, and music were utilized (Özrili and Özrili 29). Transferred to Trakya University in 1984, the *külliye* has been utilized not only as a practical training site for the Department of Restoration at the Trakya University, but was also seen as a suitable location for the planned medical history and deontology museum and library by Dr. Ratıp Kazancıgil, a medical historian closely associated with the history of Edirne city (Benian and Mısırlı 104; Gökçe 475; Şengül and Bilar 10, 80-1). After two years of collecting artifacts, the exhibition space was officially opened in 1993 (Gökçe 477; Şengül and Bilar 52). It was intended to serve not only as a space for medical history and deontology but also as a research area for Edirne's urban history, fine arts, and literature (Gökçe 477).

In 1997, the museum was officially recognized as a museum by the TMoCT (Şengül and Bilar 52). Initially opened by Trakya University as a health museum in the same year, it was reorganized in 2000 as the Museum of Psychiatry History (Brüggemann and Schmid-Krebs 107). The museum showcased treatment methods for mental illnesses by recreating the era's culture and social life as a sensory and visual experience, using an ethnographic diorama style of curation that featured original artworks, documents, and medical tools, as well as reproductions of costumes, furniture, and traditional musical instruments that would complement the earlier function of the historical complex (Altıntaş 25-7; Özrili and Özrili 29). Later, in 2003, the museum met the criteria and applied for the European Museum of the Year Award, which it won in 2004, subsequently developing significant international connections and recognition (Şengül and Bilar 62-4, 72-5; Yetimoğlu and Akyol 17). In 2008, intending to expand the exhibits, the opening of the medical school was a catalyst for the revival of the original function of the *külliye*, showcasing 15th-century medical education.

Today, despite primarily being recognized for its different diorama rooms depicting a psychiatric hospital, the museum also features sections dedicated to the city's history, notable figures like Dr. Rıfat Osman, who served as a military doctor during WWI and the War of Independence (1919-1923) and also in Edirne in the early 20th century, and pioneering medical historians such as Dr. Süheyl Enver who contributed to the establishment of the medical faculty at the university. There are also exhibits featuring the museum's founder, Dr. Ratip Kazancıgil, as well as exhibits discussing the development of modern medical education in the 19th and 20th centuries (Benian and Mısırlı 116; Gökçe 475; Şengül and Bilar 56, 60-1). The museum continued to define

itself as a 'living museum' and expanded its scope following a 2020 renovation by digitizing its library collection and creating a space called the *Pandemic Room*, which provides information on historical epidemics, preventive measures, and details about COVID-19 (Altıntaş 24; Benian and Mısırlı 108, 115-7).

Another *darüşşifa* complex that was converted into a medical museum is the Sabuncuoğlu Şerefeddin Museum of Medical History and Surgery,[11] which opened in Amasya 2011. Constructed in 1308-1309 by Anber Bin Abdullah on behalf of the Ilkhanid ruler Sultan Muhammad Khodabandeh Öljaitü and his wife Uduz Hatun, the complex continued to serve as a medical school until the late 19th century (Koçyiğit 34; Özrili and Özrili 27). It underwent restoration in the 1980s, initially serving as the Amasya Public Education Centre and later, from the 1990s to 2005, as a municipal conservatory and fine arts gallery (Akbaş 28; Koçyiğit 38). The museum, which resumed restoration in 2005, began to be organized in 2010 as a museum illustrating the complex's original function. It was named after Sabuncuoğlu Şerefeddin, a physician and surgeon who served as the chief physician for 14 years to the Anatolian people in the *Amasya Darüşşifası* during the 15th century (Akbaş 29; Koçyiğit 27, 34).

Recognized as one of the first *darüşşifas* in Anatolia to treat both physical and mental illnesses with music, the *Amasya Darüşşifası* has been restored to maintain its original identity and uses portable exhibition tools and ethnographic diorama techniques to narrate the social life and functioning of a Seljuk era *darüşşifa* (Akbaş 29; Koçyiğit 39; Özrili and Özrili 27). As part of its thematic exhibits, the museum not only features sections on the history of surgery and musical instruments used for treatments but also displays dioramas of dental care, fracture treatments, and other experimental surgical methods described and illustrated in Sabuncuoğlu Şerefeddin's *Cerrahiyyetü'l-Haniyye* (the Book of Imperial Surgery) (1465), a work featuring miniatures of surgical operations (Akbaş 29-31; Özrili and Özrili 27). Located within the complex, the museum also features a medicinal herb garden and embodies the 'living museum' concept by regularly organizing temporary exhibitions, hosting live ethnographic Turkish music performances, supporting city promotion activities, and welcoming medical students from Amasya and

[11] For further details and photographs from the Sabuncuoğlu Şerefeddin Museum of Medical History and Surgery, see: https://amasya.ktb.gov.tr/tr-59522/sabuncuoglu-tip-ve-cerrahi-tarihi-muzesi.html (accessed on July 22, 2024).

neighboring provinces for medical history and museum education sessions (Akbaş 33-4; Koçyiğit 43-4).

Another museum that opened after its restoration as a medical museum with ethnographic diorama exhibits is the Hafsa Sultan Medical History Museum, established in Manisa in 2013 within Manisa Celal Bayar University and obtained private museum status in 2021.[12] The hospital, originally built by Ayşe Hafsa Sultan, the mother of Süleyman the Magnificent, in 1539 and expanded with a mosque and other buildings, stands out with its diorama-style exhibits that visualize both traditional treatments using music and water sounds, as well as modern medical practices (Böyük). Lastly, while the museum opened in the historic building of *Tokat Muineddin Süleyman Darüşşifası* and is mentioned by name, there are no accessible archival sources available regarding the museum's operations (Özrili and Özrili 36).

3.3 Medical History Museums

Based on the museums listed above, it seems that an ethnographic approach is among the more popular curatorial strategies for organizing medical museums in Türkiye. Additionally, there are medical museums that have been established within different Turkish medical faculties under sub-fields of medicine such as medical history and deontology, psychiatry, and pharmacology. While some of these museums are actively collecting and conducting exhibition activities within universities, others have relegated their collections to storage due to inadequate infrastructure and high operational costs. Some have been transferred to the TMoCT, and others have acquired the status of a 'private museum' (Özel Müze) by meeting the museological guidelines provided by the Ministry. One of the earliest examples of medical museums in this category is the Medical History Museum at Istanbul University's Faculty of Medicine, where collection efforts began in 1929 under the guidance of Süheyl Ünver, a medical historian who was also a calligrapher, an illuminator, and an artist of miniatures (Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 39).

[12] For further details and photographs from the Hafsa Sultan Medical History Museum, see: https://www.mcbu.edu.tr/Haber/MCBU-Tip-Tarihi-ve-Deontoloji-Muzesi-Manisa%E2%80%99nin-Ilk-Tescilli-Ozel-Muzesi-Oldu_11_20_41 (accessed on July 30, 2024).

In 1933, during the period of the University Reform, when Istanbul University was being restructured, the collection, which was expanded with materials from Ottoman-era medical schools, was further broadened (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 151, 176). During the same period, an announcement had been made in the *Cumhuriyet* newspaper, calling for donations of medical-related objects to expand the collection (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 176). Over the years, the collection at Istanbul University's Faculty of Medicine grew significantly, enriched by Süheyl Ünver's acquisitions of works by Sabuncuoğlu Şerefeddin and other significant manuscripts from booksellers. Bedi N. Şehsuvaroğlu's appointment in 1950 played a crucial role in its expansion (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 178; Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 41). By 1955, the medical history museum was located in one of the largest areas of the medical history and deontology department, specifically in the seminar hall (Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 41).

Following the 1967 decision to split Istanbul Medical Faculty into the Cerrahpaşa Medical Faculty and the Istanbul University Istanbul Medical Faculty, Süheyl Ünver, who moved to Cerrahpaşa after 1970, brought a portion of the collection with him (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 164; Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 45-6). During those years, as part of the plans to relocate Istanbul Medical Faculty to the Çapa district, Bedi N. Şehsuvaroğlu collected manuscripts from booksellers to expand the collection, and he facilitated the inclusion of the *Cemiyet-i Tıbbıye-i Şahane* (the Imperial Society of Medicine) library, while also planning a section for the Istanbul Medical History Museum (Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 40). Cantay, who worked at the museum during that period, described the museum collection as well as how the museum space was not ideally curated with objects grouped by themes and placed in display cases situated in a brightly lit area with many windows due to the lack of sufficient museology knowledge (Cantay 166).

Following the death of Şehsuvaroğlu in 1977, a decision was made to move the collection, which had been stored in piles in a depot, to the Abdüllatif Suphi Pasha mansion in Fatih district in Istanbul, alongside the Department of Medical History and Deontology (Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 47). Although the collection was included in the TMoCT's Museum Guide in 1991 under the name of *İstanbul Tıp Fakültesi Tıp Tarihi Koleksiyonu* (Istanbul Medical Faculty Medical History Collection), it remained within the scope of the collection and did not gain official museum status due to non-compliance with the laws and regulations regarding the establishment of private museums issued by the TMoCT issued in 1983 (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 179; Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 47).

In 2011, while efforts were underway to obtain museum status for the collections of Istanbul University, the medical history collection was also considered for this status (Yıldırım and Ertin, İstanbul Tıp Fakültesi Tıp Tarihi Müzesi/Koleksiyonu 1933-2015 49). However, the collection could not be moved because the building required restoration, and the collection needed to be relocated. More importantly, the collection was not officially registered and lacked an inventory record, and boxes of objects that were donated in the past had never been processed, making the transport of the collection illegal under state law No. 2863, governing movable cultural assets (Yıldırım and Ertin 49-50). Consequently, the first steps were taken to inventory and register the collection and library through descriptions and visual documentation to be used in the future when it is established as the Istanbul University Museum of Medical History (Yıldırım and Ertin 50). After the inventory of the collection was completed, it was placed in storage and was awaiting a suitable space in which to be established as a museum (Yıldırım, The Contributions of Prof. Dr. Bedi N. Şehsuvaroğlu to Turkish Medical History and Cultural Studies 179). In addition, the medical history collection at Cerrahpaşa is the first official museum of Istanbul University to have succeeded in gaining legal museum status, though it has also gone through a tumultuous process.[13]

[13] For further details and photographs from the Cerrahpaşa Medical History Museum, see: https://www.iuc.edu.tr/tr/content/muze-ve-sergi-alanlarimiz/cerrahpasa-tip-tarihi-muzesi (accessed on August 3, 2024).

The current Cerrahpaşa Medical History Museum began with extensive collecting efforts initiated in 1983 by Prof. Dr. Nil Sarı, a medical historian and academic at the Cerrahpaşa Department of Medical History and Deontology (Özdemir 35; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 9). After a decade in the department, and upon becoming the department head in 1983, Nil Sarı aimed to prevent the loss of numerous documents, tools, and materials related to the medical history of healthcare institutions, healthcare workers, and their families, and to preserve the existing materials in the department (Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 25; Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 25). Sarı's goal was not only to safeguard the history of medicine but also to utilize the historical and technological aspects of these items for medical education (Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 12; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 26).

Despite the lack of funding and museum expertise, Sarı initiated the establishment of the museum through personal efforts (Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 9). Initially, she collected donations from other departments and laboratories within the medical faculty and later gathered discarded medical materials from vacant historical buildings, as well as purchasing items cheaply from scrap dealers and booksellers (Sarı 12). With the support of members of the Istanbul business community, the first exhibition space was created in a room within the Department of Medical History and Deontology at the Cerrahpaşa Medical Faculty and Hospital, equipped with display cabinets. It opened on May 20, 1985, as the Museum of Medicine and Pharmacy (Özdemir 39; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 28).

With the opening of this exhibition space and the naming of the museum, donations to the collection accelerated and soon outgrew the single room and corridors of the department (Özdemir 36). In 1993, three rooms in the basic sciences building were opened as storage areas, but due to complaints and the inability to display all the materials, Sarı began searching for a new building (Özdemir 36; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 27; Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 29-30). Since sufficient funds and necessary permissions could not be secured for repurposing some of the surrounding historical *medreses* and *darüşşifas*, the collection

was relocated in 2002 to one of the faculty's oldest buildings, which had been used as deanery offices until 1995 and had been vacated (Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 27; Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 30). One of the most significant efforts from 2003 to 2004 involved a six-month project where graduate students from the department, along with volunteer students from the departments of archaeology, art history, and museology, cataloged, conserved, and designed an exhibition featuring twenty-five separate sections for all materials that had accumulated since 1983 enhanced with posters, descriptive labels, and visuals (Ertin, Çekin and Özekmekçi 105-6; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi 30-1). As the building was registered as a historic structure and continued temporary repairs were made to solely use it as a medical history museum, including constructing new display cases and repairing old ones, and the ongoing relocation of the collection, Sarı faced challenges due to insufficient human resources and a lack of designated funding for the museum (Özdemir 57, 63). Consequently, she relied on voluntary help from department staff and graduate students for all tasks (Özdemir 68).

The museum space was designed by integrating approaches such as collections for medical education and health museums, with consideration for modern museology trends. For example, the informational panels were designed not only for faculty members and students but also for general visitors, using everyday language. An activity area for children was also created (Özdemir 72). Additionally, technical features such as UV-blocking storage curtains and special lighting in the exhibitions were installed to support the preventative conservation of the objects (Özdemir 73). The displays included historical and medical artifacts, artworks in various mediums, and personal stories such as biographies of doctors who have contributed to the medical field, all providing a more contemporary curatorial approach for a medical collection from ancient times to the present (Özdemir 79-91; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 31-2). Following these developments, the collection was officially opened on May 17, 2004, under the name *Tıbbi Kültür Birimi* (Medical Culture Unit) (Özdemir 98). Starting in 2005, Sarı initiated necessary procedures to obtain official private museum status for the collection, which was officially recognized on February 16, 2006, as the Cerrahpaşa Faculty of Medicine Museum of History of Medicine, making it Istanbul University's first official private museum and Türkiye's first medical history

museum (Özdemir 107, 121; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 35).

From 2004 to 2012, the museum served as a social and educational exhibition space where a diverse array of 89 individual and group temporary exhibitions—including painting, traditional and modern handicrafts, photography, caricature, medical illustrations, sculpture, ship models, embroidery, and textiles—provided a platform for faculty members, nurses, staff, students, patients, collectors, and both renowned and emerging artists to display their works (Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 34-5; Tolan 379, 381). For example, some exhibitions featured works from two patients with spinal cord injuries, children with leukemia who had been long-term hospital patients, and children with disabilities who did not reside in the hospital, highlighting the museum's contribution to social responsibility (Tolan 379). The exhibitions did not solely display artworks; sometimes, life stories of the artists were featured alongside their creations. Some artists who had been diagnosed with serious illnesses were given the opportunity to hold exhibitions in the museum while undergoing treatment in the hospital (Tolan 380-1). Visitors have written in the museum's guestbook that entering the museum after the distressing diagnoses and tests in the hospital helped dissipate their negative emotions and made them feel more hopeful. Additionally, medical students have expressed that, alongside their medical education, they were motivated to engage with different art forms because of the presence of the museum (Tolan 381).

After 2013, due to the temporary repairs losing their effectiveness and the building's historical significance, it was decided that the building needed restoration and was consequently vacated (Özdemir 175). Following three years of waiting for funding, negotiations with the Istanbul Metropolitan Municipality in 2016 resulted in securing funds for the museum's restoration, with the condition that the municipality would manage it for 15 years after reopening (Ertin, Çekin and Özekmekçi 106; Özdemir 179). Although the restoration work that has been ongoing since 2017 was completed in 2019, the museum remains closed due to ongoing interior design work (Özdemir 180).

In addition to other medical history-themed museums at Istanbul University, *Türk Eczacılık Tarihi İhtisas Müzesi* (the Turkish Pharmacy History Specialty Museum), which began establishing its exhibition space in 1960 and opened to the public in 1968,

is also noteworthy (Targan 53). The museum, which applied for official museum registration with the ministry, was moved from its building due to the 1999 earthquake and its collection is currently displayed in two halls within the faculty of pharmacy (Mat 118-9). However, a significant portion of its collection, which has grown over time through donations, remains in storage (Hayıroğlu and Mat 68). Fortunately, the museum, with its unique collection of pharmaceutical objects and history, and its education dating to the late Ottoman period, eventually managed to obtain private museum status from the General Directorate of Cultural Heritage and Museums of the TMoCT on October 29, 2017; it continues to operate under the auspices of the Istanbul University Faculty of Pharmacy.[14]

Within the pharmacy faculties of other universities—such as Anadolu University in Eskişehir, Ankara University, Ege University in İzmir, Hacettepe University, and Marmara University—there are exhibition spaces known as pharmacy museums (Targan 43-57). Unlike Cerrahpaşa Medical History Museum and the Turkish Pharmacy History Specialty Museum, these collections have not received official museum status and are mostly displayed like old pharmacy shops, without any attention to conservation or microclimatology (Targan 45-6).

Finally, the other museums focused on medical subfields are exemplified by the Bakırköy Mazhar Osman Psychiatric Hospital Museum in Istanbul, which is located within a psychiatric hospital that has been in operation since 1924. It was established in 2008 as part of a collaborative project with the Yıldız Technical University Museum Studies Master's program (Kardeş 55). Due to space limitations in the museum many objects remain in storage, and the museum has been closed for some time due to unspecified reasons (Kardeş 58). Similarly, the Florence Nightingale Museum, located in the Selimiye Barracks in Istanbul, has also been closed, but recent online reviews from Google suggest it can be visited by appointment. This museum, originally a 19th-century military barracks built for the newly modernized Ottoman army, the Nizam-ı Cedid (New Order), houses a significant collection of military medicine and nursing in the Ottoman Empire. It is located within a complex that holds historical importance related to military

[14] For further details and photographs from the Cerrahpaşa Medical History Museum, see: https://muzeyum.istanbul.edu.tr/tr/content/muzeler/istanbul-universitesi-turk-eczacilik-tarihi-ihtisas-muzesi (accessed on August 8, 2024).

medicine and Florence Nightingale, the nurse who served on the front lines during the Crimean War, which took place in 1854.

The Gülhane Medical History Museum, which houses another military medicine collection and falls into the medical history museum category, is also recognized as a university collection. According to a 2020 study, it is the fourth museum that has been established among nine medical history-themed university museums in Türkiye (Karakuş 261). According to Bekir Onur's 2009 study, there were 65 university and museum collections, which by 2020, according to Karakuş's study, had increased to 229 (Karakuş 249). However, among university museums, only the Bayezid II Health Museum affiliated with Trakya University, the Ayşe Hafsa Sultan History of Medicine and Deontology Museum affiliated with Manisa University, and the Cerrahpaşa Medical Faculty History of Medicine Museum hold private museum status according to the list of private museums by the TMoCT. The comprehensive list includes the Surgical Instruments and Health Museum in Samsun, the Prof. Dr. İlter Uzel Museum of Medicine and Dentistry Instruments in Adana under the Seyhan Municipality, the Health History, Ambulance, and Toy Museum located in İnegöl State Hospital in Bursa, and the Dr. Ceyhun İrgil Health Museum under Nilüfer Municipality in Bursa, most which are recently established museums.[15]

Apparently, in recent years, there has been a general increase in initiatives and research related to university museums and collections; however, efforts specifically concerning medical museums at universities appear to have stagnated. Despite the opening of new medical museums such as the Halûk Perk Museum in Istanbul in 2002, and newer ones like the Turkish Red Crescent Ağadere Museum in Çanakkale in 2020 and the Prof. Dr. İlter Uzel Medicine and Dentistry Instruments Museum in Adana in 2020, the growth of university medical museums has been limited, with few recent additions beyond those already mentioned e.g. the Ankara University Museum of Pharmacy History, Celal Bayar University Ayşe Hafsa Sultan Şifahanesi Medical History Museum, Ankara University Midwifery and Nursing Museum opened in 2009, and the

[15] To view the list of museums that have obtained private museum status from the TMoCT at the time this thesis was written, see: https://kvmgm.ktb.gov.tr/TR-43980/ozel-muzeler.html (accessed on August 22, 2024).

İhsan Doğramacı Museum, which opened in 2015 at Hacettepe University Medical Faculty Children's Hospital.

According to a 2023 study, there are Medical History and Deontology departments in 58 universities across Türkiye, but only a small portion of these departments have related museums and collections (Ögenler and Aksu 151). Although most of the medical museums in Türkiye are either affiliated with a university or are located in spaces that were once used for medical education in the past, research from a museological perspective on these existing university medical museums and collections is limited. Even the Gülhane Medical History Museum, one of the oldest university medical museums, has been only briefly mentioned in such studies, and no comprehensive museum studies-related academic research conducted on this museum. (Döger and Kurum 45; Hallaç 48-9; Karakuş 225; Özrili and Özrili 48-9; Sarı, Cerrahpaşa Tıp Fakültesi Tıp Tarihi Müzesi Örneğinden Çıkarılan Dersler 11). Therefore, to fully understand the future role of Gülhane Medical History Collection as a 'museum-to-be', it is crucial first to comprehend Gülhane as an institution from its foundation, development, and changing status over the years as a military medical education and hospital institution, as well as its current function within the framework of the history of military and modern medical education.

Chapter 4:
Gülhane's Role in Turkish Medical History

4.1 The Modernization of Medical Education and Military Medicine in the Ottoman Empire

Europe's multifaceted advancements since the Renaissance and the Age of Enlightenment, and its successful warfare tactics against the Ottoman Empire led the Ottomans to closely monitor European advancements. As the Ottoman Empire continued its modernization process during the early 19th century, it was influenced by various aspects, including European military medical practices. Until this period, the medical needs of the Ottoman army had been met by physicians trained in *medrese* established in the Seljuk period (1016-1308) or by those who were self-taught through apprenticeship methods. For example, the medical care and provisions for salaried Janissaries were administered by a physician-surgeon among the Janissaries, known as *yayabaşları*. Trained through apprenticeship, *yayabaşları* were tasked with establishing mobile field hospitals during wars, where they treated the sick and wounded, as well as prepared medicines and ointments (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri Tarihi, Cilt I 10). Additionally, the *Yıldırım Bayezid Darüşşifası* (Hospital) (1390-1394) in Bursa, which is considered the first hospital built by the Ottomans in Anatolia, served not only as a healthcare institution but also functioned as a training centre for physicians, providing medical education for service in the army (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri Tarihi, Cilt I 13).

During the reign of Sultan Bayezid II (1481-1512), the office of *hekimbaşılık* (the Chief Physician) was legally designated as part of the state's organizational bureaucracy, and some of the most renowned physicians of the time were appointed to this position (Ataç et al. 31). Some of these physicians also taught classes at *medreses.* Examples include Ayaşlı Şaban Şifai (?-1705), who taught at the *Süleymaniye Medrese* and authored works related to medicine, and Gevrekzade Hafız Hasan Efendi (?-1801), who also taught at the *Süleymaniye Medrese* and also served as the chief physician of the army during the Turkish-Russian War of 1768 (Ünver 172-3).

The appointment of Mustafa Behçet Efendi (1774-1834) as the chief physician during the reigns of Sultan Selim III (1789-1808) and later Sultan Mahmud II (1785-1839) marked a significant advancement in the development of modern medical education and healthcare in the Ottoman Empire. Mustafa Behçet Efendi's initiatives included spearheading the establishment of modern medical schools and training hospitals, such as the one in Kasımpaşa district in Istanbul, which opened in 1805 and operated until the fire in 1822, during Sultan Selim III's reign (1789-1807). The *Tıphane-i Amire,* which opened in 1827 during Sultan Mahmud II's reign (1808-1839), aimed at training military physicians and advancing medical education (Ataç et al. 33). The official gazette *Takvim-i Vekayi*, issue number 94 of the year 1834, records the assignment of graduates from this school as physicians and surgeons to be stationed in newly established hospitals in Anatolia and Rumelia, in response to the needs arising from the establishment of the *Asakir-i Mansure-i Muhammediye* (the Victorious Soldiers of Muhammad) army following the disbandment of the Janissaries (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri Cilt III 3).

An important date for the establishment of modern medical education is March 14, 1827, the date that the *Tıphane-i Amire ve Cerrahhane-i Amire* (the Imperial School of Medicine and Surgical School) was established in Istanbul. In the final year of Sultan Mahmud II's reign, on February 17, 1839, it commenced its educational period in a new building located in Galatasaray, Istanbul, under the name *Mekteb-i Tıbbiye-i Adliye-i Şâhâne der Âsitâne-i Âliyye* (The Imperial School of Medicine and Forensic Science in the Sublime Porte, Istanbul) with improvements led by Dr. Karl Ambrois Bernard, who had been invited from Vienna by Sultan Mahmud II (Ataç et al. 36). Establishing French as the education language of the school, it was aimed to create enriching environments for science and culture like its counterparts in Europe: a complex encompassing an extensive library, laboratories, pharmacy, and a botanical garden, as well as a museum of natural history, zoology, anatomy (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 126-127). The introduction of formal autopsy and dissection procedures began with official permission after 1841. Polyclinics named *Muayenehane-i Umumi* (Public Clinic) were also established in the same year; here, students assisted their professors as assistants for practical clinical training at the patient's bedside. These institutions provided free

healthcare service and medications for the people of Istanbul in various locations (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 127).

Following the complete destruction of the *Mekteb-i Tıbbiye-i Adliye-i Şahane* (the Imperial School of Medicine) building in a fire in 1848, the medical, surgical, and pharmacy classes were relocated to the Humbarahane Barracks in Kasımpaşa district which had been previously used as the imperial arsenal. With contributions from both students and professors, the first medical journal, *Vekayi-i Tibbiye* (Gazette Médicale de d'Orient), was published in 1849. Besides featuring scientific medical articles, the journal also provided information on public health. In 1857, the first official regulations were implemented, assigning the *Meclis-i Tıbbiye* (the Medical Council) the responsibility of organizing the medical school's curriculum and examinations. Additionally, a regulation in 1861 required foreigners practicing medicine in the Ottoman Empire to register their diplomas with the *Mekteb-i Tıbbiye* (the Medical School) and undergo an examination (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 127).

During the Crimean War, from 1853 to 1856, despite the Ottoman army's implementation of a medical education system and service structure inspired by European models, the healthcare system of the Ottoman Empire fell short in comparison to that of the European allies' medical community, who were stationed in Istanbul during the war. This inadequacy was exacerbated by the resurgence of infectious diseases such as typhus and cholera in the Ottoman capital during the same period, leading to the city's transformation into a landscape of makeshift hospitals by the foreign medical community where medical professionals from across Europe and the Ottoman Empire cared for patients returning from the battlefields (Tunç, Lessons from the Crimean War: How Hospitals were Transformed by Florence Nightingale and Others 113).

Despite the previous training of Ottoman medical officers as field physicians, they appeared to lack sufficient knowledge about the use of painkillers such as morphine and antiseptics commonly employed in wartime surgery, a deficiency that became apparent during the Crimean War (Selmanpakoğlu and Işık 183; Frik 79). Additionally, it was observed that foreign physicians themselves became insufficient in terms of training the required number of students, highlighting the need for more emphasis on Turkish-language medical education to produce a greater number of physicians, not just for the

army but also for the civilians in the provinces and rural areas (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 128-9). Because the majority of professors in the medical schools were foreigners and transitioning the education at the *Mekteb-i Tıbbiye* from French to Turkish was not feasible. Therefore, a separate civil medical school named *Mekteb-i Tıbbiye-i Mülkiye-i Şahane* (the Imperial Civil Medical School) was established within the *Mekteb-i Tıbbiye*. Despite its civil status, it was under the supervision of the military medical school, and its professors were from the *Mekteb-i Tıbbiye*. Beginning in 1870, Turkish language instruction was introduced for first-year students at *Mekteb-i Tıbbiye*, following the success achieved in Turkish-language education. Key developments and terminologies from Western medicine were translated and incorporated into Ottoman medicine. There was an increasing demand for and enrollment in the *Mülkî Tıbbiye* (the Civil Medical School). Graduates of this school were obligated to serve as provincial physicians in rural areas for a few years as practical training (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 129).

In 1870, following the Crimean War regarding the development of military medical practices, with the implementation of the legislation *Umur-u Sıhhiye-i Askeriye Nizamnamesi* (the Regulation of Military Health Affairs), Haydarpaşa Military Hospital was transformed into the Haydarpaşa Military Medical Practice School in 1871 to provide mandatory practical training for graduates of *Tıbbiye-i Şahane* (the Imperial Medical School). Under the same regulations, the honorary ranks given to *Mekteb-i Tıbbiye* students, based on their graduation standings, were converted to military ranks. Consequently, *Mekteb-i Tıbbiye*, which previously operated as a civilian school training doctors for the army, transformed into a military institution. Upon graduation, physicians and surgeons were appointed as captains, while pharmacists were sent to Haydarpaşa Military Hospital as second lieutenants. After completing two years of practical training there and passing examinations, those who obtained competency certificates were assigned to military units and hospitals. In 1872, selected young physicians who had completed their mandatory training and received their diplomas were sent to Vienna and Paris for advanced specialization (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 225). From 1889 onwards, thanks to the strengthening of Ottoman-German relations during the reign of Sultan Abdülhamid II, graduates started to be sent to Berlin (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 130).

However, during the Ottoman-Russian War that lasted from 1877 to 1878, it was observed that healthcare services within the Ottoman army were once again inadequate in terms of the number of physicians, surgeons, pharmacists, and health officers responsible for evacuating the sick and wounded (Ataç et al. 49). The deficiencies observed in healthcare services during this wartime period prompted efforts to address them with the support of the *Hilal-i Ahmer Cemiyeti* (the Ottoman Red Crescent Society), which was established in 1867 but had remained relatively inactive until then (Ataç et al. 51).

After the evacuation of the sick and wounded by the Red Crescent, another issue arose post-war: soldiers contracting contagious diseases being sent back to their hometowns without proper control, leading to outbreaks in those areas (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri Tarihi, Cilt I 71). The experiences in military health services demonstrated the inevitability of a reorganization in this regard. Four months after the end of the war in May 1897, on October 19, 1897, under the chairmanship of Grand Vizier Rıfat Pasha, the Council of Ministers submitted a report to Sultan Abdülhamid II proposing the renewal of the administration and curriculum of the *Mekteb-i Tıbbiye-i Şahane* (the Imperial Medical School) with the aim of improving military health services. This report is considered the beginning of the process that led to the establishment of the 'Gülhane Military Medical Academy' (Ataç et al. 56).

4.2 The Establishment of the Gülhane Military Medical School and Hospital

After the decision taken in 1897, the Ottoman Empire assigned the task to its embassy in Berlin to make innovations in military medical education and select experienced physicians for hospital management (Ataç 26). The Prussian Ministry of Education recommended Professor Robert Rieder (1861-1913) from the University of Bonn and Dr. Georg Deycke (1865-1938), an assistant at the Hamburg Eppendorf Hospital (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 226). In May 1898, agreements were made at the Berlin embassy, appointing Prof. Dr. Rieder as the *Mekâtib-i Tıbbiye-i Şâhâne Müfettişi ve Seririyat-ı Hariciye ve Dâhiliye Muallimi* (the Inspector of Medical Schools and Professor of External and Internal Surgery), and Dr. Deycke as his assistant (Sarı, İstanbul'da Tıp Eğitimi ile İlgili Kuruluşlar 132).

Prof. Dr. Robert Rieder completed his medical studies in Würzburg-Erlangen and Leipzig, earning his medical doctorate in 1886 from the Würzburg Medical Faculty with a thesis on temperature increases in subcutaneous fractures. He trained as a pathologist and anatomist under Prof. Carl Weigert in Frankfurt am Main. Later, Rieder worked as a surgeon at Hamburg Eppendorf Hospital with Max Schede, moving to Bonn Medical Faculty with him in 1895, where he became an associate professor of surgery and was appointed as a professor in 1898 (Ataç 27-8).

Dr. Georg Deycke initially studied history in Leipzig before completing his medical education in Freiburg, Strasbourg, and Kiel. He passed his state examination in Kiel in 1891 and presented his doctoral thesis, *On the Exarticulation of the Femur and its Dangers with Case Contributions*, while working at the Hamburg Eppendorf Hospital's X-Ray Institute in 1893. Additionally, he co-authored a book with Albert Schön Berg titled *Developments in the Field of X-Rays* (Ataç 28).

Under a contract that stipulated a three-year commitment to work in Istanbul, Dr. Rieder doubted the success of initiatives aimed at reforming existing schools. Consequently, he requested that his contract be amended to grant him the management of an independent hospital (Alpaslan 3). Rieder also stipulated in his contract that Turkish laws and customs should not restrict the restructuring, management, and use of the hospital under his direction for teaching and treatment purposes. Additionally, he demanded continuous financial support for procuring necessary materials and for the ongoing maintenance, repair, and supply needs of the hospital (Ataç 30). Therefore, before Rieder's arrival in Istanbul, the government selected the former Gülhane Military High School building, previously utilized as a widows' home, and furnished it with beds (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 227). Upon inspecting the building, Rieder requested numerous additions and changes. He renovated the kitchen and added two operating theaters for septic and aseptic procedures, a patient lounge, hospital care supplies, a laboratory, X-ray and orthopedic rooms, a microscope room, a bacteriology and pathology room, a photography studio, a lecture hall, rooms for administration and assistants, a laundry and disinfection area, a medico-mechanical laboratory, and a bandaging and dressing workshop, ensuring each space was equipped with water and heating (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt

II 227). He also acquired medical instruments and equipment for the clinics, with the total expenses reaching 24,000 marks (1400 gold coins) (Ataç, Gülhane Askeri Tıp Akademisi'nin Kuruluşu 41; Rieder 21).

After four months of preparation, the hospital was inaugurated on Wednesday, December 30, 1898, coinciding with Sultan Abdülhamid II's birthday (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 227). The ceremony, attended by Rieder, ministers involved in the preparations, the head of military schools, Marshal Zeki Pasha, and the German ambassador, his Excellency Adolf Freiherr Marshall von Bieberstein, was simple and included a religious ceremony (Ataç 42). Just one week after its opening, the hospital, named *Gülhane Tatbikat-ı Askeriye Mektebi ve Seririyat'ı* (the Gülhane Military Practice School and Clinic) filled its 151-bed capacity because of the high demand (Rieder 113).

Until WWI, under the management and training of Rieder (1898-1904), then Deycke (1904-1907), and subsequently Dr. Julius Wieting (1904-1914), with trained Ottoman doctors, Gülhane became a place where practical training on patients was fully implemented for the first time in the classroom. It was the first time bacteriological and pathological examinations from the laboratory were included in the lessons, the first-time compulsory autopsy methods were introduced, and surgical training was given to students in groups during operations for the first time, marking the beginning of war surgery education. It was also the first-time clinics for anesthesia, obstetrics, otolaryngology, ophthalmology, neuropsychiatry, and physical therapy were established, and modern techniques were used for diagnosis with samples taken from living tissues such as histology, embryology, and pathological anatomy, including autopsies. In addition to training soldiers in nursing and clerical duties, practical exercises and maneuvers were conducted. Gülhane became the first example of modern clinic management services with professional nurses brought by Rieder from Germany (Alpaslan 4-6; Ataç Gülhane Askeri Tıp Akademisi'nin Kuruluşu 96-102).

In 1908, following the declaration of the Second Constitutional Era, efforts to reform medical education resulted in the decision to merge military and civilian medical schools. Dr. Wieting first succeeded in separating Gülhane from the faculty, making it an independent institution. In the program he prepared, Wieting focused on practical

training, particularly emphasizing military medicine, leading to Gülhane being renamed as the *Tababet-i Askeriye Tatbikat Mektep ve Seririyatı* (the Military Medicine Practice School and Hospital) (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 238). With the outbreak of the Balkan Wars and subsequently, WWI, Gülhane ceased its educational mission entirely. Its professors, assistants, and interns worked solely to meet the medical needs of mobile army units. During the Balkan Wars, Gülhane professors Reşat Rıza and Mustafa, who were serving in mobile army units, prepared the first typhoid vaccine in Anatolia and facilitated the widespread distribution of the typhoid vaccine across the country (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 240-1).

Following the occupation of Istanbul on November 13, 1918, and the capture of Gülhane by French military forces, the French authorities demanded the evacuation of the hospital within three days after the occupation (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 243). Gülhane was moved to the Gümüşsuyu Military Hospital in Beşiktaş, Istanbul, where it would remain until 1923. Throughout the War of Independence (1919-1923), Gülhane continued to provide services by training doctors, and several went to Anatolia on their own volition (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 246).

After the conclusion of the war, in a modest ceremony on August 23, 1923, at the hospital in Gümüşsuyu, Gülhane was granted the title of *Gülhane Askeri Tıp Encümen-i Alisi* (the Gülhane Military Medical Supreme Council) by the Republic of Türkiye. Gülhane was registered as an institution under the Turkish Ministry of National Defense at the Brigade level, directed by a military physician Director-Chief Physician selected by the Health Department. This officer served in *seririyat* (clinic), where general military medicine was practiced, along with a school for the development of military medicine, and a medical academy for scientific research and publications ("SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi"). In 1923, the government of the TBMM (the Grand National Assembly of Türkiye issued a directive for Gülhane, requesting its relocation back to its original building in Sarayburnu in October of the same year (Ataç 86-7). Moreover, in the following year, 1924, another law was passed in TBMM, and civilian physicians were required to undergo a military medical internship and training,

ensuring that all medical students who completed their studies would also receive training at Gülhane (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 251).

4.3 Gülhane Military Medical Academy (GATA) Relocates to Ankara

In anticipation of Türkiye's potential participation in WWII, the Turkish government decided to relocate all military schools to Ankara, the capital of the Republic of Türkiye. In early 1941, the Ministry of National Defense discussed the construction of a new building with the undersecretary of the Turkish Ministry of Health at the time because, despite the addition of floors, the Gülhane building in Istanbul remained insufficient and continued to deteriorate despite repairs. The Turkish government tasked Bekir Çay, a highly trained architect/engineer who had received his education in Paris, to prepare a project for a new 300-bed hospital and medical training facility at Gülhane. A team of authorized personnel inspected the building in Istanbul and discovered that the area where Gülhane was located contained a large cistern from the Byzantine era, so it was subsequently designated as an archaeological site, hence requiring careful consideration in urban planning. For this reason, due to the inability to construct the hospital on that site, a change was made in the city plan to establish a maritime museum instead (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 276-7).

Following disagreements over constructing a new facility in a different location in Istanbul and the absence of a well-established medical centre similar to Gülhane in Ankara, it was decided to relocate Gülhane to Ankara. On July 21, 1941, all belongings, and personnel at the hospital were transferred from Istanbul to Ankara on a train consisting of 28 wagons. Unfortunately, during the unloading of the wagons upon arrival in Ankara, a fire broke out in a wagon containing a wooden crate wrapped in paper packaging. As a result, valuable specimens related to anatomy and pathology, including jars containing specimens, wax, and paraffin, melted, and solutions spilled, causing significant damage (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 278). Despite this accident, following the relocation of Gülhane to Cebeci Central Hospital in Ankara, the name of the hospital was changed to "Cebeci Gülhane Military Medical School" (SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi).

The Cebeci Central Hospital building lacked suitable lecture halls, laboratories, and outpatient clinic areas for medical education. As a first step, a classroom area was constructed next to the hospital's supply depots, and hygiene and biochemistry laboratories were established. The collaborative system between Cebeci Central Hospital and the former hospital management of Gülhane started to cause some complications due to both institutions' teaching staff and specialists dealing with the same issues in the same location. To rectify the confusion, the hospital located next to the Military Academy was reorganized with some specialists from Cebeci under the name 'Ankara Mevki Hospital.' As a result, both Gülhane and Cebeci hospitals retained their individual identities (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 278-9).

In the final year of World War II, on June 20, 1945, with Law No. 4761, it was decided to establish the Ankara Faculty of Medicine within the administration of Gülhane. During this period, it was agreed to utilize the buildings of Gülhane and the Ankara Numune Hospital until the medical faculty was completed according to the Jean Walter plan.[16] As a result, some clinics in Ankara Numune Hospital and Gülhane were academically affiliated with the Dean of the Ankara Faculty of Medicine. Although the General Staff demanded that selected professors prioritize their military duties, during that time, Prime Minister Rauf Orbay (1881-1964) asserted that military medical service would involve only a brief training after becoming a physician. Consequently, he issued a directive that those physicians transferred from Gülhane to Ankara Medical Faculty should be under the jurisdiction of the Turkish Ministry of Education (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 283).

The Ankara Faculty of Medicine was officially opened on October 19, 1945. Additionally, in 1947, the title of 'academy' was granted to Gülhane, highlighting its role as a medical faculty (Ataç 87). In 1948, a grand ceremony was held to celebrate the 50th anniversary of Gülhane, and it was attended by important protocol members, including President İsmet İnönü and party leaders. The event emphasized both the role of the medical faculty in Gülhane's establishment and the significance of the military physicians

[16] Jean Walter (1883-1957) was a French architect renowned for his work in public housing and hospital architecture and was also the architect of Ankara Medical Faculty.

it trained for the army (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 285).

Gülhane Military Medical Academy (GATA) was not only responsible for the education of military physicians but also for administration; it faced difficulties due to the increasing demands of the faculty, despite all expenses being covered by the Ministry of National Defense budget. The budget provided by the Ministry of Education was only sufficient to meet the needs of the Ankara Faculty of Medicine faculty members, causing administrative difficulties. Consequently, a commission comprising representatives from the Faculty Deanery, the Gülhane Command, the Ministry of National Defense, and the Ministry of Education was formed to examine the situation, leading to the preparation of Law No. 5985 on June 20, 1952, which proposed the separation of GATA from the Ankara Medical Faculty (Özbay, Türk Asker Hekimliği Tarihi ve Asker Hastaneleri, Cilt II 286-8).

Thereafter, in 1953, GATA left its current buildings to the Ankara Faculty of Medicine, and some of its surgical clinics remained at the Mevki Hospital, which was located near the Military Academy at that time. GATA then moved to the former school of reserve officers' building, which is now known as the current Headquarters of the Turkish Armed Forces in Ankara (Ataç 87). By the 1960s, GATA had outgrown its premises. Considering its contributions to the advancement of medical science in Türkiye, two laws were enacted in 1961. With Law No. 230 dated January 5, 1961, GATA was affiliated with the Universities Law, and with Law No. 231 dated the same day, a budget of 30 million TL was allocated for the construction of a new and modern building for it (SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi).

According to modern hospital management principles, the organization and staffing structure of GATA should have been considered as important as the construction of the new building. Taking examples from abroad into account, the organization and staffing were restructured. The foundation of the new academy building was laid in 1961, and it was completed in 1971. GATA moved to its new building in the Etlik neighborhood located in Keçiören district, Ankara on October 28, 1971 (SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi). At that time, GATA's staff consisted of 21 professors and 32 associate professors (Ataç 87).

In 1972, within the new campus of GATA, the Nursing Healthcare College and *Sağlık Okulu* (healthcare school) were opened. The Healthcare School was closed in 1978, and the Nursing Health College was renamed as the *Sağlık Meslek Yüksekokulu* (health vocational school). After 1992, this school continued its education as a Health Vocational School providing a two-year program (Ataç 87).

In 1974, the Radiotherapy Centre, equipped with a thirty-bed facility and its equipment, was established. Two years later, on April 7, 1976, Türkiye's first fully equipped Burn Treatment Centre building was inaugurated. Moreover, in 1980, GATA was the hospital where the first Percutaneous Coronary Angioplasty (PTCA) procedure was performed in Türkiye (SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi). A year later, on January 6, 1981, the Health Non-Commissioned Officer Preparation and Class School was established to provide more knowledgeable and experienced health and medical support to the Turkish Armed Forces. Additionally, in 1985, the Nursing College was opened (Ataç 87).

With Law No. 2336, dated November 7, 1980, it was declared that GATA consisted of two parts: the Military Medical Faculty and the Training Hospital. It was stated that the institution, under the direction of the General Staff, would provide professional education, undergraduate and postgraduate education, and doctoral education, and serve as the highest advisory body for the health affairs of the Turkish Armed Forces (Ataç 87).

In 1982, the first Microsurgery Training and Research Centre in Türkiye was established at GATA, and the first sleep center opened within the psychiatry clinic in 1983 at GATA. In 1984, the first autologous and allogeneic bone marrow transplantation in Türkiye was performed at GATA. Just two years later, the first Nuclear Medicine Centre in Türkiye was inaugurated at GATA (SBÜ Gülhane Eğitim ve Araştırma Hastanesi, Hastane Tarihçesi).

In 1985, following the acceptance of Istanbul Haydarpaşa Military Hospital as a training hospital affiliated with Gülhane, Gülhane Military Medical Academy, along with its other units in Gülhane, remained as a military commandery until the coup attempt occurred on July 15, 2016 (Ataç 88). After 2016, Haydarpaşa Military Hospital, whose

administration was separated from GATA, became affiliated with the Ministry of Health as Haydarpaşa Sultan Abdülhamid Training and Research Hospital, whereas GATA was affiliated with the Health Sciences University (SBÜ) and demilitarized as *Gülhane Eğitim ve Araştırma Hastanesi* (Gülhane Research and Training Hospital) (Sabah, GATA'nın ismi değişti).

Chapter 5:
The Gülhane Collection: Past and Present

5.1 The History of the Gülhane Medical History Museum

Following the establishment of GATA in 1980, various departments installed display cabinets for objects of historical significance. However, in 1987, a plan to consolidate these cabinets emerged. This initiative marked the beginning of the process to centralize the collection and create a dedicated exhibition area. After two years of intensive collection efforts, combined with the historical objects listed in the fixed asset registry, Prof. Dr. İlter Uzel, a professor in the Department of Odontology at the GATA Institute of Health Sciences and the head of the Department of History of Medicine and Deontology and Adnan Ataç, a doctoral student in the same department with a prior specialization in Pharmacology and Toxicology at GATA, proposed transferring the items to establish a museum in a hall near the Department of History of Medicine and Deontology, adjacent to the GATA Rectorate Building. The exhibition area was delineated with a sign reading 'MÜZE' (museum), which hung above the entrance door and was inaugurated on March 14, 1988 (Figure 5.1). The Gülhane Museum initially opened and began operations as a museum through self-proclamation. However, it still operates under this self-proclaimed status and has not yet received official museum recognition from the Turkish Ministry of Culture and Tourism (TMoCT).

Figure 5.1: The entrance to the exhibition hall and the 'MÜZE' (museum) sign above. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.2: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.3: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.4: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.5: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.6: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.7: The display cabinets from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

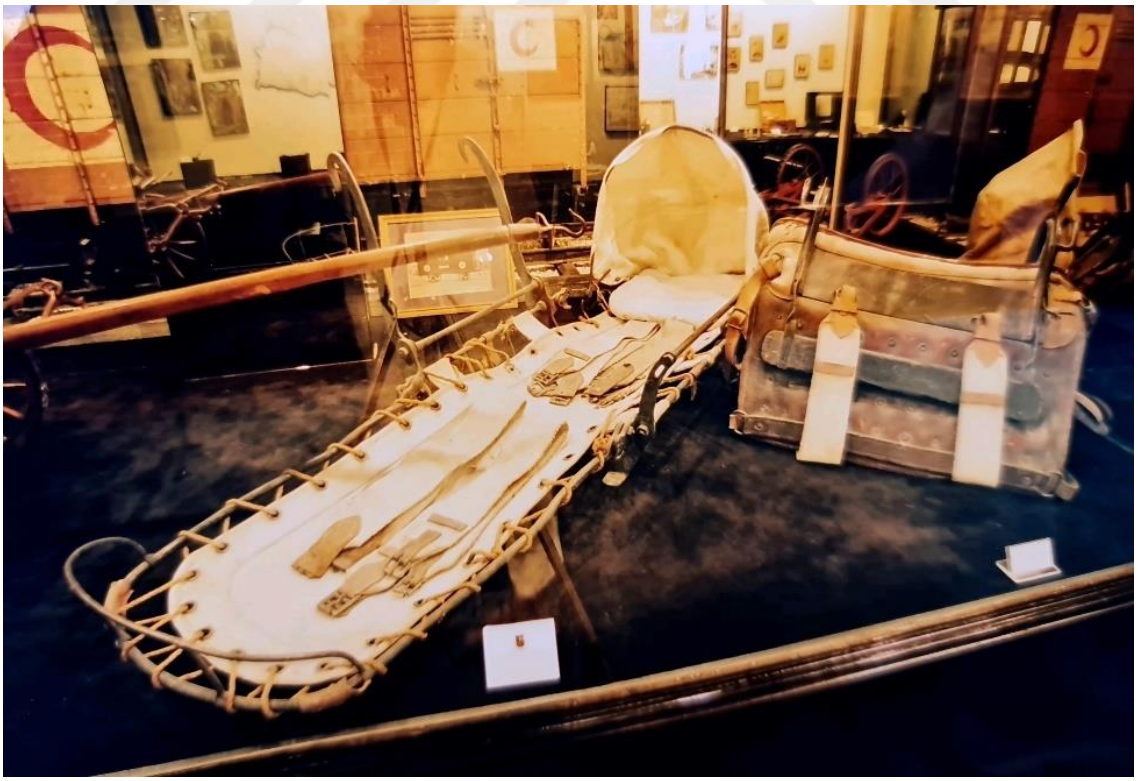

Figure 5.8: The saddle-mounted stretcher used by the Turkish Red Crescent. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.9: The dental set gifted by Emperor Wilhelm II of Prussia during his visit to Istanbul. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

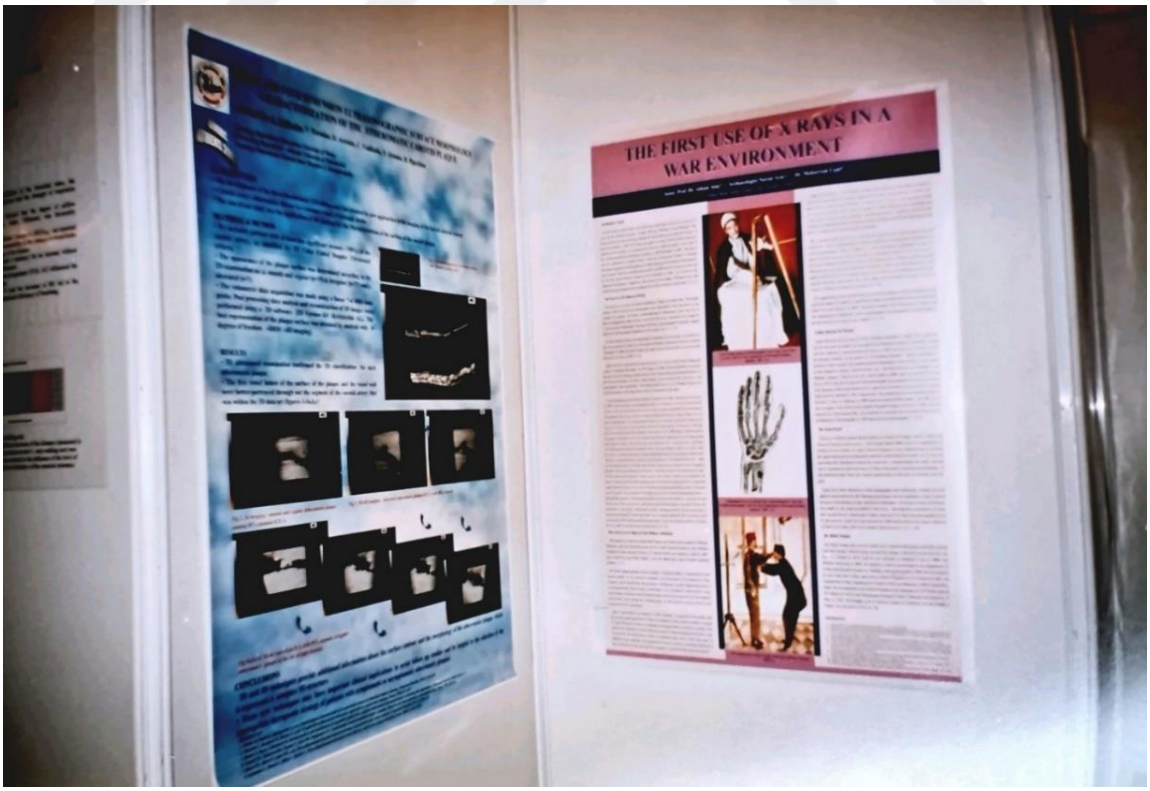

Figure 5.10: Descriptive plates in English from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.11: Descriptive plates in English from the first exhibition. Gülhane Medical History Museum, 1990s. From the Gülhane Medical History Museum Archive.

The museum hall was located next to the main entrance of the rectorate building and down the stairs in a small square (Figure 5.12). In 1998, as part of Gülhane's 100th anniversary celebrations, brass plates with the names of military medical personnel who died in armed conflicts were hung under the sign *Şehit Sağlık Subaylarımız* (Our Martyr Healthcare Officers) as part of the renovations of the courtyard outside the entrance to the museum space, creating a commemorative space (Figure 5.12, 5.13).

Figure 5.12: The entrance to the commemorative space in front of the exhibition hall. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.13: The memorial of 'Şehit Sağlık Subaylarımız' in front of the museum hall. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.14: The relief of healthcare workers and officers who served during wartime. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Additionally, a water tanker belonging to the Turkish Red Crescent, used during wartime to supply clean water to field hospitals, was placed near the museum entrance. After undergoing conservation work conducted by GATA personnel (Figure 5.15, 5.16), the water tanker was placed carefully in the square in front of the rectorate building adjacent to the museum (Figure 5.17, 5.18).

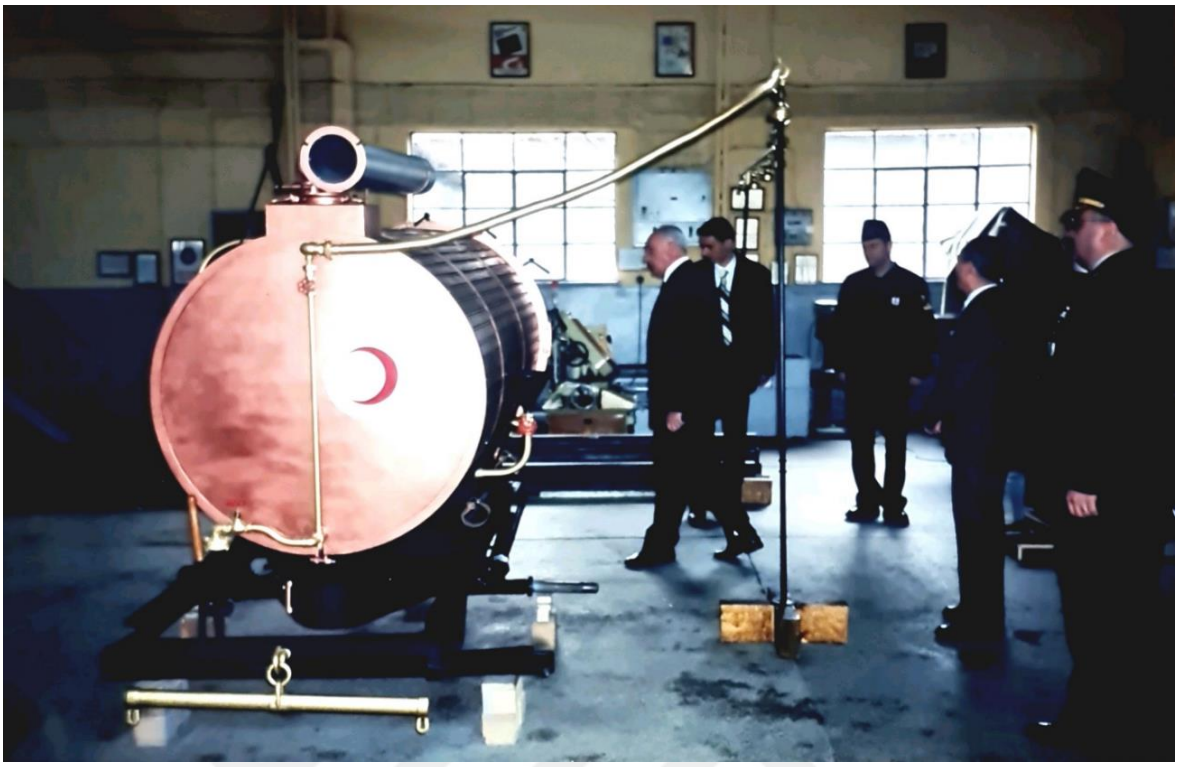

Figure 5.15: The conservation work supervised by the personnel of GATA Command. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.16: The conservation work supervised by the personnel of GATA Command. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.17: Installing the water tanker used by the Turkish Red Crescent, near the museum entrance. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.18: The installation of the water tanker used by the Turkish Red Crescent, near the museum entrance. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Furthermore, from the founding of the collection until the late 1990s, statues and sculptural relief artworks depicting military medical personnel, the Turkish Armed Forces on the battlefield, and the founder of the Turkish Republic, Atatürk, were erected near the entrance to the exhibition and in front of the rector's building (Figure 5.19, 5.20, 5.21, 5.22). One of these artworks, commissioned as part of Gülhane's 100th anniversary celebrations, was created by Metin Yurdanur (1951-present), a renowned sculptor who was awarded the title of 'State Artist of Türkiye' in 1998. It features the relief of Atatürk's face on one side with the words *İnsanlık, Saygı, Sevgi ve Hizmeti Paylaşmaktır* (Humanity is sharing love and service) (Figure 5.21) and *Anacağız, Anlayacağız, Anlatacağız* (We will remember, understand, and convey) on the other side (Figure 5.22). This relief was placed in front of the rector's building.

Figure 5.19: The installation of the commissioned artworks in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.20: The installation of the commissioned artworks in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.21: The double-sided relief created by artist Metin Yurdanur for Gülhane's 100th anniversary celebrations. GATA, 1990s. From the Gülhane Medical History Museum Archive.

Figure 5.22: The double-sided relief created by artist Metin Yurdanur in front of the rectorate building. GATA, 1990s. From the Gülhane Medical History Museum Archive.

As seen in the display cabinets and descriptive plates used in the exhibition hall, as well as the monuments and relief artworks located at the entrance of the exhibition hall, the curatorial approach during this period focused not only on military history and the history of medicine but also on Gülhane's more than 100-year history under the Turkish Armed Forces and its role as an institution training military medical personnel member. From the archival photos taken in the 1990s, we can see that the informative signs, prepared in both Turkish and English in simple and direct language, aim to attract not only GATA personnel or official envoys visiting from abroad but also local and foreign visitors from outside GATA.

At the end of the 2000s, as part of many renovations and additional spaces created to fill the needs across the campus, the exhibition hall next to the rector's building was removed in 2008. All the objects, along with the display cabinets, were moved to a hall within the one-story building of the Department of History of Medicine and Deontology (Figure 5.23). The water tanker belonging to the Turkish Red Crescent, which was

previously exhibited outside, continues to be displayed in a small glass room built next to the new building of the museum. Today, this exhibition space continues to exist with some curatorial changes; while the display cabinets remain the same, some of the objects on display have been changed.

In the following section, the objects on display and their exhibition are examined to better understand the museum and its curatorial approach currently, starting with the entrance of the museum building.

Figure 5.23: The building of the Department of History of Medicine and Deontology, in which the museum was relocated. GATA, 2000s. From the Gülhane Medical History Museum Archive.

Figure 5.24: The entrance to the Gülhane Medical History Museum and the Department of Medical History and Deontology, University of Health Sciences. Gülhane Research and Training Hospital, 2023. Photographed by İrem Alpay.

5.2 The Current Curatorial Approach for the Collection

To the left of the entrance of the building housing the collection, there is a stone sign from the period when the exhibition first opened, reading *Gülhane Tıp Tarihi Müzesi* (Gülhane Medical History Museum). The water tanker belonging to the Turkish Red Crescent, which was previously exhibited outside, is currently displayed in a small glass room next to the building. In 2023, the renewed sign hanging on the building includes the name of the museum along with the name and logo of the University of Health Sciences. Upon entering the building, on either side of the entrance, there are plaques with names of graduates from the GATA era. On the left side of the entrance room, there are glass display tables exhibiting an early Republic-era collection of Ulus newspapers, the mold and sample of Atatürk's upper dental prosthesis (Figure 2.25), and the original dental prosthesis of Türkiye's second president, İsmet İnönü. There is a glass display case containing items brought as gifts by local and foreign diplomats and official envoys to GATA personnel during their visits to Gülhane over the years.

Figure 5.25: The mold and sample upper dental prosthesis belonging to Atatürk. Gülhane Medical History Museum, Anadolu Agency, 14 April 2018.[17]

Before entering the main exhibition hall, on the left side, there is a glass case displaying a photo album belonging to Nuriyan Efendi, the vice president of the Central Committee of the Ottoman Red Crescent Society, which was established on April 14, 1877. The first page of the photo album displayed on the glass table features the individual pictures of the members of the *Membres du Comité Central du Croissant Rouge* (the Central Committee of the Red Crescent). The other sections of the photo album, as mentioned on the object label, include images of the mobile and stationary hospitals established by the Red Crescent Society during the Russo-Turkish War 1877-1878, as well as pictures of individuals and medical cases from that era, only the first page is opened for visitors to view.

[17] Source: https://cdnuploads.aa.com.tr/uploads/userFiles/caec1b32-8257-4f58-87b0-6657c62b92b3/New%20folder%20(2)%2Fgulhane4.jpg. (Accessed on May 14, 2024).

Figure 5.26: The photo album depicting the members of the Central Committee of the Red Crescent. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

At the entrance to the building, in the right corner, there is a dental reference display cabinet that illustrates the development of dental prosthetic technology. This display cabinet was gifted to Sultan Abdülhamid II by German Emperor Wilhelm II during his visit in 1898, which was also the year of the Gülhane Seririyat Hospital's opening. This wooden display cabinet, which also has a photograph from the museum's early period, is one of the important pieces in the museum. According to a statement given by Eray Yurdakul, the head of the Department of History of Medicine and Deontology, to Anadolu Agency in 2018, of the four display cabinets produced, three identical ones were destroyed during the world wars, making the one preserved at Gülhane the only remaining this type of object (Yener).

Figure 5.27: The dental reference set case, a gift from German Emperor Wilhelm II, displayed at the entrance of the exhibition hall. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Upon entering the exhibition area, it is possible to see unified display cabinets extending along four walls, reminiscent of old photographs from the Gülhane Medical History Museum, with three additional rows of similar display cabinets in the center. The exhibition begins with the display cabinet located along the wall facing the entrance. Although there is no specific exhibition route within the exhibit area and no separation between sections due to the glass displays, the objects exhibited in each section narrate different aspects of medical history. For this reason, the schematic plan shown in Figure 5-28 aims to illustrate both the locations of the aforementioned sections and to understand the entirety of the exhibition space.

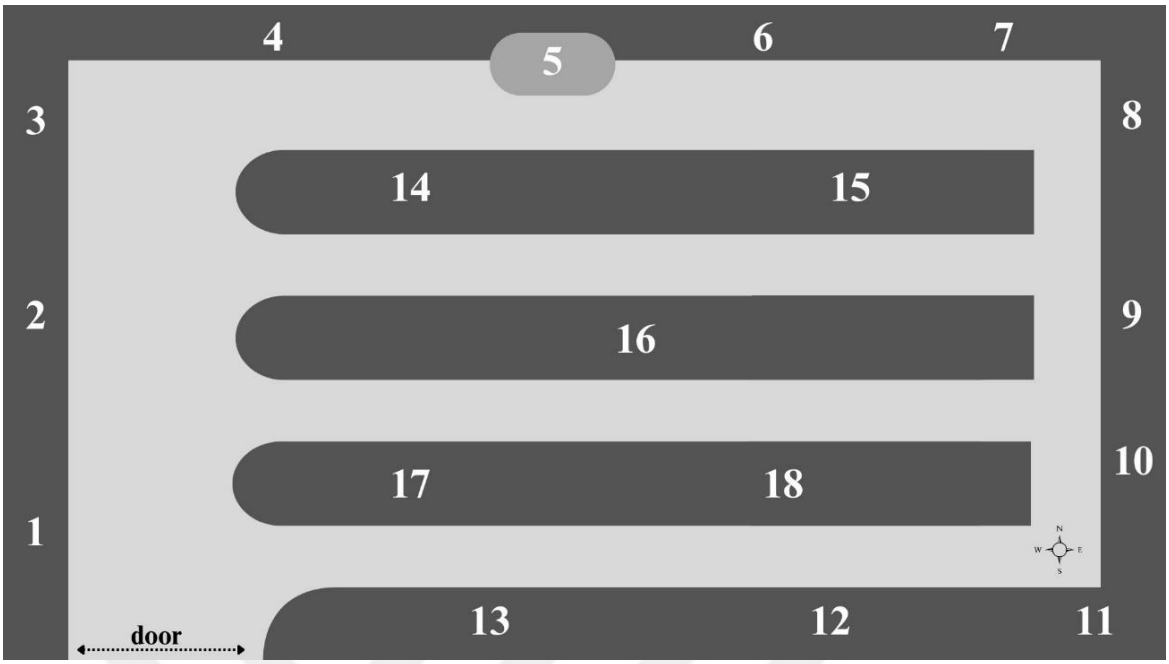

Figure 5.28: Schematic plan of the exhibition area at the Gülhane Medical History Museum. Created by İrem Alpay.

Section 1, which aims to present a chronological overview of the history of medicine, discusses the rise of medicine in Anatolia and its contributions to global medical knowledge. It covers prehistoric and ancient civilizations, featuring information about famous ancient physicians and medical centers like Hippocrates, the Asklepion in Pergamon, and Avicenna (İbn Sina). This section also highlights the oldest known Turkic medical text from the Uighur period and discusses historic hospitals, emphasizing the development of medicine in Anatolia.

Figure 5.29: The display cabinet featuring ancient medicine in Anatolia in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

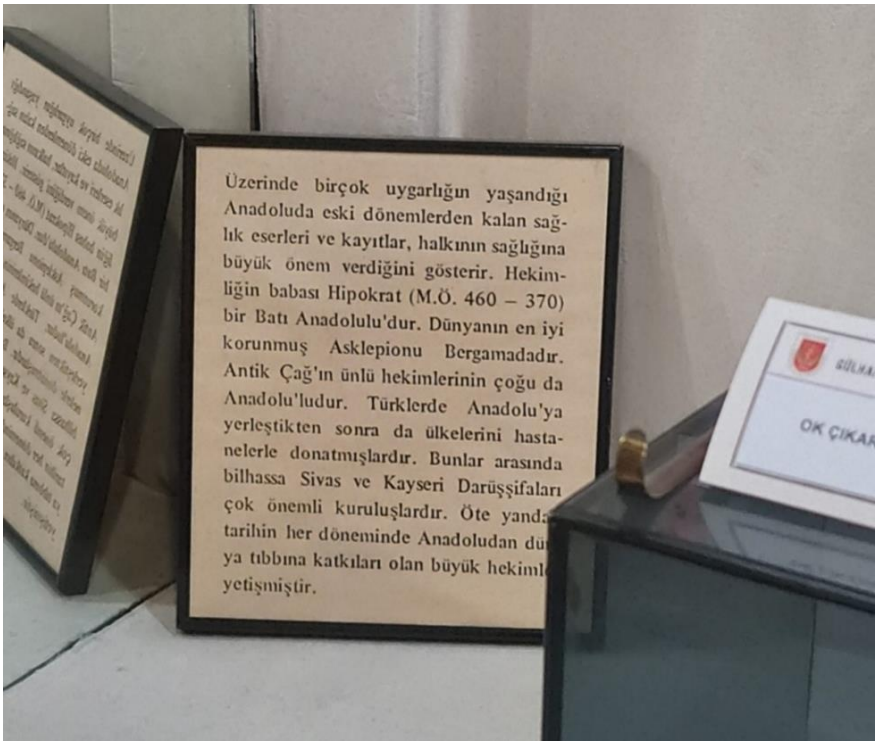

Figure 5.30 The informative label describing ancient medicine in Anatolia, located in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

This section, consisting of reproductions, features replicas of 15th-century surgical instruments, mortars used since ancient times, and copies of ancient Greek texts describing the medicinal uses of plants. Additionally, it includes reproduced images from archival documents at the Topkapı Palace as well as the Wellcome Collection. In the subsequent section, which focuses on ancient medicine, historical hospitals from the Islamic world (darüşşifas) are highlighted. The locations and construction dates of well-known healing places, along with darüşşifas, are marked on a large plastic casting map of Türkiye. This map also highlights the proximity of thermal water sources, which were historically used in healing places for various ailments, drawing attention to the long-standing medical traditions and practices of the region.

Figure 5.31: The display explaining darüşşifas and healing spaces in Anatolia, located in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

This display also features reproductions of Sabuncuoğlu Şerefeddin's manuscripts, *Cerrahiyetü'l-Haniyye*[18] and *Mücerrebname*[19], footnote what these are alongside colorful photographs of various darüşşifas in Anatolia and a reproduction of the relief from the Çankırı Darüşşifa, which was gifted to the Gülhane Military Medical Academy. The display also features a graphical work depicting ancient medical instruments, illustrated by Prof. Dr. İlter Uzel, the co-founder of the museum, based on the visuals on Sabuncuoğlu Şerefeddin's manuscripts. Additional highlights include a visual from Sabuncuoğlu Şerefeddin's manuscript, a panoramic view of 17th-century Ankara, and reproductions of miniatures depicting three significant leaders who ruled the region alongside illustrations of medical plants.

Figure 5.32: The replicas of Sabuncuoğlu Şerefeddin's manuscripts exhibited in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

[18] Sabuncuoğlu Şerefeddin's manuscript, *Cerrahiyetü'l-Haniyye*, originally composed in 1465, was transcribed into text form by Prof. Dr. İlter Uzel, the former head of the Department of History of Medicine and Deontology and founder of the Gülhane Medical History Museum, in 1992.

[19] Sabuncuoğlu Şerefeddin's manuscript, *Mücerrebname*, originally composed in 1468, was transcribed into text form by Prof. Dr. İlter Uzel and his former PhD student, Kenan Süveren.

Adjacent to this section, as an introduction to modern medicine, Section 2 is a display dedicated to the impact of the 15th-century Renaissance developments related to the sciences of medicine and anatomy. This exhibit features original medical instruments, examination and surgical sets from the 19th and early 20th centuries, alongside anatomy books in French and other medical books in Ottoman Turkish such as *İlm-i Hayvanat-ı Tıbbiye ve Ziraiye* (Science of Medical and Agricultural Zoology) and *Kalp ve Eviye Emrazı* (Diseases of the Heart and Abdomen) by Dr. Neşet Ömer, printed by the Military Medical School Press in the Ottoman Empire. Additionally, it includes an original anonymous charcoal drawing depicting Sultan Abdülmecid during his visit to the *Mekteb-i Tıbbiye-i Adliye-i Şahane*, (The Imperial School of Medicine), which was a gift to the chief physician Abdulhak Efendi, as well as oil paintings illustrating the attire of the chief physicians. This exhibit also discusses the significance of the chief physician's role from the 15th century, during the reign of Çelebi Mehmet, the Chief Physician named Şeyhi, and his importance in maintaining the health of soldiers in the Ottoman army during subsequent warfare. Continuing, the next section discusses the health services within the Ottoman army and the measures taken against epidemic diseases starting from the first quarter of the 19th century.

Figure 5.33: The display about modern medicine and medicine in Europe in Section 2. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.34: The book 'Excellent Guide to French Actions, Part 2: Non-Standard Actions', titled by Bitti Ben Rubi and published in the 1910-12 edition, displayed in Section 1. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

This section of the exhibition deals with the establishment of the Medical School, originally known as *Tıphane*, founded on March 14, 1827, during the reign of Sultan Mahmud II and under the chief physician Mustafa Behçet Efendi (1774-1834) (Sarı, Behçet Mustafa Efendi). It features original documents from the medical school spanning from its inception until 1908, including medical books, diplomas from the military medical school, photographs and photo albums, logo-embellished dinnerware sets, a medicine box, ceremonial attire of a military medical student, and signed documents from the Red Crescent Society. After the end of Section 2, the exhibit presents a curated collection of objects and documents that highlight the history of Gülhane, forming Section 3.

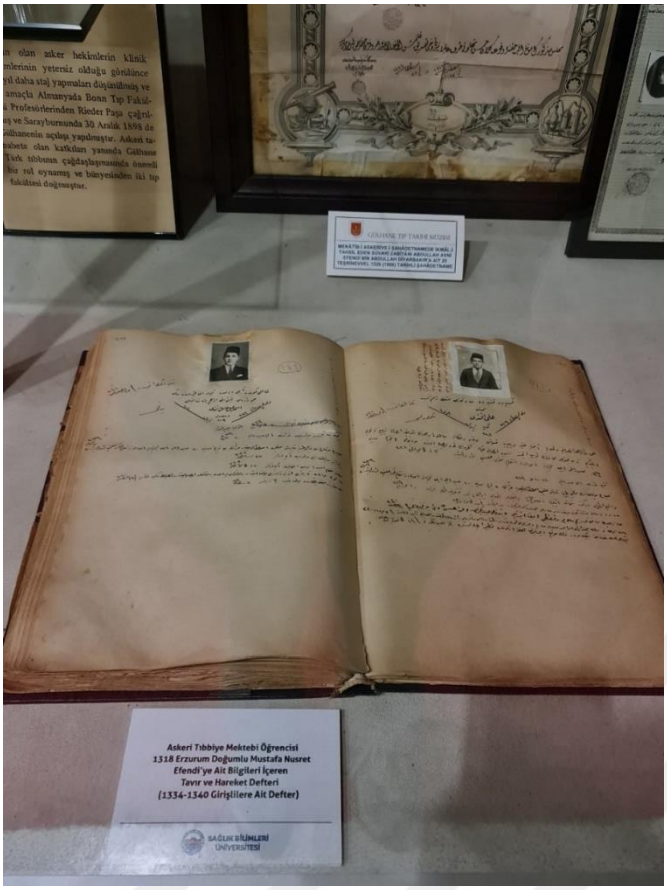

Figure 5.35: The notebook containing information on the attitudes and behaviors of the Military Medical School Students between 1918-1922. The Gülhane Medical History Museum, 2023. Photographed By İrem Alpay.

Figure 5.36: A military diploma from 1908 belonging to the cavalry officer Abdullah Avni Efendi. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.37: The informative label about the 19th-century health services in the Ottoman army, along with the medical education books and a photo album of the Mekteb-i Tıbbiye-i Adliye-i Şahane. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

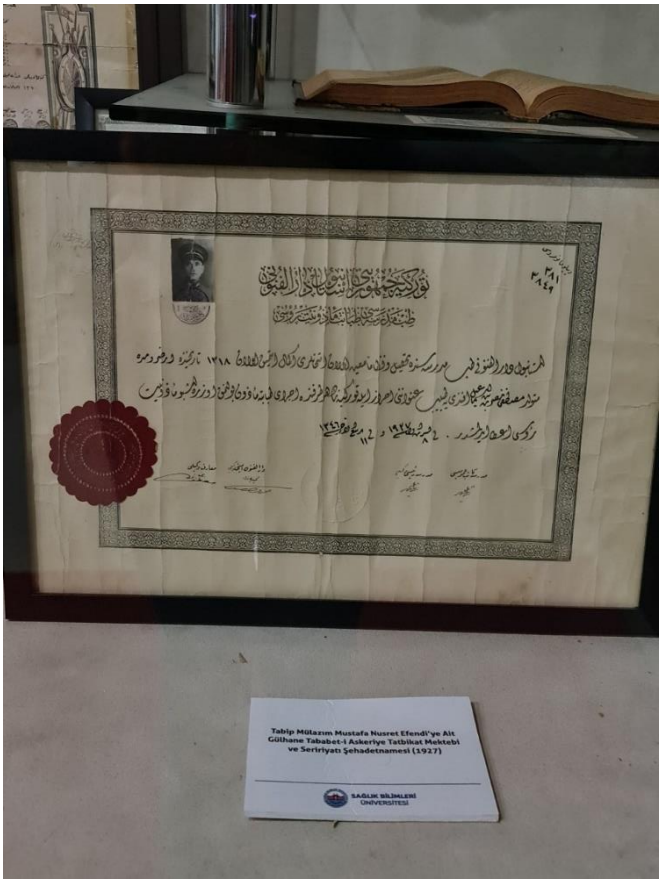

Figure 5.38: 1927 A diploma from the Gülhane Tatbikat-ı Askeriye Mektebi ve Seririyatı, belonging to the assistant surgeon Mustafa Nusret Efendi. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.39: A certificate of appreciation given by the Iranian Red Crescent Society to the Turkish Red Crescent Society, displayed in front of the 1918 Military Medical School student ceremonial attire. Gülhane Medical History Museum. Photographed By İrem Alpay.

Among the notable items in this part of the collection are the photographs of Gülhane founders Robert Rieder and Georg Deycke, alongside an Ottoman professorship certificate awarded to George Deycke by the Ottoman government. Additional highlights include photographs and drawings from the era of the Gülhane Şeririyat Hospital, a diploma from the Military Medical Academy written in both French and Ottoman Turkish, diplomas and documents issued to the manufacturers within Gülhane, a handwritten ledger containing information about Military Medical Academy students, a 1927 diploma from the Gülhane Military Medical Practice School and Surgical Department, and a photo album containing images of Gülhane from the early 1900s. This section also displays photographs from the 1970s of the Gülhane Medical Academy, a ceremonial uniform belonging to military physician Tevfik Belger complete with epaulettes and sword, additional military uniforms, a photograph of Theobald Selling who served as the director of the Gülhane Seririyat Hospital between 1915-1918, medicines wrapped in paper, bandages, and period medical devices such as a portable alcohol stove used for medical purposes.

Figure 5.40: The display featuring the Gülhane Hospital and Imperial Medical School diplomas, along with photos of Gülhane's founding professors, medical school students. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

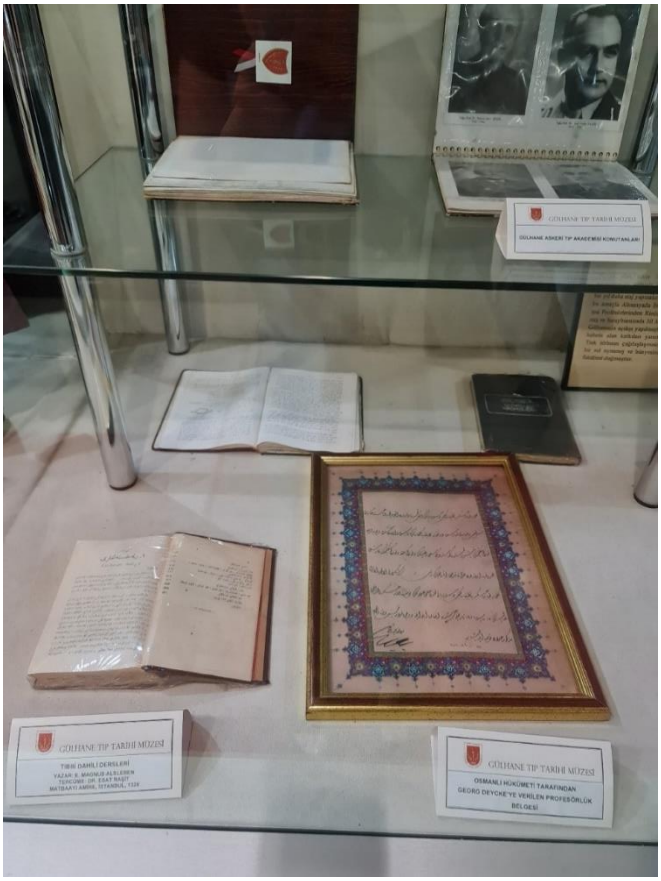

Figure 5.41: The display featuring the professorship certificate awarded to Georg Deycke by the Ottoman government, and the book 'Medical Internal Lessons' translated from German into Ottoman Turkish by E. Magnus-Alsleben. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.42: The display featuring photographs and documents from the foundation period of the Gülhane Hospital, through its relocation to Ankara. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.43: A ceremonial jacket belonging to the military surgeon Brigadier General Hasan Tevfik Belger, with a photo of Prof. Dr. Theobald Selling, who was the director of Gülhane from 1915 to 1918. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Section 4 focuses on the era of WWI and features objects used during the battles, including medicine boxes employed in the war zones. Prominently displayed are a photograph of Dr. Hüsnü Paşa alongside Mustafa Kemal Paşa at the Battle of Çanakkale and Hüsnü Paşa's awards, all displayed in their original boxes: the First-Class Mecidi Order, the Second-Class Mecidi Order, the Second-Class Iron Cross, and the Second-Class Mecidi Sun. The exhibition continues with the artifacts from WWI, including two silver Merit Medals and three Independence War Medals awarded to those who served behind the front lines, a War Medal, the Red Cross 50th Anniversary Medal, the Ottoman Red Crescent Society Medal, and the Red Crescent 100th Anniversary Medal. Additionally, an original photo album donated by the family of retired Colonel Doctor İbrahim Rıza Ülman is on display, along with the Korean War Service Medal, a military recruitment examination box, first aid and treatment kits, and various military health record books written in both Ottoman Turkish and modern Turkish. These objects are complemented by photographs and images displayed on the walls, illustrating health services during wartime across different time periods.

Figure 5.44: Some tools used in the field hospitals during the Gallipoli Campaign and WWI. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.45: Some medals from the Gallipoli Campaign and the War of Independence displayed in Section 4. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.46: The display featuring Independence War Medals, War Orders, and first aid boxes used during the war, along with a photo album of military medical students. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.47: The display of war medals displayed alongside photographs showing medical practices from WWI and the War of Independence era, and first aid tools used during those times. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Exhibited in the smaller display cabinet are mid-20th-century military medical tools, including a field surgical lamp, a Bunsen burner, an alcohol stove, a pulverizer, a needle sterilization device, and a portable precision scale. Following this, an orthopedic stretcher used during wartime is prominently placed in front of one of the display cabinets. The exhibit continues with Section 6, 20th-century military medical tools and medicine cabinets, displaying surgical scissors, hernia belts, masks, and original photographs from the early Republican period. Also featured are a military hospital committee ledger and various surgical and operation kits housed in boxes, which were in the Turkish Armed Forces inventory and used between 1940 and 1960.

Figure 5.48: Tools used for military medicine in the mid-20th century, displayed in a glass cabinet in Section 5. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.49: World Wars-era medical tools, medicine cabinets, and medications displayed in Section 6. Gülhane Medical History Museum. Photographed by İrem Alpay.

In Section 7, several personal collections from physicians who once served at Gülhane are displayed, e.g., surgical tools and instruments used by doctors specializing in various medical fields. Featured are needle sets, ear drainage tubes and syringes, an otoscope, glass and adjustable injectors, finger saws, catheters, a duodenoscope, forceps, a refractometer, razors, and a cystoscope, and several other technical tools. Accompanying these items are labels merely displaying their names and wall-mounted visuals of patients treated at the Gülhane Hospital in the early 1900s, along with miniatures painted by the co-founder of the museum, Prof. Dr. İlter Uzel which are

inspired by Antiquity. Adjacent to Section 7, the ophthalmology-related Section 8 exhibits field tools used in anesthesia, glass medicine tubes, a tonometer, a portable eye examination kit, a blepharoscope, binoculars, and tear bottles, complemented by a miniature depicting the treatment methods of the 15th-century ophthalmologist Kehlal, also by Prof. Dr. İlter Uzel. Information about which specialist doctor or their relative donated some of the instruments displayed here can also be found on the object labels.

Figure 5.50: Various medical tools donated by the Gülhane doctors displayed in Section 7. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.51: The display featuring modern ophthalmology tools, complemented by an antiquity-inspired image of a 15th century miniature depicting ophthalmologist Kehlal created by Prof. Dr. İlter Uzel in Section 8. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

In Section 9, featuring laboratory equipment and devices used for anesthesia, visitors can see items ranging from local anesthesia bottles used from the 1930s to the 1945s, a rectoscope, a barograph aspirator device, a military field anesthesia kit, and various glass measuring cups and beakers. Also on display are a blood analysis kit for field use, a Müller 160 KV X-ray tube made of glass and wood, and a handheld

spectroscope. Section 10 is dedicated to orthopedics; visitors can find mid-20th-century orthopedic surgical tools and operation sets, prosthetics made of metal and wood used for arms and legs, a keratometer, bone drills, and splints. Prominently featured is a prosthetic right leg that belonged to Gazi Hasan Ali Yurtseven, a veteran of WWI, donated by his grandson, as noted in the label in the display cabinet. Section 11 is for the medical instruments used for obstetrics and gynecological procedures, including those used to perform abortions. Aside from a few object labels that specify the names of the instruments, no information is provided in this section that explicitly indicates its association with obstetrics or abortion.

Figure 5.52: Some laboratory equipment and devices used for anesthesia featured in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.53: Anesthesia devices used in military medicine, spirit stoves, and a barograph in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.54: Surgical instruments used in operations, catheters, syringes, and treatment sets displayed in Section 9. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.55: The prosthetic leg used by Gazi Hasan Ali Yurtseven (1918-1966), donated by his grandson, Doğan Yurtseven. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.56: The display featuring various orthopedic surgical, treatment tools, and prosthetics in Section 10. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.57: Section 11 displaying medical tools used in obstetrics, gynecology, and abortion kits. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Adjacent to Section 11, Section 12 is an array of artifacts associated with nursing. This includes uniforms worn by nurses in different eras, books, conference papers, academic journals, documents, treatment trays, and medical kits. Additionally, this section features photographs of graduates from Türkiye's first nursing school, the Red Crescent Nursing School, class of 1927. Accompanying these objects is a reproduction of a photograph from April 4, 1900, taken by Dr. Rıfat Osman, which features hospital nurses who served during the early years of Gülhane Hospital, displayed on the wall.

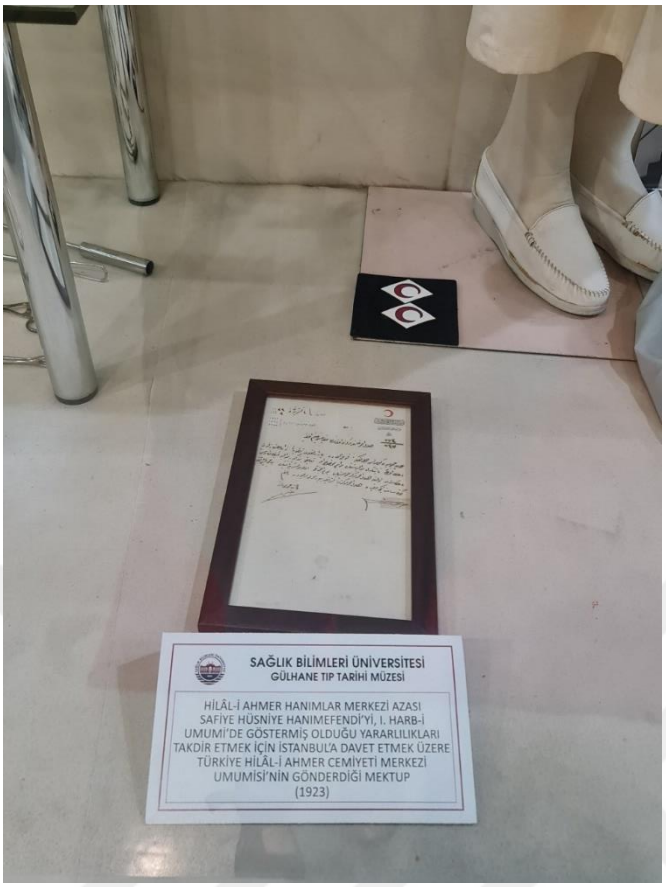

Figure 5.58: The letter sent in 1923 from the Red Crescent Society headquarters to Safiye Hüsniye Hanımefendi, a member of the Red Crescent Ladies' Centre displayed in Section 11. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.59: Section 11 display, presenting objects related to nursing. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Adjacent to Section 11, is Section 12, which is dedicated to dental diseases and the tools and treatments used in dental examinations. This part of the exhibit aims to create a narrative about dental care, featuring a dental examination chair and tool unit that was used by the Turkish Armed Forces and donated to the museum after refurbishment. Also on display are various dental tools, dental molds, boxes of silicone materials used in procedures, and sets of dental samples made from real teeth. While there is no label explaining the specific use and authenticity of the real teeth, information is available about a dental toolset used by a colonel doctor who practiced plastic and reconstructive surgery at the Gülhane Medical Academy. To support the narrative, the image of the relief of Hesi-Re, believed to be the earliest known dentist from around 3000 BCE, and visuals related to dental treatments from the manuscripts of Sabuncuoğlu Şerefeddin are reproduced and displayed on the wall.

Figure 5.60: Section 12 featuring modern dental tools, a dentist's chair, and dental molds, complemented by images of Hesi-Re, the earliest known dentist, dental treatments by Sabuncuoğlu Şerefeddin, and dental care during wartime. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

The remaining sections of the display cabinet along the wall are devoted to pharmaceutical objects. This part of the exhibit features a vast array of medicine boxes, bottles, and glass ampoules—both imported and domestically produced—and used throughout the 20th century. Also included are measuring cups, precision scales, and tare weights. Enhancing this section are reproduced visuals displayed on the walls, depicting drug production in *darüşşifa* complexes, an image of Louis Pasteur working in his laboratory, and a visual of a caffeine ampule preparation box produced in the early 20th century at the Gülhane Şeririyat Hospital's Military Medical Material Manufacturing facility called *Malzeme-i Sıhhiye-i Askeriye İmalathanesi*. Additionally, this area displays serums used in field hospitals, several of which are marked as military property, large storage containers, imported medicine bottles and boxes from the Red Crescent Society monopoly, bottles labeled in Ottoman from 19th-century pharmacies, and various bottles used for pest control in field hospitals. Notably, the medicine bottles show signs of color changes and decay due to exposure to air and the passage of time.

Figure 5.61: The display in Section 13 featuring various pharmaceuticals and measuring vessels. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.62: The display of imported medicine boxes from the 20th century, donated by biochemistry expert Colonel Zafer Aksu. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.63: The display featuring medicine boxes and bottles with precision scales used in drug manufacturing in Section 13. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.64: Various medicine bottles and glass serums featured in the last part of Section 13, Gülhane Medical History Museum. 2023. Photographed by İrem Alpay.

In the central part among the display cabinets, Section 14 houses various items used in field hospitals, including a shelf with portable alcohol stoves, an oxymetre, urethrovanduz catheter, oxygen cylinders, blood pressure devices, an imported field military medicine kit, microscopes, and surgical sets. Within the same display, Section 15 contains thirty-five pathology specimens related to different limbs and internal organs. Apart from the faded labels that identify the locations and diseases of the limbs on some specimens, the only label for these pathology samples contains biographical information about Hamdi Suat Aknar[20], highlighting the solution he developed that was used with these specimens.

[20] Graduate of the Imperial School of Medicine in 1899, the first Turkish member of the German Society for Pathology, and the inventor of "Hamdi's Solution" used in the pathology samples displayed.

Figure 5.65: Section 14 featuring various medical sets and tools used in field hospitals. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Alongside the informative label that the solution is named *Hamdi'nin Eriyiği* (Hamdi's Solution) and was the invention of Hamdi Suat Aknar, it is also noted that he worked in the Pathological Anatomy Laboratory called *Teşrih-i Marazi* at the Gülhane Practice Hospital as a graduate of the Imperial Medical School (*Mekteb-i Tıbbiye-i Şahane*), and after further training in Germany, he continued his work at Gülhane. After the integration with the Civil Medical School, Hamdi Suat Aknar founded the pathology department at the Haydarpaşa Military Medical Faculty, where he taught anatomy. From 1909, he taught at the *Darülfünun* Medical Faculty, and during the subsequent Balkan Wars and the Caucasian Front, he also served as a field doctor for the Red Crescent and the army. Additionally, his academic achievements are highlighted, up until his death in 1936, in the informative label, including his proficiency in multiple languages, his distinction of being the first Turkish member of the German Pathology Society, and the first Turkish doctor to appoint a female assistant physician to his chair. He is also credited with founding the Cancer Research and Combat Society (*Kanser Mücadele ve Taharri Cemiyeti*). Alongside this detailed biographical information about Hamdi Suat Aknar, it

is unknown when or by whom the pathology specimens were collected or created. The only available information about the samples provided by the administration is that they were produced not by Hamdi Suat Aknar himself, but by his students, a detail not mentioned in the exhibition. According to the administration, these specimens were transferred to the Gülhane Medical History Museum from the Ankara Numune Hospital in the mid-2000s due to space limitations.

Figure 5.66: The display of Section 15 from the northern side, featuring pathology specimens made with Hamdi's solution. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.67: The display of Section 15 from the southern side, featuring pathology specimens made with Hamdi's solution. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

There is a smaller reproduction of a patient transport wagon with the Red Crescent logo in the second display cabinet located in the center, originally gifted by the Krupp company to Gülhane in 1914, accompanied by an original black and white photograph of the wagon. Additionally, this case includes objects such as metal flasks and water carriers used in field hospitals and a panoramic photo of Mustafa Kemal Pasha at the Çanakkale front. Alongside these, the display features other items like axes, rifles, weapons, and military helmets. Notably, a stretcher that attaches to a saddle, recognizable from old photographs of the museum, is also displayed next to the wagon as one of the two major highlights of the case.

Figure 5.68: A smaller-size reproduction of a patient transport wagon with the Turkish the Red Crescent emblem in Section 16 from the southern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.69: A smaller-size reproduction of a patient transport wagon with the Turkish Red Crescent emblem in Section 16 from the northern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.70: The saddle-mounted stretcher placed in Section 16, with the pathology specimens in Section 15 visible in the background. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

In the last display cabinet, located closest to the entrance, there are diverse objects from doctors who served at Gülhane, including injectors, bain-marie pots, stoves and heaters used in field hospitals, an ozone air device, a chloropicrin device, a sterilizer, and larger objects such as a disinfection device produced in the military medical equipment factory called *Malzeme-i Sıhhiye-i Askeriye*. Alongside these is a marble bust of Hygeia, the goddess of health, gifted by the Red Cross in 1968, microscopes donated by pharmacists who served at Gülhane from different periods, and a panel titled "From Miasma to Microbe: A History of Asepsis-Antisepsis" consisting of various visuals. Adjacent to Section 17, Section 18 displays enameled bathtubs, tools related to cupping and scarification, and reproductions of relevant visuals from the manuscripts of Sabuncuoğlu Şerefeddin [21].

[21] Sabuncuoğlu Şerefeddin was a 15th-century physician who lived in Anatolia, known for his pioneering work, *Cerrahiyetü'l-Haniyye*, one of the earliest illustrated surgical manuals.

Figure 5.71: A panel titled "From Miasma to Microbe: A History of Asepsis-Antisepsis," displayed with various microscopes in Section 17, viewed from the southern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

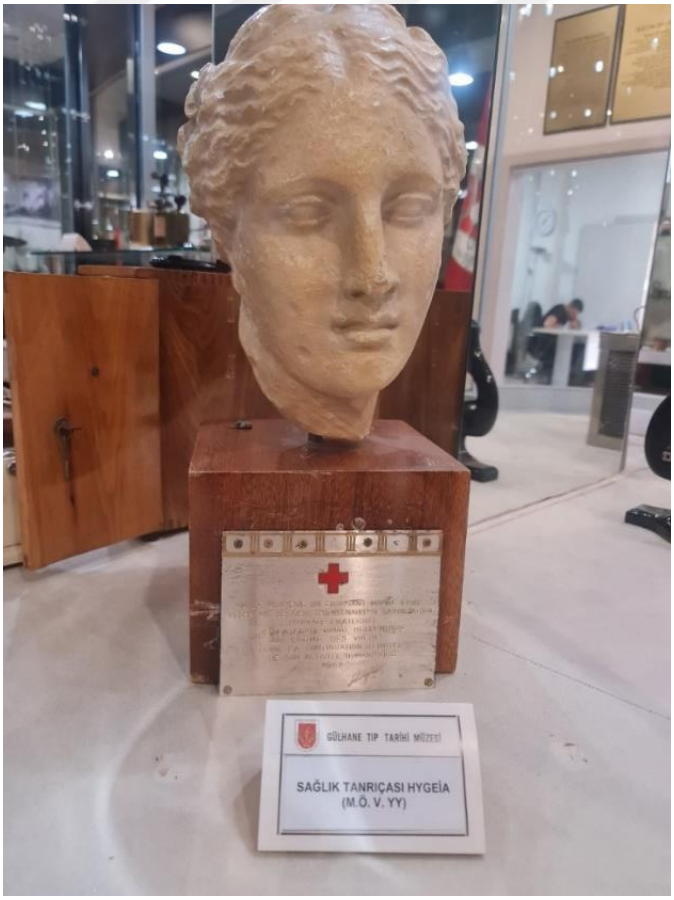

Figure 5.72: A marble bust of Hygeia gifted by the Red Cross in 1968, displayed in Section 17. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.73: The display in Section 18 featuring medical sets donated by Gülhane doctors from the northern side, with Section 13 visible in the background. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.74: The display in Section 18 featuring heating and sterilization pans, and field stoves from the northern side. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.75: Disinfection devices produced in the Military Medical Supply Factory, with a black-and-white photograph showing the factory. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 5.76: The view from the southern side of the display in Section 18, showing an enamel bathtub, cupping, and cautery tools. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

In summation, the Gülhane Medical History Collection aims to provide a comprehensive overview of the history of medicine, with a particular emphasis on military medicine, as reflected in the collection's focus on objects related to military medical history and military history. Furthermore, in the interview conducted on April 14, 2018, the head of the Department of History of Medicine and Deontology, Yurdakul, mentioned two main functions of the museum and its library. First, it serves to educate medical students from different universities about the history of medicine, hygiene, and health in the fight against infectious diseases by providing a chronological narrative dating from ancient Greece to the present day. Second, it provides researchers with primary source objects and artifacts that can be used as resources for research into the history of medicine (Yener). Therefore, based on insights from interviews as well as the integration of ancient medical practices and tools with modern medical instruments, it is evident that the Gülhane Medical History Collection aims to construct a narrative similar to that of many medical museums currently housed in repurposed *darüşşifas* throughout

Türkiye. Much like these medical museums, reproductions of historical objects are commonly used to provide context or to illustrate the usage of a particular object. Rather than focusing only on military medicine, the Gülhane Medical History Collection has attempted to present a chronological narrative of the history of medicine along with a history of the Gülhane Hospital itself.

Figure 5.77: The overall view of the exhibition space in Section 17, as seen from the entrance. Gülhane Medical History Museum, Anadolu Agency, 14 April 2018.[22]

5.3 Assessing the Gülhane Medical History Museum: Legal Status, Limitations, and Long-Term Plans

As previously noted, while the Gülhane Medical History Museum is commonly referred to as a 'museum,' its official status is that of a university collection. To date, it has not received formal museum accreditation from the TMoCT. The Department of History of Medicine and Deontology at Gülhane, as well as the University of Health

[22] *Source: https://www.aa.com.tr/uploads/userFiles/caec1b32-8257-4f58-87b0-6657c62b92b3/New%20folder%20(2)%2Fgulhane2.jpg*. (Accessed on May 14, 2024).

Sciences administration, asserted that they are in communication with the ministry to obtain private museum status for the collection. When I first went to examine the museum and its collection in July 2022, two officials from the *Kültür Varlıkları ve Müzeler Genel Müdürlüğü* (Directorate General of Cultural Heritage and Museums) also arrived to inspect the museum on the same day. It was discussed that, since it is not officially recognized as a museum, even having a 'museum' sign on the building is legally problematic. Moreover, it is stated that the museum hall, along with the building it occupies and its infrastructure, fails to meet the Ministry's requirements for legal recognition as a private museum. To assess the current state of the museum and identify the direction it should take in the future, it is important to provide some information about the requirements of the General Directorate of Cultural Heritage and Museums, as this is the administrative office of the government which is responsible for overseeing the operations of museums along with the TMoCT.

According to the TMoCT's Law No. 2863, dated 21/7/1983, on the Protection of Cultural and Natural Assets, the collection at the Gülhane Medical History Museum can be designated as movable cultural assets that must be preserved, as specified in Article 23. These assets are from historical periods relevant to the national struggle and the founding period of the Republic of Türkiye and are scientifically and culturally valuable documents and objects related to science, culture, and social life (T.C. Kültür ve Turizm Bakanlığı). As per Article 3, their exhibition, arrangement, use, and promotion must adhere to sustainability principles (T.C. Kültür ve Turizm Bakanlığı). In this context, under Article 26, titled *Museum, Private Museum, and Collecting*, ministries, public institutions and organizations, real and legal persons, and foundations can establish museums with collections consisting of various cultural assets, provided they obtain permission from the TMoCT to fulfill their service subjects and objectives (T.C. Kültür ve Turizm Bakanlığı). However, the establishment of these museums is contingent upon obtaining a permit from the TMoCT following an evaluation. These museums, established in compliance with the specified subject areas in the permit, can hold and exhibit movable cultural assets (T.C. Kültür ve Turizm Bakanlığı). Furthermore, as specified in the same article, museums are subject to regulations that define their founding purposes, duties, management styles, and conditions, as well as their supervision and control (T.C. Kültür ve Turizm Bakanlığı). The specific regulation that the Gülhane collection adheres to is

Regulation No. 18289, dated 22/01/1984, concerning private museums and their inspections.

The regulation mentioned above, which governs the establishment, duties, management, supervision, and operational conditions of private museums containing movable cultural assets under Law No. 2863, also sets forth the mandatory principles for existing private museums and public institutions wishing to establish such museums. In this context, according to Article 6, the building to be used as a museum must have:

a) An independent structure or a separate section,

b) Suitability for the display, storage, and group visits of existing cultural and natural assets,

c) Conditions conducive to the proper preservation of cultural and natural assets,

d) A workshop for the maintenance of cultural and natural assets, when necessary,

e) Facilities to accommodate visitors' inquiries, resting places, toilets, and other essential needs

f) Security measures against fire, sabotage, and theft (Özel Müzeler ve Denetimleri Hakkında Yönetmelik).

These requirements are essential for the establishment and operation of a museum under the specified regulation. Although there is a separate hall in the building of the Department of History of Medicine and Deontology that houses the Gülhane Medical History collection and is suitable for displaying the collection and accommodating group visits, unfortunately, the current building lacks a conservation laboratory as specified in item (d) and the rest areas or facilities necessary for meeting the essential needs of visitors as mentioned in item (e) (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). Additionally, no modifications have been made to the building's existing structure to protect the collection against natural and human-induced disasters and problems, as stated in item (f) (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). Considering the prohibition on holding and storing works outside the museum building as specified in item (b) and also mentioned in Article 14 of the same regulation, the current building

lacks a designated storage area (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). Consequently, the entire collection is stored within the museum hall, in the locked storage compartments placed beneath the display cabinets. This lack of space not only impedes the acquisition of the latest items for the museum but is also unsuitable for the preservation of items sensitive to temperature and humidity, such as pharmaceuticals and other liquids used for medical purposes. For this reason, Yurdakul, the head of the Department of History of Medicine and Deontology at Gülhane, has initiated discussions with the university administration and potential sponsoring companies, seeking a new building according to the regulations mentioned above. He has also consulted with architectural firms that could propose different building plans and alternative solutions. In addition to limitations related to the building and infrastructure, one of the most significant insufficiencies of the Gülhane collection is the lack of an inventory for the registration of artifacts, as required by Articles 9 and 10 of the regulations for private museums (Özel Müzeler ve Denetimleri Hakkında Yönetmelik).

5.3.1 Investigating Documentation Standards for the Museum Collection

The Gülhane Medical History Museum collection consists of items that were part of the fixed assets of the Gülhane Military Medical Academy. Therefore, records for most materials in the museum are actually kept digitally in a Microsoft Office Excel file at the Department of History of Medicine and Deontology. This file includes information, such as the contents of the numbered cabinets used for storage under the glass display cabinets in the museum hall, listing items just by the name of the object and quantity. Even though this digital record is helpful for classification purposes, unfortunately, it does not include records for all objects, both displayed and in storage. Moreover, this inventory record falls short of national standards, as well as international practices.

Under national standards, according to Article 9 under the ‘Inventory Records’, within the section of the *Regulation on Private Museums and Their Inspections* (18289), all items in a private museum must be recorded in an inventory book, which is approved by the Ministry and certified by a notary in two copies (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). The museum staff themselves must enter these records. Article 10 further specifies that all acquisitions for private museums must be duly recorded in both inventory books within thirty days, following the consecutive order number of the

entries (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). These blue fabric-covered books are provided to museums by the Ministry, complete with empty templates inside for filling these out. This template starts with the museum's name and a color photograph of the artifact, printed and affixed as specified in the template. It continues with fields that need to be filled out, including the inventory number, excavation number (if the item was excavated), the artifact's name and type, location found, era, dimensions, the date it arrived at the museum, how it was acquired, photo number, its location within the museum, where it has been published, and a description of the item.

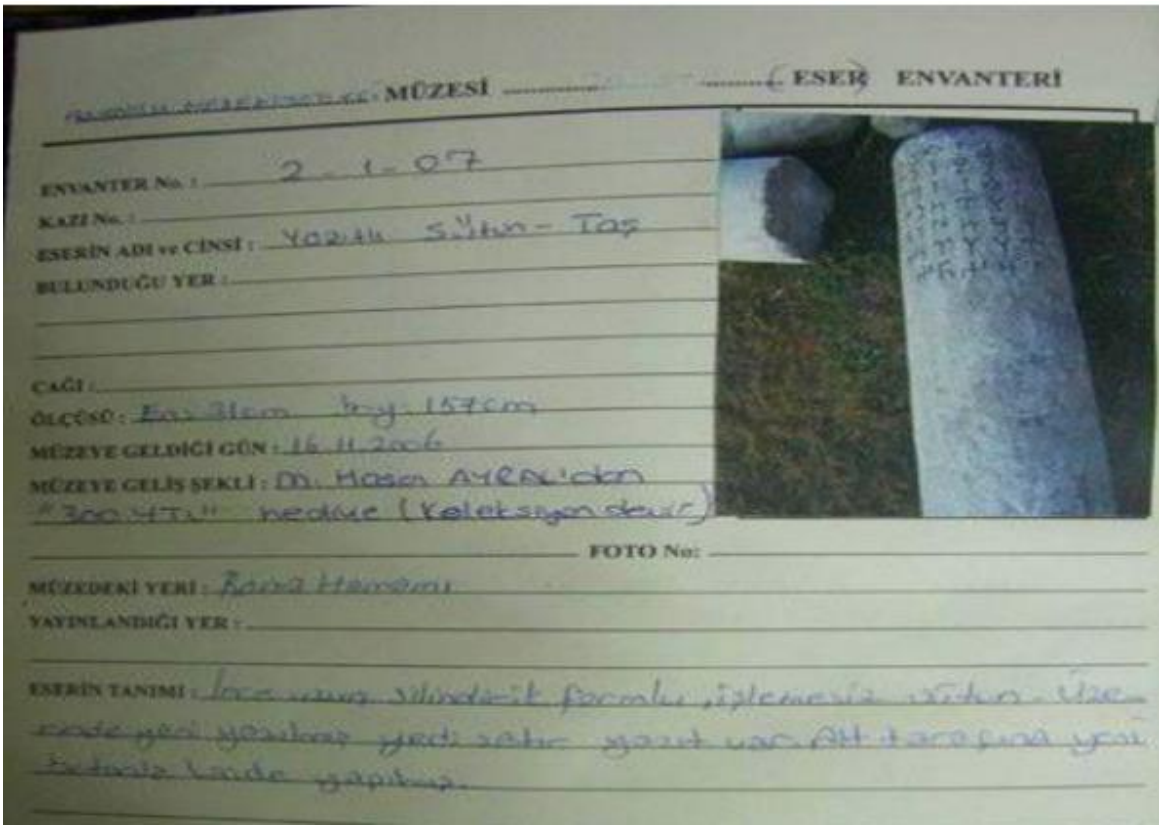

Figure 5.78 A page from the inventory book of the Museum of Anatolian Civilizations. TBMM Milli Saraylar Obje Sayım, Deneyim ve Güvenlik Sistemi, by Rüstem Coşkun, MA Thesis, Istanbul University 2019, p. 7.

Although these books were previously provided by the ministry for inventory entries at the Gülhane Medical History Museum, no inventory entries have been made for any objects or documents in the museum. Consequently, individual inventory numbers have not been assigned to the objects, and no photographic or visual records have been created for the inventory of any items in the collection.

Figure 5.79 Some unregistered and unorganized documents found in the storage cabinet below the display cabinets. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

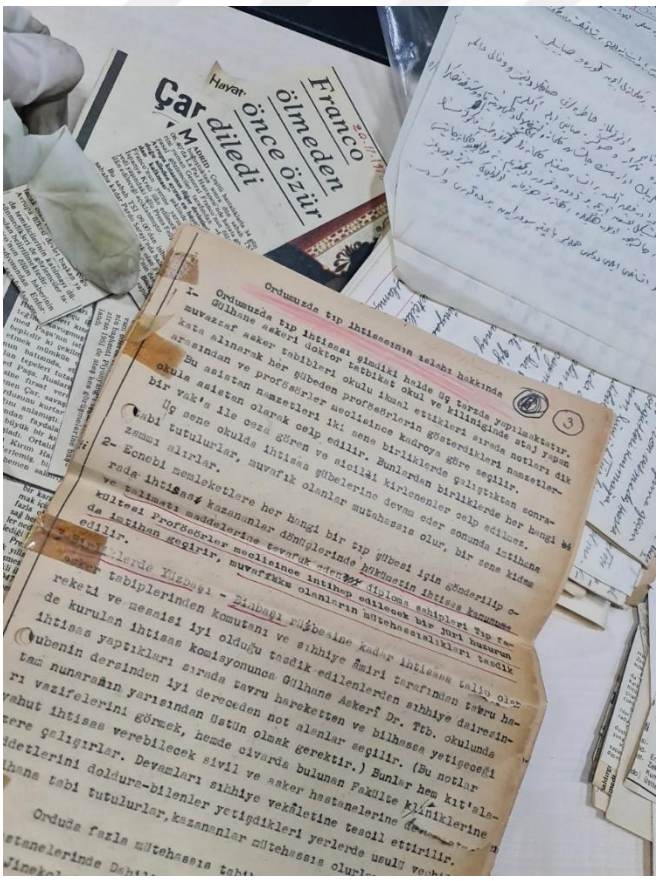

Figure 5.80 Some unregistered and unorganized documents found in the storage units below the display cabinets. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Creating an inventory record for the Gülhane Medical History Museum collection is the key step towards attaining private museum status under national standards. However, the most fundamental activities of museums are not only to collect artifacts but also to produce and provide information about them to share with the public. Therefore, while inventory records of museum collections are necessary and useful for museum management and regulatory oversight, documentation work in a museum also encompasses the object-based research needed to generate information, organize knowledge by establishing connections between objects, and ensure the produced information is preserved and accessible (Özel Müzeler ve Denetimleri Hakkında Yönetmelik). Thanks to the information generated through documentation, exhibitions, and publications, educational programs can be created, allowing knowledge to be shared directly with the museum audience (Ayaokur 31-2). Therefore, to better understand the Gülhane Medical History Collection and to lay the groundwork for future documentation efforts when it becomes a museum, I initiated a small inventory project with the guidance of Enver Gönülbağı, the medical technician responsible for the museum to identify and assess the conditions of the objects in storage.

Before explaining the project, it is necessary to explain why I started this project by focusing on the objects in the storage cabinets, both to clarify the purpose of the work and to explain the rationale behind it. First, actively intervening in the exhibition area would not have been appropriate regarding the museum's operations. At the same time, the museum management has also acknowledged deficiencies in the recording of materials stored in the depot. Secondly, each storage cabinet is numbered, which is crucial when working with a collection without a detailed inventory. Instead of selecting only significant and urgently needed objects from the exhibition area, it is necessary to consider the collection as a whole and start with small steps (Kipp 12-3). Therefore, the numbered storage cabinets were more suitable for taking these initial steps. Third, although I had the opportunity to directly observe the objects and their conditions in the exhibition area, the fixed asset records in the storage depots do not actually include all the objects. For example, objects belonging to the Gülhane institution's history and health personnel who worked there have not been recorded because they were not considered historically important. Additionally, many texts, official documents, and photographs also remain unrecorded. Finally, assessing how the collection is stored can help detect if

objects in storage are damaged due to their storage methods and to assist in identifying items if they go missing in the future.

However, I faced limitations while undertaking this pilot inventory project. First, although I had official authorization to work on the collection, I was not an official team member of the institution, so I could not take responsibility for the objects. Second, it was not possible for me to document all the materials in storage. Recording all the materials in the collection would require multiple people working full-time for several years. Therefore, conducting a comprehensive documentation study was not feasible. As a result, having had the opportunity to examine twenty storage cabinets over two years, I created an inventory record in an Excel document consisting of categorized information. I hope this inventory will serve as a foundation for a future documentation system for the whole collection.

This pilot inventory record required identifying the most essential information categories and developing a methodology for its creation. In contemplating the categories, I reviewed the standards set by the International Committee for Documentation (CIDOC) under the International Council of Museums (ICOM). The primary goal of this pilot inventory record was to gather information about the objects and prevent future losses. Therefore, I designed the categories in the Excel document I created according to the Object Identification (Object ID) standards. This framework, developed by the Getty Information Institute in 1993, was initially intended for use with cultural objects subjected to illicit trade (International Council of Museums (ICOM)). However, it was later endorsed by ICOM CIDOC for the identification and documentation of archaeological, cultural, and artistic objects because it is "internationally recognized as a necessary and effective tool for inventorying collections" (International Council of Museums (ICOM)). Consequently, to systematically document the objects I worked on, I utilized the nine categories from the Object ID Checklist to answer the questions, which are:

a) *Type of object:* medical tools and equipment, or parts of equipment, photographs or documents, plaques, embossed medals, trophies, and other objects related to the institution
b) *Materials:* the materials the object was made of and how it was made.
c) *Measurements:* size and dimensions of the object referring to height, width, and

depth in cm

d) *Inscriptions and markings:* identifying markers on the object such as tags, numbers, and texts

e) *Distinguishing features:* physical characteristics to distinguish the object

f) *Title:* how the object is known, such as West German Air Force Medical Service Command insignia, Senior Sergeant Major Nejat Başkaya's health supplies box, Coleman gas stove with a lid, etc.

g) *Subject:* The purpose and usage of the object, whether for military medicine or hospital medical care, and the specific medical field in which it was used.

h) Date or period: When the object was made or used.

i) Maker: the manufacturer of the object, either an individual, a company, or a cultural group.

Besides these nine categories, a priority specified in the Object ID was photographing the object. This is because photographing an object provides visual data that can help in identifying any features of the object and serves as a safeguard against its future loss. Therefore, I utilized the standards and identification techniques for taking photographs as determined by CIDOC. Before starting this work, the most important consideration was that the photographs were not intended to be used in publications or exhibition catalogs. Therefore, the primary purpose of photographing the objects for the pilot inventory was for unequivocal identification, without concern for aesthetics. (ICOM CIDOC). For image identification, objects should be photographed against a plain background and in natural light, using a ruler or scale that provides a color chart to capture the object's legible inventory number from several different angles (ICOM CIDOC). These photos should be taken with the highest resolution camera available (ICOM CIDOC). After taking the photo, it should be stored in an appropriate location where it can be easily accessed later, along with the photographer's name, the date, and institutional information (ICOM CIDOC).

Figure 5.81: An Ohaus brand three-scale precision balance. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay.

Figure 5.82: A Chirana brand foot-pedal compressor. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay.

Figure 5.83: An Ernitec brand optical lens. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay.

Figure 5.84: Senior Sergeant Nejat Başkaya's medical supplies box. Gülhane Medical History Museum, Ankara, Türkiye, 14 Oct. 2022. Photographed by İrem Alpay.

Unfortunately, while recording all the information and photographs, the most crucial requirement to consider was that the objects should have an inventory number (Australian Museums and Galleries Association Victoria 18). Assigning temporary inventory numbers might seem like a viable option, but as Kipp suggests, giving objects temporary inventory numbers could lead to numerous problems in future collection management. First, converting temporary numbers into permanent ones could extend the process and consume more time. More importantly, it might lead to confusion with the numbers in the future (Kipp 62). However, continuing the documentation process without assigning a number to each object was not possible. My research revealed that every object should be given an accession number during the acquisition process when it first enters a collection, and the inventory number should be assigned post-acquisition. Although the difference between these two might not seem obvious initially, and despite encountering arguments by museum staff that accession numbers should be removed to avoid confusion, considering the status of Gülhane's collection which had no inventory numbers at all, assigning an accession number became imperative (Rosset). When creating accession numbers, the dates on which the museum acquired the objects are typically used.

To avoid future confusion and ensure a system distinct from inventory numbers, I learned through reviewing different inventory standards and guidelines that accession numbers are typically assigned based on the date each object was received by the museum (ICOM CIDOC; Kipp). Accordingly, I used the year, month, and day I recorded each object, followed by a sequential number starting from 01 (20220312.01) (CatalogIT; Kipp 58; Ladkin 20). This method allows for easy identification of the exact day and order in which each object in the collection was documented, simply by referring to its accession number. However, in the case of Gülhane, the date the object was officially recorded was used instead, and a note was included to that effect in the pilot inventory.

Assigning an accession number does not necessarily mean that all related information about the accession has been created. Therefore, another important consideration to keep in mind is that the Object ID's categories are designed to be used not only by institutions and experts but also by non-experts, since it only employs a category system that uses general concepts, making it simple and non-technical (Ayaokur 45). For example, in 1995, ICOM CIDOC established 23 different information group

categories for documenting objects: Acquisition, Condition, Deaccession/Disposal, Description, Image, Institution, Location, Mark and Inscription, Material and Technique, Measurement, Object Association, Object Collection, Object Entry, Object Name, Object Number, Object Production, Object Title, Part and Component, Recorder, Reference, Reproduction Rights, Subject Depicted (ICOM CIDOC). Unfortunately, due to the scope of the research and the absence of prior collection management efforts, it was not possible to create documentation for all categories. However, there were some categories that needed to be added to the nine already existing in Object ID.

The first of these was the location of the object since there is already an assigned space with numbers in the storage cabinets. Another category that urgently needed to be added was the condition of the object, particularly information about its state of conservation and any damage. This addition was necessary because, upon examination, many objects had been stored in poor conditions and were exposed to rust, and some had been heavily damaged, like expired medicine bottles that had broken while being moved to storage. For instance, the method of storing medicine boxes haphazardly in a plastic bag within cabinet number 24 led to the breakage of some 1940s Parke, Davis & Co. Detroit, Michigan, USA-made Amyl Nitrite U.S.P. ampoules. The trapped nitrate exploded, scattering glass shards around the area on February 1, 2024. Consequently, it was necessary to carefully remove each item from the bag individually, dispose of the broken pieces as medical waste, and reorganize the contents of the box. Therefore, examining the conservation status of the medical objects and identifying these unstable items is extremely crucial, not only for the museum staff engaged in documentation but also for visitors touring the exhibition area, given the potential physical dangers and chemical hazards they present.

Figure 5.85: Various expired medicine and poison bottles found in a cardboard box from the storage cabinet under the display cabinets. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay.

Figure 5.86: Some poison bottles found in a cardboard box. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay.

Figure 5.87: Various medicines stored in a plastic bag in storage cabinet number 24 under the display cabinets. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay.

Figure 5.88: A plastic bag containing various medicines. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay.

Figure 5.89: Expired pills and broken ampoules at the bottom of the plastic bag. Gülhane Medical History Museum. Photographed by İrem Alpay.

Figure 5.90: Various medicines removed from a plastic bag and safely placed in a cardboard box. Gülhane Medical History Museum, 2024. Photographed by İrem Alpay.

Another important category I added was for recording existing inventory numbers or acquisition numbers if these had been previously assigned. Even though there was no museum inventory number, I discovered that some items bore seven-digit stock numbers segmented as 1 3 3. These objects, which follow a specific standardization, belong to the USA Department of Defense, Defense Supply Agency. They fall within the Federal Supply Groups, coded from 10 to 99, specifically under number 65, which covers "Medical, Dental, and Veterinary Equipment and Supplies". I was able to find detailed information about these objects through one of the twelve different Federal Supply Catalog (FSC) Identification Lists associated with this group. These numbers are referred to as NSN, or NATO Stock Number, alternatively known as National Stock Number. It is a 13-digit numeric code that the NATO military alliance uses to catalog all 'standardized material items of supply' as acknowledged by all member countries of NATO, including Türkiye (ISO Group Defence and Aerospace Supply Chain Partner).

Figure 5.91: Some medical supplies and medicines with FSC numbers. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

Figure 5.92: Identifying objects from the FSC according to their catalogue numbers. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

The last category I added was the acquisition date and details of each object at the museum because I initially wanted to assign numbers based on when the objects were added to the collection. Unfortunately, finding the acquisition dates, as mentioned earlier, was challenging, and information on how and when objects were acquired by the museum is limited to just a few earlier labels on a limited number of objects. Moreover, the museum lacks any signed documents specifying who donated the objects or which institution made the donation and on what date. This absence of formal documentation complicates the tracing of an object's provenance and could potentially lead to legal disputes over the ownership of the objects in the future. Since the museum collection is held in trust for the public and is made accessible for the public's benefit, a museum must maintain the highest legal, ethical, and professional standards (American Alliance of Museums 1). Therefore, in order to establish these standards, a museum must go beyond

the policies for documentation, collections records, and inventory and consider the concepts of its mission and operations that guide the decision-making process, which overall is established through a collection management policy.

Chapter 6:
Gülhane as a Museum: Future Prospects

6.1 Considerations for Developing a Collection Management Policy and System

Despite my eagerness to prevent future losses by hastily documenting the objects in the storage cabinets, my efforts were destined to be insufficient due to the lack of standardization provided by a collection management policy and system, which are guiding compasses for handling an unmanaged collection (Kipp 46). Collection management is essential for developing, organizing, and preserving museum collections, ensuring their long-term physical well-being and safety while operating within legal, ethical, technical, and practical standards to realize museums' mission and purpose (Ladkin 17). Instead of simply finalizing a policy document, it is more crucial and advantageous to focus on the continuous development and implementation of the policy. This process not only deepens the understanding of ethics and procedures but also enables the creation of more effective policies by considering the unique situations and challenges faced by the museum (American Alliance of Museums 2). Therefore, no collection management policy template can be universally applicable to all museums. As a result, each museum must tailor its policies, as a written and published document, to its specific circumstances, including its history, community, collections, governance, legal status, and non-profit nature, in accordance with national law (American Alliance of Museums 3; ICOM 3).

The American Alliance of Museums and the ICOM Code of Ethics have outlined the key topics that should be addressed when developing a collection management policy. Firstly, it is essential to define the museum's institutional standing in terms of mission, vision, and history to understand its role and the decisions it makes regarding collection management (American Alliance of Museums 3; ICOM 3). For the case of the Gülhane Medical History Museum, the mission, vision, and history are inscribed both in Turkish and English on the brass plaques above entrance of the main the main exhibition hall.

GÜLHANE MÜZESİ

TÜRK TIBBI MODERN TIBBIN GELİŞMESİNDE 14. VE 15. YY. A KADAR ÖNEMLİ ROL OYNAMIŞTIR. BATI TIBBININ TÜRKİYE'YE GİRİŞİNDE DE 19. YY DA ASKERİ TIBBİYENİN

KURULMASI ETKİN OLMUŞTUR. UZUN BİR SÜRE TÜRK TIBBININ ÇAĞDAŞLAŞMA SÜRECİNİ ASKERİ TIBBİYE İLE 1898 DE KURULAN GÜLHANE ÜSTLENMİŞTİR. GÜLHANE MÜZESİNDE TÜRKİYE'DE VE DÜNYADA TIBBIN ANA GELİŞİM ÇİZGİLERİ İLE BU GELİŞİME KATKILARI OLAN ÖNEMLİ OLAYLAR KRONOLOJİK OLARAK SERGİLENMİŞTİR.

GULHANE MUSEUM

TURKISH MEDICINE HAD A SIGNIFICANT ROLE IN THE DEVELOPMENT OF MODERN MEDICINE UNTIL THE 14TH AND 15TH CENTURIES. FOUNDATION OF THE MILITARY MEDICAL SCHOOL IN 1827 HAD AN INFLUENCE ON THE ACCESS OF MODERN MEDICINE INTO TURKEY. GULHANE MILITARY MEDICAL ACADEMY WHICH WAS FOUNDED IN 1898 HAD CARRIED OUT THE MODERNIZATION OF TURKISH MEDICINE FOR A LONG TIME. IN GULHANE MUSEUM, MAJOR DEVELOPMENTS OF MEDICINE IN TURKEY AND IN THE WORLD ALONG WITH IMPORTANT EVENTS AND PERSONS WHICH HAD CONTRIBUTIONS TO THESE DEVELOPMENTS ARE EXHIBITED IN CHRONOLOGICAL ORDER.

Because the curatorial approach of the Gülhane collection had undergone several changes since its establishment, this information provides significant insight into its mission, vision, and history to understand the initial curatorial approach and intention for the collection. However, a necessary change here would be to identify the museum's current governing authority, which officially assumes and carries out these management decisions must be included in the collection management policy (American Alliance of Museums 3; ICOM 3). Since 2016, the management of the collection has been under the administration of the Department of History of Medicine and Deontology, affiliated with the University of Health Sciences at the Gülhane Research and Training Hospital.

A museum must also determine the scope and categories of its collections within the collection management policy, outlining the legal responsibilities and ethical steps required in the processes of acquisition/accession and deaccession/disposal, whether the collections are used for education, permanent or temporary exhibitions, or research (American Alliance of Museums 3-4). For the Gülhane collection, official documentation should be created for every object that enters or leaves the collection, and the reasons and methods for each object's accession or deaccession should be recorded. This documentation process should apply not only to registered objects in the collection but also to all items with unclear titles, such as those found, abandoned, or unclaimed, and must be detailed under a separate heading (American Alliance of Museums 5).

Additionally, the policy must specify the guidelines for all technical, logistical, and legal processes when objects from the collection are temporarily borrowed or loaned for the stated purposes (American Alliance of Museums 5). For example, some objects from the Gülhane collection have been sent to both the Museum of the History of Science in METU (ODTÜ) in Ankara and the newly opened Kızılay Ağadere Museum in Çanakkale. However, there is no information available on which objects were sent or whether they were transferred on a temporary or permanent basis. To prevent such issues, as previously mentioned, it is crucial to document every object's information, take multiple backups, and periodically record on the inventory (American Alliance of Museums 5).

In addition to objects which have been borrowed for a short-term, or loaned objects, the collection management policy for the Gülhane collection should also define the scope for existing objects and newly accessioned collections and how those collections are used within the collection planning (American Alliance of Museums 4). Since the current display of replica archaeological medical objects suggests that archaeological objects might also fall within the scope of the Gülhane collection, the collection management policy should be designed to accommodate the temporary donations of archaeological medical collections from other museums that could be displayed in the future. Moreover, it should consider the collection's scope from a broader perspective and determine which donations from Gülhane's medical and health sciences faculties and hospital, or other nearby hospitals should be accepted or declined. This is essential because the policy must establish which objects merit being accessioned and documented as museum objects based on their medical and historical value.

The documentation of the objects must also cover the storage conditions of the collection, such as temperature and relative humidity, to prevent deterioration and include a preventive conservation plan along with necessary precautions and emergency responses for various risks and disasters (American Alliance of Museums 5; ICOM 4, 14-15). Due to the lack of conservation facilities and plans, many objects at the Gülhane Medical History Museum, not only in storage cabinets but also on display in glass cases, are experiencing deterioration because no microclimatology measures have been taken. For example, the cardboard-like material used for placing the objects has been severely damaged by humidity in some parts of the display cabinets. Moreover, in the majority of

glass containers holding pathology specimens, excessive deterioration, color changes, and even complete decay can be observed due to evaporation of the liquid or exposure to air.

Figure 6.1: Discoloration inside the display cabinet caused by humidity and dust. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

Figure 6.2: Documents and medicines stored in an unorganized manner in a plastic bag. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 6.3: A mid-20th century photograph exposed to humidity. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

Figure 6.4: Pathology specimens showing discoloration and decay due to evaporation of the solution and exposure to air. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

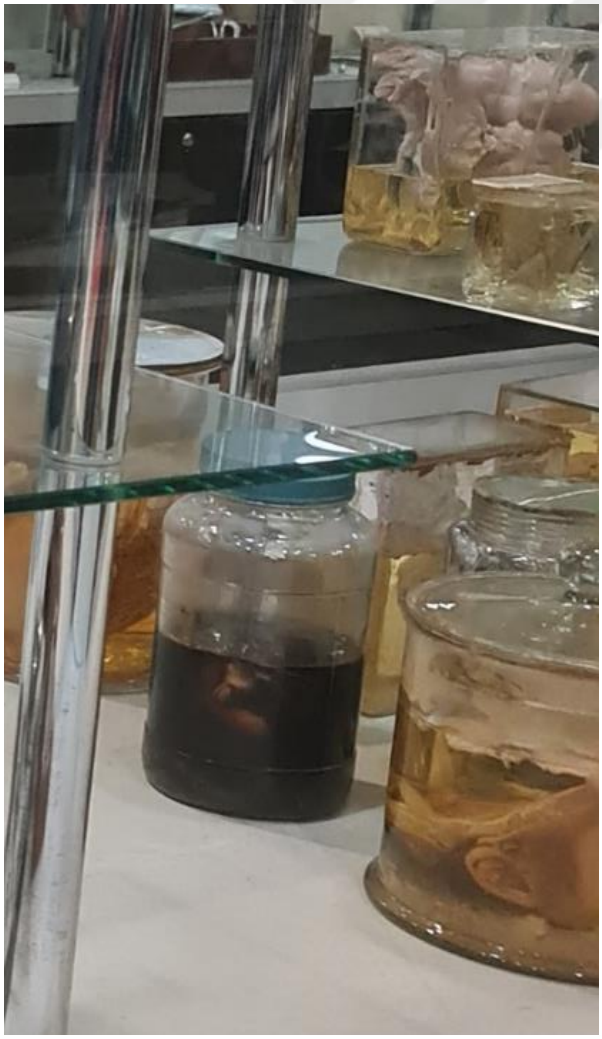

Figure 6.5: A pathology specimen where the solution has turned completely black due to excessive decay. Gülhane Medical History Museum, 2022. Photographed by İrem Alpay.

Another important consideration for the collection management policy at the Gülhane Medical History Museum is ensuring that all activities related to the collection adhere to legal and ethical standards within the scope of ownership and protection of cultural and natural objects (ICOM 9). For example, the collection should not include any stolen, looted, or reappropriated items (American Alliance of Museums 6). Therefore, conducting provenance research for each object is crucial, as items without such research can pose legal and ethical issues (ICOM 9, 20). Although some pathology specimens in the Gülhane collection have labels indicating dates, it is unclear from which patients these were collected, whether with proper permissions or not at all. Consequently, the collection management policy should also include a statement specifying who has access to the collection and details specific restrictions on photography and filming according to intellectual property laws (American Alliance of Museums 6; ICOM 3). Due to the absence of provenance information, reproducing images of pathology specimens could lead to ethical and legal challenges (ICOM 10, 20).

The ICOM Code of Ethics emphasizes that human remains and other sensitive materials require a distinct approach in each section, differentiating them from other collections (ICOM 10, 20, 25). As an example, The Manchester Museum under The University of Manchester developed a collections development policy from 2015 to 2018, dedicating Article 10 specifically to human remains. Section 1 of Article 10 states that the handling of human remains will be guided by the Human Tissue Act 2004 and any subsequent legislation that comes into force. Section 2 of Article 10 mentions that the Guidance for the Care of Human Remains in Museums, issued by the Department for Digital, Culture, Media & Sport of the United Kingdom in 2005, will also be followed (The University of Manchester, Manchester Museum 6). The Wellcome Collection also endorsed the 2005 Guidance for the Care of Human Remains in Museums for their Care of Human Remains Policy, published on their website in 2023. This policy outlines the procedures for every human remains in its collection, whether held temporarily or permanently, covering topics such as acquisition and loans, deaccession, storage and conservation, public display, inventories and collection management, claims, and contacts (Wellcome Collection).

However, the Turkish Law on the Conservation of Cultural and Natural Properties, numbered 2863 and dated 21/7/1983, only refers to human skeletons in terms

of human remains among the larger definition of cultural and natural objects (Doğan, Thys-Şenocak and Joy 6-7). The absence of specific regulations for human remains, as well as the omission of anatomy and pathology specimens that include human remains, would eventually force the Gülhane Museum to make decisions about the management of human remains based on their institutional policies rather than a legal framework (Doğan, Thys-Şenocak and Joy 7). Therefore, to meet legal and ethical standards in managing its collection of human remains, the Gülhane Museum should also consider internationally accepted standards and practices when national laws are insufficient to provide guidance on handling human remains in the collection.

Considering the Gülhane collection as a university museum, we shall investigate the other aspects that should be addressed in the collection management policy specific to university museums, including the roles of various offices and community members in policy formation. For example, the collection management policy for museums and collections developed by the University of Alberta in Canada from 2000 to 2017 defined the roles of the Office of Accountability, the Office of Administrative Responsibility, and the Approver. It also outlined the scope, which included the entire university community in the policy-making process (University of Alberta 1). Additionally, the Manchester Museum Collection Development Policy states under its statement of purpose that the governing body should conduct collection activities with openness and transparency, and it states that contributing to a sustainable world is one of the museum's core visions (The University of Manchester, Manchester Museum 2). Similarly, in discussing national collection management policies, I will explore how museums in Türkiye define specific standards below, starting with general museums and later examining examples from university museums.

In the preface of the book *Koleksiyon, Koleksiyonerlik ve Müzecilik* (Collection, Collecting and Museology) edited by Çalıkoğlu, he highlights the importance of clearly defining the museum's vision, mission, type, and field of operation, as well as detailing the collection's scope by answering the questions of what, where, when, and why, before establishing a museum collection policy (12-3). He claims that the key factors determining a museum's collection policy are the national laws applicable to museums and international agreements and codes set by organizations like UNESCO and ICOM, which govern the museum's principles and ensure that its collection management policies

align with the legal and cultural frameworks of the country, thereby facilitating the development of policies that serve both the structure of the museums and the needs of society (Çalıkoğlu 12). Discussing the standards set by ICOM and the American Alliance of Museums, Özkasım proposed a collection management policy for the planned Istanbul Modern Art Museum in 2004 (Özkasım, İstanbul Modern Sanat Müzesi Koleksiyon Yönetim Politikası için Bir Model Önerisi: Türk Resminde 1950-1970 Dönemi ii). She focused on beginning with the institution's introduction and then followed by addressing the vision, mission, acquisition and deaccessioning of the collection concerning purpose, categorization, and criteria, loans regarding the decision of loans and criteria, access and research, limitations in access, and intellectual property issues (Özkasım, İstanbul Modern Sanat Müzesi Koleksiyon Yönetim Politikası için Bir Model Önerisi: Türk Resminde 1950-1970 Dönemi 54-63). In addition to these elements, Koç has included inventory and documentation, authority and responsibility, maintenance and protection, security and insurance, risk management systems, and education and activities in the collection management policy prepared for Akarlar Art Museum (Koç 2). Furthermore, Şenel argued that the continuity and efficient operation of museums depend on the implementation of a collection management policy aligned with the museum's goals, advocating for the development of such policies by considering all conditions, including collection type, target audience, institutional position, staff, financial and physical conditions, legal regulations, and emergencies to prevent irreparable situations (Şenel 48-9).

In proposing a collection management policy for a university museum, Cantürk highlights the creation of a policy for the Kocaeli University Prof. Dr. Baki Komşuoğlu Museum, incorporating both the ICOM Code of Ethics and the procedures of the Ministry of Culture and Tourism. He emphasizes that such a policy would be internationally acceptable and also discusses the need to employ professional staff in museums to implement this collection management initiative (Cantürk 311). Çiftçioğlu, proposing a model for the Başkent University Museum, has discussed topics such as acquisition and access, as well as promotion, information, art access, and income-generating activities within the collection management framework (Çiftçioğlu 111-8).

Besides the university museums, among studies conducted for medical-themed museums, Kaynak has focused on the Istanbul Health Museum's collection management,

particularly addressing the acquisition, loan, and insurance of artifacts in collaboration with contributing health institutions for the Istanbul Health Museum (Kaynak, İstanbul Sağlık Müzesi'nin Sanat Yönetimi Açısından İncelenmesi 92-5). Moreover, in her study for proposing a health museum at the Zeynep Kamil Women and Children's Hospital, Hallaç initially addresses topics such as financial resources, physical environment, legal processes, sustainability concerning activities and public relations, collection development, and education during the museum's establishment process (Hallaç 56-60). Although not explicitly labeled as collection management policy, she presents topics related to collection management policies such as museum creation, including its definition, rationale, objectives, target audience, the scope of the collection, ethical principles, vision, and mission, alongside recommendation policies for staff, communication, education, budget, and policies for visitors with disabilities (Hallaç 75-86). Therefore, although there are basic topics specified by national and international standards that need to be considered for a collection management policy, like every museum, the future Gülhane Medical History Museum should develop its collection management policy considering its own governing bodies and the communities it plans to serve within the scope of its collections, taking into account its financial and physical resources.

One of the greatest advantages of tailoring a collection management policy to a specific institution is that the administrative authority will adopt and implement its own system for defining, creating, disposing, and protecting collections, as well as managing access to these collections easily (Özkasım, Müzelerde Koleksiyon Yönetiminin Önemi ve Türkiye'de Devlet Müzelerinde Uygulanabilirliği 182). However, collection management cannot be considered independent from the country's overall museum system, as it can only be implemented within the constraints provided by this system. For example, while the administrative and financial structures of state museums are determined by laws, and all income is reported to the state budget, museums are limited to specifying maintenance needs from the fixed budget (Özkasım 183). This financial setup complicates their ability to establish and follow medium and long-term goals, foundational principles, and priorities (Özkasım 183-4). However, the enactment of the Public Financial Management and Control Law No. 5018 in 2003 made strategic planning mandatory for public institutions, thereby legally paving the way for strategic planning in

state museums (Özkasım 184). This planning facilitates the implementation of collection management and provides the means to measure and evaluate how effectively these practices are conducted (Özkasım 184). Although museums are under state control both physically and financially, Özkasım argues that without a national collection management system, achieving transparency and accessibility is not possible (185). She states that the Museums National Information System (Müzeler Ulusal Enformasyon Sistemi, MUES) project, currently under development since 2013 by the TMoCT, will play an effective role in making collection management nationally applicable (Özkasım 185).

A collection management system not only records collections but also manages administrative aspects such as pre-acquisition, collecting, inventory records, loans, and exhibition planning (Ayaokur 54). It includes conservation management and object documentation, as well as organizing library and archive materials related to the object collections (Ayaokur 55). Moreover, it facilitates the organization of all this information into an accessible digital museum database and catalogs, spreading the knowledge to a broader audience (Ayaokur 54-5). Thus, these systems allow museums to control information dissemination with accessible multimedia information, copyright restrictions, and data limitations due to security or ethical reasons (Ayaokur 56).

For example, the Museum of Healthcare in Kingston, Canada, offers an excellent model of an accessible collection catalog. It categorizes objects by various topics and includes detailed information and visuals. The catalog also allows the audience to see when and where items were exhibited, how to donate an object or request a loan, and the usage rights for images under copyright.

MUSEUM OF HEALTH CARE AT KINGSTON

Research Collection Catalogue

Home / Research and Collections / Search View Selections: 0 Items

Search Our Collection

Search

Advanced Search and Browse Search Help

About Our Collection

One of the largest collections of medical artefacts in Canada, the Museum of Health Care is home to more than 40,000 artefacts, from surgical tools to laboratory instruments, that bring to life the story of medical care from the 18th century to the present day. The history of health care is the history of people, and the Museum and its collection tell the stories of our lives.

- Image Use
- Request object/s for loan
- Donate an object

Special Collections

- Crawford Canadian Dental Collection
- Society of Obstetricians & Gynaecologists of Canada
- From the Collection

Featured Items

Popular Topics

- Anaesthesia
- Anatomical Model
- Anatomy
- Archival
- Baby Bottle
- Basic Science
- Cardiology
- Clinical Laboratory Diagnosis
- Dental
- Dermatology
- Diagnosis General
- Dingbat Calendars
- Education
- Gastroenterology
- General Treatment
- Gynaecology
- Homeopathic
- Medicine Spoon
- Nephrology
- Neurology
- Nursing
- Obstetrics
- Otolaryngology
- Paediatrics
- Patient Care
- Pharmacy
- Proctology
- Psychiatry
- Radiology
- Respirology
- Sick Cups
- Sports Medicine
- Surgery
- Tuberculosis Sanatoriums
- Urology
- Vision

Figure 6.6: The webpage of the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston. https://mhc.andornot.com/en. Accessed 8 July 2024.

MUSEUM OF HEALTH CARE AT KINGSTON

Research Collection Catalogue

Home / Research and Collections / Search / Permalink View Selections: 0 Items

Nursing Sister's military uniform veil

Accession Number:	002042001
Collection:	Nurse Sarah Phillips Collection
Category:	Military Military Uniform Accessories Clothing Nursing Nursing Uniforms
Classification:	Military Military Uniform Accessories Clothing Nursing Nursing Uniforms
MeSH Heading:	Clothing Textiles MM= Clothing -- accessory -- nursing MM= Clothing -- uniform Military Military -- textile Military -- nursing Military -- Nursing Sisters Military Personnel -- nurse Military Uniform -- nurse
Description:	White cotton organdy square nurse's veil with a 5.5 cm hemmed border with a decorative faggot stitch above the hem.
Number Of Parts:	1
Provenance:	Worn by Nurse Sarah Phillips
Dates:	1914 1945 circa 1914-1945
Date Remarks:	Nursing Sisters wore this type of nurse's cap, a white veil, especially for nursing sister's uniforms during World War I (1914-1918) and World War II (1939-1945).
Material:	fabric: white
Permanent Location:	Storage Room 0007 0007 V Box 2
Temporary Location:	To exhibit: "For Service to Humanity", Nursing Gallery: Showcase West, Museum of Health Care, 13 Nov. 2008.
Length:	91.0 cm
Depth:	90.0 cm
Unit Of Measure:	centimeters
Dimension Notes:	Length 91.0 cm x Depth 90.0 cm
Condition Remarks:	Some small rust stains; hand stitched areas along decorative faggot stitching.
Copy Type:	Original
Reference Types:	Person Internet Museum
Reference Comments:	Internet; Canada's Nursing Sisters; Veterans Affairs Canada; www.vac-acc.gc.ca Military Uniforms, "Branch of the Master General of the Ordnance", Effective 1 Nov 1939 "Nursing Sister's apron, Royal Canadian Army Medical Corps (RCAMC)," Museum of Health Care. http://artefact.museumofhealthcare.ca/?p=79
Research Facts:	Nurse Phillips came to Canada from England around 1915-20 to look after the Dalton family living on the corner of King Street West and Barrie St, Kingston; then to donor's uncle's family in Hillcroft before looking after the donor and her brother, the Hawley children, at 68 Centre Street in Kingston. By the time the youngest brother was able to look after himself, Nurse Phillips was at retirement age, so donor's mother invited Nurse to stay living with them as a member of the family. Always known as "Nurse". Information provided by donor. Dress Regulations, Nursing Sisters Royal Canadian Army Medical Corps, 1940: describes the

Figure 6.7: The webpage of an object from the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston, https://mhc.andornot.com/en/permalink/artifact12168. Accessed 8 July 2024.

Research Facts:	Nurse Phillips came to Canada from England around 1915-20 to look after the Dalton family living on the corner of King Street West and Barrie St, Kingston; then to donor's uncle's family in Hillcroft before looking after the donor and her brother, the Hawley children, at 68 Centre Street in Kingston. By the time the youngest brother was able to look after himself, Nurse Phillips was at retirement age, so donor's mother invited Nurse to stay living with them as a member of the family. Always known as "Nurse". Information provided by donor. Dress Regulations, Nursing Sisters Royal Canadian Army Medical Corps, 1940: describes the regulation uniform for Nursing sisters: Veil - white organic veil, one yard square, with two inch hem. More than 4000 women served as military nurses during the Second World War playing a vital role in the care and comfort of wounded soldiers, sailors, and airmen. As commissioned officers known by rank and title as Nursing Sisters, they served as fully-integrated members of the Royal Canadian Army Medical Corps, the Royal Canadian Navy, and the Royal Canadian Air Force. Most of them worked overseas in military hospitals and casualty clearing stations. After the lean years of the 1930s when there were few available positions for graduate nurses, even with the dangers of warfare, military nursing offered a job with a good salary, benefits, status, and a chance to travel.
Exhibit History:	Musee Beaulne; 25 January 2008 - 31 February 2009

Images

Figure 6.8: The webpage of an object from the research collection catalogue of the Museum of Health Care at Kingston. Museum of Health Care at Kingston, https://mhc.andornot.com/en/permalink/artifact12168. Accessed 8 July 2024.

When viewing the page that provides detailed information about an object, one can find links marked as 'MeSH Heading.' These are defined by the United States National Library of Medicine as "The Medical Subject Headings (MeSH) thesaurus, a controlled and hierarchically organized vocabulary produced by the National Library of Medicine. It is used for indexing, cataloging, and searching of biomedical and health-related information" (National Library of Medicine). Each link directs to a list of other objects and documents related to that heading, categorizing the item accordingly. This standardization of descriptive metadata makes each recorded object more accessible and researchable, facilitating information sharing and research using common terminology and classification among museums and organizations. According to a 2022 empirical and quantitative study on the use of metadata in museums and university collections across European countries, university museums often have collections that are isolated due to primarily relying on volunteer-based efforts (Salse, Guallar-Delgado and Jornet-Benito 490). The study highlighted a lack of a centralized approach to digital metadata usage and information system, even though it had significantly increased due to the COVID-19 lockdowns (Salse, Guallar-Delgado and Jornet-Benito 490-1). It recommended adopting a common policy to not only enhance collections but also increase academic publications related to them (Salse, Guallar-Delgado and Jornet-Benito 491). Therefore, integrating the Gülhane collection into a digital collection management and information system like MUES (Museums National Information System) could greatly enhance its visibility and facilitate its connection with other museum collections.

Additionally, in his 2016 study on the organization of information and its accessibility in museums in Ankara, Özel examined forty museums and found that thirty-eight of them did not have an adequate information system to manage their collections (Özel 194). He noted that these museums typically used documents like Microsoft Office Excel and lacked a collection management system, which resulted in their inability to effectively manage information related to objects in their collections, a problem which led to accessibility issues (Özel 194-5). Özel has argued that none of the museums share their data with other museums at national and international levels; they are not integrated with information access tools such as search engines, databases, and online catalogs, nor is their visibility ensured. He contends that this is due to the museums' lack of an

information system that is compatible with international standards, capable of working with various information systems/access tools, and able to share data (Özel 195).

Despite some museums being registered with the MUES system, which has been in a testing phase since 2013, Özel has noted that this system does not provide accessibility, thus preventing museums from effectively managing their collection processes in a digital environment (Özel 194). Although there is debate over how effectively Gülhane can adapt to this system, it should be noted that MUES is still in development and has been financed by the Turkish presidency as one of the 146 major projects targeted for 2023 (MUES: Müze Ulusal Envanter Sistemi). Given this situation, the Gülhane Medical History Museum, like other museums, will need to adapt to this collection management system in the future. To avoid the challenges associated with changing established systems in other museums, starting with a foundational adaptation such as MUES could help to both establish a roadmap for an inventory system and aid in creating a sustainable and long-term collection management plan that can interface with national and international museum databases. However, a challenge related to this is that MUES is only accessible to museums already registered under the TMoCT. Therefore, if access continues to be limited in this way, it will not be possible to integrate collection management into the system from the outset. Consequently, in developing a collection management policy for the Gülhane Medical History Collection, it will be essential to incorporate international practices that extend beyond national standards.

6.2 Proposing New Horizons in Curatorial Practice

As outlined earlier the future plans for the Gülhane Medical History Museum, including critical tasks like enhancing documentation and refining collection management policies, it is essential to remember that these initiatives are fundamentally aimed at benefiting the community the museum serves. The long-term viability of a museum not only depends on a well-established collection management policy but also relies heavily on strong social connections and community engagement. Furthermore, the foundations of community engagement and connections within a museum are shaped by its curatorial practices. Before proposing different approaches and practices, and explaining why a new curatorial approach is necessary, I will share my personal

observations on the current curatorial approach and audience engagement at Gülhane Medical History Museum.

Since its opening in 1988, the Gülhane Medical History Museum has used the same glass display cabinets and, apart from labels bearing the name of the Health Sciences University, has continued using the same informational tags. While many objects lack labels, those that do have labels typically mention the names of the objects and occasionally the names of donors, offering no additional context or interpretive information. Consequently, it is impossible to find information about the applications of medical tools, especially those containing medical terminology. Although efforts have been made to display similar themed objects together in combined display cabinets, the lack of detailed information about the objects' uses and the absence of a cohesive exhibition narrative result in ineffective engagement and learning for visitors from diverse ages, languages, cultures, and educational backgrounds who are not from the medical field.

Another factor contributing to the confusion within the exhibition is the inadequate space allocated to both the display and storage areas, which necessitates the clustering of variously themed objects together, leaving insufficient room for interpretive information panels. Additionally, the limited exhibition space has necessitated the placement of larger objects in a manner that restricts the flow of the exhibition route, rendering it inaccessible to visitors who use mobility aids, such as wheelchairs. Moreover, the fact that all objects are enclosed in glass cases and there are no voiceovers or language support, with only Turkish labels available, significantly limits the target audience. Perhaps due to these factors and the museum's insufficient self-promotion, despite the presence of a 'museum' sign at the building's entrance and its location at the main entrance of the Gülhane Research and Training Hospital, and even though admission is free, many of the daily hospital visitors remain unaware of the museum's existence. Consequently, I have also observed that the majority of the museum's visitors are medical students from Ankara and the surrounding provinces who come on school trips, while the number of other visitors to the museum is limited.

In light of these observations, and considering that the Gülhane Medical History Museum is expected to become an officially accredited private museum by the Ministry

of Culture and Tourism, how can the museum exhibit its collection more effectively to the public while ensuring its protection, in accordance with current museum definitions and practices, and in line with internationally recognized technical standards?

To begin, it is important to consider the new definition of a museum, which was approved by the International Council of Museums (ICOM) at the Extraordinary General Assembly in Prague on August 24, 2022, with 92.41% approval.

A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets, and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection, and knowledge sharing (ICOM).

The primary reason that defining a museum is a challenging and evolving concept is due to the changing roles of museums in society, influenced by new technological advancements, demographic and generational shifts, financial uncertainties, and the variability of ideas and explanations about what museums are truly for, which increasingly diverge from fixed boundaries (Black 1-4). Thus, fully adapting the museum definition to all policies of a museum becomes a pursuit of perfection. However, the Gülhane Medical History Museum, as a museum that has not adapted adequately to changing societies and generations, will inevitably experience a decline in attendance from its traditional audience and fail to engage new audiences, resulting in a loss of its cultural and historical significance in the public eye (Black 5-7). Therefore, new curatorial approaches should be considered for the Gülhane Medical History Museum.

While devising new curatorial approaches for Gülhane, it is essential to consider society as a whole and persuade not only the public but also university management, financial supporters, and stakeholders of the unique benefits of this museum. (Black 8). The museum must offer enjoyable, exciting, and stimulating experiences that engage individuals, students, patients at the hospitals, families, social groups, schools, and communities both on-site and online (Black 8-10). Moreover, by cultivating partnerships with local communities through a participatory vision, the museum should encourage

engagement with its audience as active participants, contributors, and collaborators in a shared learning journey, rather than treating them as mere passive recipients of knowledge dictated solely by authoritative figures (Black 10). Museums are not just public places that only provide cultural, historical, and artistic engagement for their audiences but also encourage creativity and stimulate the imagination with interpretive approaches that serve society ethically and professionally (Black 9-11). They hold a social responsibility to reflect the issues of the communities they are part of and create a space for meaningful interaction (Black 11-2). Therefore, at the Gülhane Medical History Museum, it is essential not only to adapt to change but also to develop a clear vision and mission, actively pursue sustainable goals, and become an institution with effective strategies that drive the change itself (Black 12).

Within this context, one of the first steps would be to reassess the accessibility of the museum. As a university museum situated on the campus of a teaching and research hospital, the Gülhane Medical History Museum accommodates a diverse audience with various special needs, including those with permanent or transient disabilities and chronic illnesses. Moreover, accessibility encompasses more than just accommodating individuals with disabilities; it also includes addressing the specific needs of people at various life stages, such as childhood, motherhood, and old age (Thompson 69). Therefore, when assessing accessibility, consideration should not only be given to the mobility aspects of the exhibition space but also to visual, communication, and comprehension aspects (Thompson 70).

To ensure accessibility in terms of mobility, the exhibition space must accommodate the needs of the elderly and other individuals with walking difficulties, pregnant mothers, children and adults who struggle with stairs, and those with neurological and physiological conditions such as missing extremities, poliomyelitis, cerebral palsy, arthritis, and muscular dystrophy, who use wheelchairs and motorized chairs (Thompson 70). Additionally, it should consider those with secondary mobility deficits including a range of mental disabilities. In this respect, except for the larger objects placed in the middle of the museum exhibition area due to space constraints, the Gülhane Medical History Museum provides adequate space and visibility for wheelchair access with its single-floor layout and glass display cabinets that begin at hip level. However, those with visual deficits, including residual vision, the visually impaired, and

those categorized as blind, currently have no opportunity to access museum exhibitions at Gülhane (Thompson 71). Therefore, incorporating audio covers and exhibitions with multiple sensory interpretations could better engage audiences with visual disabilities and other visitors. Although it is not currently feasible to implement these features throughout the existing exhibition area, adjustments can be made to ensure that object labels, graphic panels, and diagrams are in text sizes visible to all visitors. Finally, another deficit that must be considered is related to communication, specifically issues such as deafness and visual deficits, which prevent access to written information, as well as challenges like illiteracy and language variance (Thompson 71). To prevent these factors from hindering visitors' ability to fully access information and experiences, the requirements and exhibit designs for visitors with special needs should be implemented using a universal design approach (Thompson 72).

We can consider the concept of universal design in several layers. It encompasses both assistive technology and standard design principles (Thompson 72). These include floor and ground surfaces, changes in level, wheelchair turning spaces, toe and knee clearances, reach ranges, protruding objects, control, and operating mechanisms, as well as communication elements such as signs, letter sizes, tactile signage, assistive listening devices, interactive displays, and automated displays that encompass special features (Thompson 74-82). However, this concept adopts a social integration and inclusivity approach, aiming to cover the needs of all segments of society (Thompson 73). Museums must adapt these design foundations and approaches to themselves, as the new definition of museums requires them to be inclusive for all segments of society.

The Gülhane Medical History Museum can take a step towards developing such an approach by implementing specific strategic actions. For example, in 2012, The Gateway Arch National Park in St. Louis, Missouri, USA, implemented a universal museum design plan as exhibition designers, led by a museum design company called Haley Sharpe Design Ltd (Haley and Wilson 175-6). An inclusive methodology was used in the planning, aiming to create a comparable experience for all museum visitors, regardless of physical, sensory, or cognitive disability (Haley and Wilson 175, 177). Various academic studies and guidelines on universal design and accessibility published by the US National Park Service (USNPS) were reviewed for this section of the thesis, but also the museum and installation design processes were developed in collaboration

with an advisory group advocating disability rights called the Universal Design Group, which consists of volunteers with various disabilities (Haley and Wilson 177-8). Working with these volunteers, the museum adopted a participatory approach, managing a transparent process of discussion and dialogue that involved them in both the design process and the final exhibition outputs (Haley and Wilson 187).

This project not only implemented accessibility guidelines as dictated by legislation but also considered access at all points of the design process, ensuring continuous dialogue and community participation (Haley and Wilson 187). After this five-and-a-half-year project, which required sufficient time and effort for dialogue and feedback, efficient coordination among all stakeholders, transparent and impartial communication, and commitment from the project leaders, it has been stated that a more engaging, dynamic, sensory-rich, varied museum experience was achieved (Haley and Wilson 179, 187-8). Located within the campus of a teaching and research hospital, the Gülhane Medical History Museum can form such a volunteer group within its community. Additionally, it can initiate collaboration and dialogue processes for a more accessible and universal exhibition design with volunteers from various disability associations.

Another participatory and collaborative approach that could be proposed for the Gülhane Medical History Museum involves collaboration with university students housed within the Gülhane campus. As a teaching and research hospital, the Gülhane Medical History Museum is also part of the Health Sciences University, which includes the Medical Faculty offering disciplines such as anatomy, biophysics, medical informatics, physiology, histology, and embryology, medical biochemistry, medical biology, and medical microbiology. Additionally, the Gülhane Medical Faculty, which comprises forty-six different departments including internal medicine and surgery, is complemented by faculties of physiotherapy and rehabilitation, pharmacy, nursing, and health sciences, offering programs in nutrition and dietetics, health management, audiology, child development within the Gülhane campus.

As a university museum, the Gülhane Medical History Museum, similar to the Medical Museion in Copenhagen and other medical museums and collections affiliated with universities, can encourage university students to engage in academic research by directing them to objects relevant to their fields within the museum collection. The results

of such research could even be utilized in the informational labels within exhibitions or in creating temporary exhibitions. Involving medical and health science students in exhibition design and curatorial work as a form of co-curation, following their research projects, would not only enhance their understanding of medical history and museology but also foster an interdisciplinary approach, including medical humanities.

In addition, this co-curation and collaborative approach should not be limited to students within the Gülhane campus alone but should also extend to include students from other universities studying humanities or subjects in the social sciences such as history, art history, sociology, philosophy, and psychology, as well as those from faculties of fine arts. This broader interdisciplinary approach will allow for a richer interpretation of the museum's exhibits, not only from medical and technical perspectives but also through diverse lenses. Such inclusivity will enrich the curatorial approach with narrative storytelling and an artistic viewpoint, enhancing the overall exhibition experience. By adopting such strategies, the museum can effectively address its shortage of curatorial and professional staff by leveraging the university environment and its students. By facilitating academic research and studies related to its collections, the museum will not only help sustain its holdings but also fulfill its mission and vision within the community. At the same time, it will support the creation of an active environment for education and knowledge-sharing, while ensuring reflection and enjoyment.

As we understand from the definition of a museum, contemporary museum understanding is being shaped not merely from a curator's viewpoint but through participatory methods that embrace multiple viewpoints. It is becoming visitor-centric, interactive, a platform for dialogue, and open to various opinions, adopting a vision that goes beyond being merely a keeper and protector of artifacts to becoming a sharer of knowledge. Along these lines, another potential for the Gülhane Medical Museum collection is to serve as a dialogue and open communication platform with personal donations from doctors and healthcare workers. The personal life stories of countless doctors who have served in various conflicts across many locations in the country, and directly at Gülhane, are not just stories but oral histories that need to be recorded. These form an integral part of the medical history of Gülhane, obliging the museum not only to preserve material objects but also to collect oral histories. Therefore, gathering these physicians' and healthcare workers' life stories from them or their surviving relatives for

provenance research and implementing more interactive narrative elements in the exhibition will be a significant undertaking.

For example, the medical tools and personal belongings of Dr. Ayşe Bilgen, a female ophthalmologist who trained at Gülhane and served as a traveling doctor in rural Anatolia during the 1950s and 1960s are currently stored in a box in a storage cabinet at the museum due to space constraints. After Dr. Bilgen passed away in 2011, her children, Ahmet Arif Bilgen and Emine Erennur Ural, donated her collection to the museum in 2012, along with a letter describing their mother's professional life. This collection holds not only medical instruments but also a rich oral history relevant to various social science topics. It is a collection that needs to be researched so that it can become a valuable part of the museum's collection.

Another document with significant potential for oral history is a diplomatic passport from the Republic of Türkiye, dated 1927. This passport contains photographs of families, along with information about diplomatic envoys and the countries they visited, written in both French and Ottoman Turkish before the adoption of Latin script. The manner in which this passport came into the museum's possession remains a mystery. Conducting provenance research on this document will not only clarify how it came into the museum's possession but could also potentially uncover details about the families involved. This information might enable us to locate living relatives who could contribute to an oral history project.

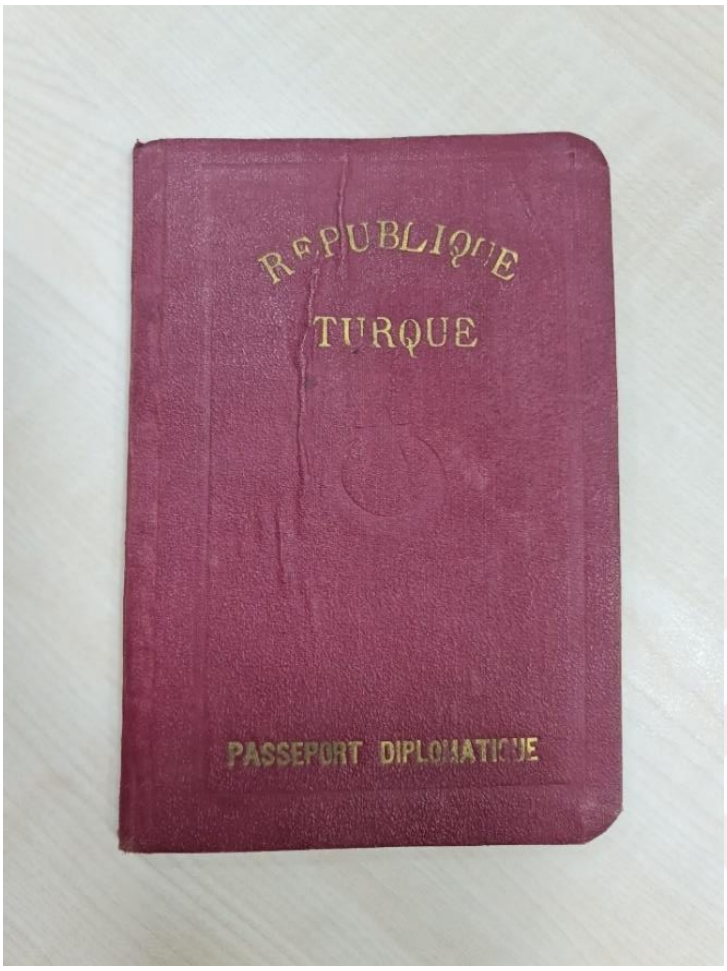

Figure 6.9: A diplomatic passport of the Republic of Türkiye from 1927. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 6.10: Pages from the diplomatic passport with information written in French. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

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Figure 6.11: Pages from the diplomatic passport with pictures of family members. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 6.12: Pages with visa stamps from the diplomatic passport. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Figure 6.13: Pages with visa stamps on the diplomatic passport. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Conducting oral history research and archiving it according to necessary standards using the personal items of many doctors, as well as artifacts from soldiers and veterans in the museum, will not only strengthen the collection's ties with the local community but also facilitate data collection for academic research on various topics.

Lastly, the approach that the Gülhane Medical History Museum has for its human remains and the collection of wet specimens needs to be reevaluated. Currently, there are thirty-five jars containing pathological samples of various limbs and internal organs, yet there is no available documentation regarding the donors. No provenance research has been conducted on these samples. The lack of written records detailing how these samples were collected and whether consent was obtained from the individuals involved raises significant ethical concerns about their display. Although Turkish law does not specifically address the ethical considerations surrounding human remains, the ICOM Code of Ethics provides guidance. Article 4.3 on the 'exhibition of sensitive materials' states that human remains must be exhibited in a manner consistent with professional

standards and, where known, taking into account the wishes of the communities or individuals from whom the objects originated (Doğan, Thys-Şenocak and Joy 7). Furthermore, Article 4.5 on the 'display of unprovenanced material' stipulates that museums should avoid displaying or using materials with questionable origins or lacking provenance (ICOM 25). Considering all these circumstances, an ethical dilemma arises regarding the appropriateness of displaying these pathology samples.

In relation to provenance research concerning human remains, for example, the forensic medicine anatomy-pathology collection donated to Istanbul University Cerrahpaşa Medical History Museum from the forensic medicine institution did not have provenance information recorded at the time of donation, thus necessitating extensive research (Sarı and Özdemir, Mekteb-i Tıbbiye Müzelerinden İÜ-Cerrahpaşa Tıp Tarihi Müzesi'ne 32). Initially, assumptions were made based on the information available. One assumption was that a morgue, established at the medical faculty which joined *Darülfünun* in 1909, had developed its forensic medicine by utilizing bodies received in 1910, and thus a collection was thought to have been created for educational use (Sarı and Özdemir 33). Another possibility considered was that the Forensic Medicine Institute itself had formed the collection, though no publications supporting this were found (Sarı and Özdemir 33). Consequently, Sarı and Özdemir initiated contact with individuals who had worked at the relevant institution and who were former heads of the forensic medicine institute, and it was ultimately determined that the collection had been transferred from the Forensic Medicine Institute at Gülhane to the Forensic Medicine Institution in 1983 (Sarı and Özdemir 33).

Figure 6.14: Pathology specimen showing chronic cavitary pulmonary tuberculosis. Gülhane Medical History Museum, 2023. Photographed by İrem Alpay.

Similarly, I had conversations with individuals knowledgeable about the provenance of the pathology samples at Gülhane. From discussions with the museum administration as well as with medical faculty members outside the University of Health Sciences, I learned that this collection was brought from Ankara Medical Faculty in the 2000s due to insufficient space there. Although displayed in the exhibition area as samples from Hamdi Suat Aknar, some members from the Faculty of Medicine at Ankara University visiting the museum mentioned that the samples were actually created by Hamdi Suat Aknar's students in the 1940s or 1950s and were initially housed in the Numune Hospital. Verifying this information and conducting detailed provenance

research will not only guide ethical considerations concerning the display of these objects but also clarify what curatorial approaches should be used for exhibiting these pathological samples. This provenance research can be verified by expert teams and departments working in the fields of pathology and genetics. For example, as a project partner, the Medical Pathology Laboratory, located on the Gülhane Research and Training Hospital campus, can conduct DNA analyses as part of the provenance research related to these pathology specimens. Additionally, it can serve as a consultant regarding the conservation of severely degraded pathology specimens as well as the climate control of the glass containers in which the samples are exhibited, if the decision to exhibit them remains in place.

Chapter 7:
Conclusion

Medical collections and medical museums underwent significant transformations during the 19th to the early 20th century, a crucial era marked by the institutionalization of private collections into public museums. Previously private collections of morbid curiosities—comprising anatomical and pathological specimens, wax models, surgical instruments, and even pieces of medical furniture—began to be organized into more formalized displays that not only served medical education but also offered insights into the cultural and social history of the time, particularly as these collections became more accessible to the public. This period of transformation highlighted the importance of material culture in medical museums, providing a window not only into the history of medicine but also into broader anthropological and sociological contexts, particularly through the practices of collecting and displaying 'the body.' Medical museums became spaces where medical advancements intersected with public curiosity and academic interest; the directors and curators of these museums realigned themselves within the shifting paradigms of medical knowledge and public health awareness.

Throughout the late 20th century, medical museums faced a decline in their role as educational vehicles for medical students and physicians, owing to technological advancements such as X-rays, 3D scanning, and MRI, which offered alternative methods for studying human anatomy. Alongside the rapid advancements in modern medicine, the reduction in physical interventions and the shift toward micro-level anatomical studies have not only slowed collecting activities in medical museums today but also reduced the relevance of the permanent older collections. However, the increasing specialization in modern medicine and the integration of humanities disciplines have opened new pathways for medical museums to display the history of medicine and highlight public health issues as well as other social concerns related to race, gender, and decolonization.

Interdisciplinary studies examining ethical issues, colonial histories, and the provenance of collections have posed challenges for medical museums, particularly in terms of exhibiting human remains and other ethically sensitive objects. Consequently, medical museums have been compelled to adapt and align with new museological discourses and practices while addressing the ethical dilemmas posed by their collections.

To remain relevant to the public, it is essential for them to adapt and evolve. This process of adaptation and revitalization created a new framework for examining the social and cultural contexts of these collections within the broader history of medicine. As many medical museums are engaged in the decolonization process, they are also starting to revise their institutional approaches and reassess their collections which have ethically questionable provenance. Some of the detailed provenance research conducted has led to the repatriation of human remains to their respective communities.

Recent case studies from the 21st century reveal that medical museums respond to challenges in different areas. Primarily, medical museums are considering technology not as an impediment but as a tool to enhance accessibility and elaborate the scope of academic research, continuing their educational mission with innovative approaches and practices. At the same time, they are working to maintain their relevance in society by embracing modern museology concepts such as accessibility, inclusivity, and community engagement while also creating compelling new narratives and exploring innovative features in exhibition design. The case studies I have mentioned reveal how medical museums have not only implemented methods like co-creation and collaboration to communicate with their audience but have also employed technological tools and interactive displays to enhance visitor experiences with medical objects, thereby transforming the traditional museum environment into a more dynamic social and cultural space.

In this thesis, the first chapter provided an overview of the establishment of medical museums, mainly in the West, but touching on some cases in other parts of the world. It examined their challenges, and their initiatives to recontextualize themselves so that they remain relevant institutions in their respective communities. At the most recent conference by the European Association for the History of Medicine and Health (EAHMH), held in September 2023 at Rijksmuseum Boerhaave, titled “New Horizons for Medical Museums and Collections”, medical museum professionals from various institutions gathered to discuss current issues and practices. At that conference, I observed that medical museums are still striving to improve inclusivity, present more diversity, implement participatory practices with their communities, achieve decolonization given their conflicted pasts in research and display of bodily differences from the colonial period, and navigate contemporary public health issues and medical treatments, including

experimental treatments and COVID-19. They are also grappling with whether and how to display human remains within the museum context. The conference concluded with the official reestablishment of the International Association of Medical Museums (IAMM) on September 23, 2023, which aims to foster and strengthen networks and collaborations among medical museums globally, not just in Western contexts.

I presented the Gülhane Medical History Collection at the conference with the hope of including it in this network, sharing similar concerns and challenges with other global medical museums. These include enhancing engagement with medical students, healthcare workers, hospital visitors, and other relevant stakeholders. However, the collection reflects the complex political challenges faced by Türkiye over the last century, particularly due to Gülhane's former status as a military medical academy and its demilitarization following the coup attempt on July 15, 2016 (Özer). Nevertheless, Gülhane offers numerous opportunities to present the history of modern medicine in Türkiye while remaining relevant to contemporary issues. From training military doctors during the War of Independence and the World Wars to educating thousands of civilian doctors over a century, the institution's role in military medicine for emergency responses was painfully highlighted following the major earthquakes in February 2023 in southeastern Türkiye. To date, the Gülhane Medical History Museum has undergone no significant curatorial changes since its establishment in 1988, aside from minor alterations in the display cabinets, and this has raised the question of how it should be recontextualized and revitalized to meet contemporary museological standards and the needs of the community it serves.

Therefore, in this thesis, before evaluating the current physical conditions and curatorial approaches of the Gülhane Medical History Museum and offering recommendations, I examined medical museums in Türkiye to understand the context in which the museum is situated and the challenges it faces. Although the first medical collections were formed in medical schools in the 19th century with the development of modern medical education, the first official medical museum, the *Sıhhi Müze* in Istanbul, was established not only for use in medical education but also to raise public awareness and provide information on the prevention of infectious diseases, in parallel with the early 20th-century museology approach which aimed to serve society.

Later, during the early Republican and post-war periods, medical museums were established and operated in various cities across Anatolia to educate the public about health. Although many of these museums lost their function as communication tools in public health awareness due to the widespread use of telecommunications such as radio and television; and several subsequently closed, many historical buildings that had been used as hospitals, or *darüşşifa* from the Ottoman and Seljuk periods were converted into museums to depict the diseases and healing methods of those times. These museums, offering a curatorial perspective different from the Western context, and often celebrating the historical achievements of Islamic medical practices, have found opportunities to enrich the history of pre-modern medicine with more ethnographic and cultural elements. These medical museums, which have emphasized traditional medical history as well as modern medical history, have also influenced the curatorial approaches of medical history museums that were established to date, mostly within university medical faculties.

Medical history museums were established not only to educate visitors about general medical history but also emphasized specialized fields such as pharmacology, psychiatry, and dentistry; most of these types of medical collections are displayed under the auspices of academic institutions like universities. However, when these collections were provided with the physical infrastructure to display their collections, several were granted private museum status by the TMoCT, as was the case of the Cerrahpaşa Medical History Museum.

To obtain private museum status and increase visitor engagement, many medical museums in Türkiye have reorganized and recontextualized themselves. Considering that one of the future plans of the Gülhane Medical History Museum, as an institution affiliated with the Department of Medical History and Deontology at the University of Health Sciences, is to obtain private museum status, examining the physical and curatorial changes these other medical museums in Türkiye have undergone, as well as the challenges they have faced from past to present, is an important step in providing recommendations concerning the actions Gülhane needs to take in the future.

Another essential element in understanding and evaluating the context in which Gülhane is connected is to comprehend its role in medical education and medical history as a medical institute. Established in 1898 as a military medical practice hospital and now

functioning as a teaching and research hospital under the University of Health Sciences, Gülhane has been one of the pivotal military hospitals since the late Ottoman period. It has also served as a military academy and command center for training military doctors and healthcare professionals who were transitioning through different administrations, structures, and cities. Since 2016, it has continued to operate as a civilian hospital and university. Gülhane, with its 125-year institutional history and its passage through various political and social changes, is still a subject of an ongoing political debate and provides a unique case compared to other medical museums in Türkiye. The distinct context of Gülhane influences the way the museum's collection objects are exhibited and reflects the impact of Gülhane's complex history. The political and social changes that are part of Gülhane's institutional history reveal that when the museum was first established in 1988, the museum hall and the surrounding artworks focused on glorifying military medicine and military history. However, with its current curatorial approach, there is a shift towards reducing the emphasis on military history and presenting an exhibition narrative relatively similar to that presented in other medical museums in Türkiye.

In addition to evaluating the curatorial approach of the Gülhane Medical History Museum, this thesis also assessed whether the museum satisfies the national museology requirements needed to obtain museum status from the TMoCT, a part of its strategic plans. The investigation revealed that, aside from infrastructural shortfalls such as the absence of a conservation workshop and staff, visitor facilities, and necessary conservation and emergency measures for the safety of both the collection and visitors, no documentation efforts have been carried out according to TMoCT standards, and none of the items in the collection are inventoried. Consequently, the last section of this thesis focused on the measures and actions needed to establish a collection management policy, organizational structure, mission, and vision that aligns with both national and international standards. This involves considering globally recognized standards for inventories and other facets of museum organization, such as Object ID, ICOM CIDOC, the ICOM Code of Ethics, and the collection management policy template of AAM, while formulating the requirements for a collection management policy for the museum. The study also explored additional requirements for collection management policies in medical museums and university medical museums, both globally and in Türkiye, to assess what practical aspects should be considered in implementing such policies in a

university medical museum context. Therefore, studies concerning the adoption of technologies like digital collection management systems and metadata for collection documentation, anticipated to become more prevalent in the future, were also considered. The goal of this thesis was to identify considerations necessary for the Gülhane Medical History Museum to develop a system that not only adheres to current national and international standards but is also tailored to the institution, applicable, and sustainable.

The concluding section of this study embraced the new museum definition adopted at the 2022 ICOM General Conference, acknowledged as an international standard, and analyzed the practices and ethical issues addressed by medical museums worldwide within the scope of contemporary museological trends. Additionally, considering the objects in the Gülhane Medical History Museum's collection, the study proposed recommendations to recontextualize its curatorial approach to enhance public outreach.

Therefore, first, as a medical museum located on a teaching and research hospital campus, the necessity and method of adopting a curatorial approach that considers barriers related to vision, communication, and understanding beyond physical mobility at the Gülhane Medical History Museum was discussed. Then, considering the museum's stakeholders and audience, the feasibility of a collaborative curation approach with university students, which would make the museum more interdisciplinary and functional academically, was examined. Another participatory museum practice offered was an oral history project concerning the medical sets used by healthcare workers and doctors during their service and donated by them or their relatives upon retirement. This project has the potential to enrich the curation of medical tools and other documents and photo albums in the museum while also serving as a resource for medical history studies.

Lastly, another significant issue proposed for the museum's recontextualization concerns the human remains collection. In addition to conservation issues arising from insufficient microclimatology in some specimens, the lack of provenance documentation for these items poses significant ethical challenges concerning their display. Therefore, considering the recent approaches surrounding the display of human remains and the articles related to human remains in the ICOM Code of Ethics, it has been recommended that recontextualizing the human remains collection should be a priority for the Gülhane

Medical History Museum. Thus, a recontextualization effort in this area could serve as a model for other medical museums in Türkiye that possess human remains, such as anatomical samples and wet specimens.

In conclusion, this study initially posed the question of how the Gülhane Medical History Collection could be recontextualized and brought up to national and international museum standards. It primarily focused on investigating the transformations in the institutional, curatorial, and interpretive approaches in pioneering medical museums. Subsequently, by examining the context in which the Gülhane Medical History Museum operates within the network of medical museums, the study explored other medical museums in Türkiye and the institutional history of Gülhane itself. Considering its future plans to obtain legal museum status from the Turkish Ministry of Culture and Tourism (TMoCT), an assessment was made of the institution's deficiencies and needs, leading to discussions on considerations for an applicable and sustainable documentation and collection management policy and system. Finally, the study proposed more accessible, inclusive, and participatory approaches that address ethical issues, such as human remains, within the scope of the new ICOM museum definition and contemporary practices in medical museums. I sincerely hope that this thesis provides useful insights for the future development of the Gülhane Medical History Museum and offers valuable guidance that can be beneficial to other museums in Türkiye, encouraging a thoughtful dialogue on the evolution of museology and medical museums.

Chapter 8:
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