Learning from Empire

Learning from Empire:

Medicine, Knowledge and Transfers under Portuguese Rule

Edited by

Poonam Bala

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Dedicated to

My (late) father for his love and support during his living years
and
My mother whose blessings and love have guided me all along

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PREFACE AND ACKNOWLEDGEMENTS

Learning from Empire… drew inspiration from the II International Conference, CHAM,[1] held in Lisbon, Portugal in the year 2015. Although the main Conference theme, *Knowledge Transfer and Cultural Exchanges*, focused on the historical perspectives, practices and concepts responsible for knowledge transfers in various social situations, it opened up a new vista on understanding these in the context of the Portuguese empire and hence, *Learning from Empire.* I am thankful to the Centre for Studies in Science Policy (Jawaharlal Nehru University, New Delhi), where I was invited as a Visiting Professor, for allowing me time to facilitate my participation in the Conference.

In addition to the high quality of research engagements of individual authors in this volume, one of the major strengths of *Learning from Empire*, lies in contributions from a multi-disciplinary team of scholars in Sociology, Cultural Anthropology and History, who are reputed faculty and senior researchers as well as early career/doctoral candidates. Their research interests include a wide range of themes, focussing on history of science, history of medicine, environmental history, history of disease and medicine, history of ideas, tropical medicine, and gender-focused themes in colonial contexts, to mention a few. While some chapter contributions are drawn from presentations at the CHAM Conference, there are other contributions from scholars and specialists in social history of medicine based in Portugal. Focussing on Portuguese India and Portuguese Africa, the main themes in this study draw upon the production of biomedical knowledge and its transmission and interconnectedness within Portugal and Portuguese overseas settlements, through mobility of 'agents of transfer' as well as through medical exchanges.

Personally, this study has been an extremely enriching experience and I hope it will elicit further interest in detailed studies on the significance of networks in shaping medical knowledge in other empires and beyond. On this note, my thanks go to the authors in this volume not only for their patience and cooperation but also for being extremely prompt and courteous in their communications which made the 'long journey' of this

[1] The II CHAM (The Portuguese Centre for Global History) Conference was held at FCSH/Universidade NOVA de Lisboa, Portugal from 15 to 18 July 2015.

study less formidable. To Philip Havik, my thanks for his important suggestions.

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Poonam Bala
Cleveland, 2018

INTRODUCTION

EXPLAINING AGENTS, TRANSFERS, AND CONNECTIONS IN MEDICINE UNDER PORTUGUESE RULE

POONAM BALA

The dynamics of the spread of medical knowledge between the colonies and metropole have been the focus of scholarly discussions in the past several years; these have enabled new understandings on the transfer of scientific and medical knowledge in the colonies. While new ways of defining the colonies informed Western medicine, concomitant colonial expansion facilitated deeper interactions and encounters between Western biomedicine and indigenous healing practices. The latter's strength lay in the extent to which their medical paradigm sustained intense periods of anxieties, resistance, competition, and accommodation through medical encounters. To this effect, one may suggest that if scientific, medical, and technological innovations guided these interactional aspects between Western biomedicine and indigenous knowledge, then the colonial expansion and enterprise and the strength of medical traditions acted as a precursor to mobilities and transfer of knowledge within the colonial context. Who were the actors and purveyors of knowledge created and transferred, and what was the place of indigenous healers are important questions that need to be addressed. Methodologically, chapters in this volume address various themes of network theory and movement theory of people, ideas, and knowledge in an effort to understand the trajectory of scientific and medical knowledge and how they were shaped or defined while being appropriated in the Portuguese colonies. As the title suggests, *Learning from Empire* alerts us to the emergence of new sources of power and authority that gave credibility to the Portuguese colonial project. In this respect, *learning* is also about ascertaining the trajectory of new

specialties, new scientific disciplines, and the institutional paradigms within which the imperial project was implemented and which reshaped the peripheries. This also made negotiations with peripheries imperative; the development of global histories, the rise of new medical specialties and disciplines, and the reinforcement of indigenous healing were all manifestations of the trajectory of the Portuguese Empire, its expansion, and the establishment of powerful global networks in a multitude of encounters overseas.

In the current historiography of the Portuguese Empire and its expansion in her colonies, Daniela Bleichmar's fascinating work, *Science in the Spanish and Portuguese Empires, 1500–1800*,[1] unravels the trajectory of science, technology, navigation, and medicine and the latter's crucial role in comparative contexts—more specifically, the Spanish and Portuguese Empires. Yet other studies offer perspectives on how scientific credibility was established through varying connotations of race and color under the Portuguese Empire. Patrícia Ferraz de Matos's *The Colours of the Empire: Racialized Representations during Portuguese Colonialism*[2] provides an in- depth analysis of this. Scientific credibility and the rise of scientific and medical knowledge of the tropics also altered the manner in which medicine was to be practiced in the Portuguese colonies as well as in Portugal. In this context, Isabel Amaral traces the trajectory of the rise of tropical medicine and its crucial role in strengthening the Third Portuguese Empire. She argues that placing the study of tropical medicine on a firm footing with the foundation of the Lisbon School of Tropical Medicine and a hospital meant that "the necessary conditions for turning tropical medicine into one of the most powerful tools of the Third Portuguese Colonial Empire, among which the Colonial Hospital was a crucial element, were now in place."[3] Perhaps, one of the most comprehensive studies on the Portuguese Empire is A. J. R. Russell-Wood's, *The Portuguese Empire, 1415–1808: A World on the Move*, which elucidates useful exchanges of scientific and medical information, astronomy, arts and medicine, as well as practicing skills of practitioners between European and non-European people. In understanding the role of

[1] Daniela Bleichmar, Paula De Vos, Kristine Huffine, Kevin Sheehan, eds., *Science in the Spanish and Portuguese Empires, 1500–1800* (Stanford: Stanford University Press, 2009).

[2] Patrícia Ferraz de Matos, *The Colours of the Empire: Racialized Representations during Portuguese Colonialism* (Oxford: Berghahn Books, 2013).

[3] Isabel Amaral, "The Emergence of Tropical Medicine in Portugal: The School of Tropical Medicine and the Colonial Hospital of Lisbon (1902–1935)", *Dynamis*, 28 (2008), 299–336, 299.

indigenous healers and folk practitioners, Timothy Walker, in his *Doctors, Folk Medicine and the Inquisition: The Repression of Magical Healing in Portugal during the Enlightenment,* looks at the pivotal role played by the Inquisition and elite surgeons and physicians in denouncing folk healers. His work is noteworthy in addressing conflicts between the learned culture of formally trained medical professionals and the popular medical culture of folk healing. In all of these important studies, one would have wished for a larger focus on the understanding of the various exchanges and transfers of medical knowledge that took place within the Portuguese colonies and on the shaping of not only the knowledge but also of medical communities as a result of interconnectedness. The essays in this collection address these gaps by focusing on, firstly, the trajectory of connections of knowledge through various "agents of transfer" and "agents of network" through mobility of people, and, secondly, on the emergence of various medical innovations as a result of medical exchanges and new information about the medical world and their perspectives in the empire. This study also adds new perspectives on network theory and movement and mobility of people and their role in medical exchanges, transfers, and networks within the empires. It was through these "transformed mobilities" that transnational disease surveillance mechanisms were established and communicated within and beyond the imperial colonies.[4] The above mentioned "agents of network"—engagements between Europeans and non-Europeans and the various strategies deployed to facilitate these engagements, played an important role in overseas expansion of empires. In their recent study of networks under empires,[5] Cátia Antunes and Amélia Polónia understand these complexities "from the point of view of self-organized networks" and interactions between various agents of network. The state, they argue, becomes less significant as "informal, trans-imperial and trans-national networks"[6] gain prominence in the empires. An important outcome of these engagements is the confluence of and continuity in the movement of ideas, people, and their mutual influence between Portugal and its colonies, the combined force of which created a *site* which witnessed the influence of transnational networks across the boundaries. Discussing new developments as a result of colonial policies, Philip Havik, Alexander Keese, and Maciel Santos, in

[4] Robert Peckham, "Disease and Medicine," in *The Encyclopedia of Empire,* ed. John M. Mackenzie (NJ: John Wiley and Sons, 2016), 1–12, 9.
[5] Cátia Antunes and Amélia Polónia, eds., *Beyond Empires: Global, Self-organizing, Cross-Imperial Networks, 1500–1800* (Leiden: Brill, 2016).
[6] Antunes and Polónia, *Beyond Empires*, 3–4.

Administration and Taxation in Former Portuguese Africa, 1900–1945,[7] assert that colonial taxation policies in the "third" African empire of Guinea, Angola, and Mozambique were responsible for long-term effects on the social and cultural lives of postcolonial African populations; the latter's response as a result of these encounters and colonial interventions, however, cannot be overlooked in these transformations.

The nineteenth century is particularly significant both from the point of view of knowledge sharing and the emergence of transnational and trans-imperial knowledge,[8] which had implications for the common shared perspectives on public health issues in the colonies. For instance, the rise of tropical medicine as a specialty was a marker of "an inter-European and international science . . . where medical specialties forged strong connections with each other across borders" with impact "on the development of health-care policies under several different colonial administrations in Africa before 1914."[9] These connections were also brought to light when the emergence of new medical experimental specialties as a result of research activities undertaken by scientists reshaped the "scientific ethos,"[10] modernizing scientific and medical research in later years. Sometimes, in the imperial context, science creates its own path of authority and eminence, irrespective of scientific knowledge of the *metropole*. In studying the circulation of botanical knowledge between Calcutta and Kew, for instance, Nagar argues, "The networks of communication were not entirely controlled by powerful administrators in the metropole. . . . The independent production of scientific knowledge in the colonies inhibited the global flow of scientific information."[11] This not only interrupted prevalent ideas of colonial authority but was also inimical to colonial interests in demonstrating the

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[7] Philip Havik, Alexander Keese, and Maciel Santos, eds., *Administration and Taxation in Former Portuguese Africa, 1900–1945* (Newcastle-upon-Tyne: Cambridge Scholars Publishing, 2015).

[8] Peckham, "Disease and Medicine."

[9] Deborah Neil, *Networks in Tropical Medicine: Internationalism, Colonialism and the Rise of a Medical Specialty, 1890–1930* (Stanford: Stanford University Press, 2012), 131.

[10] Isabel Amaral, "The Emergence of New Scientific Discipline in Portuguese Medicine: Marck Athias's Histophysiology Research School, Lisbon (1897–1946)," *Annals of Science* 63, no. 1 (2006): 85.

[11] Khyati Nagar, "Between Calcutta and Kew: The Divergent Circulation and Production of *Hortus Bengalensis* and *Flora Indica*," in *The Circulation of Knowledge between Britain, India and China: The Early-Modern World to the Twentieth Century*, ed. Bernard Lightman, Gordon McOuat, and Larry Stewart (Leiden: Brill, 2013), 153.

efficacy of new theories to assert power and authority.

Learning from Empire discusses various issues involved in the creation of scientific and medical knowledge as a result of scientific endeavors in the vast Portuguese Empire. Thus, knowledge production and its origins were not only a sequel to scientific discoveries but emerged from various knowledge networks and connections forged between medical men in the expanding empire. Although knowledge was produced in specific sociocultural and environmental contexts, these connections led to an "international science" that was considered necessary to handle public health diseases and epidemics in the Portuguese colonies. In matters of knowledge acquisition as a result of Portuguese exploration, "understanding of global navigation and geography" and "contributions to the fields of pharmacological botany and medicine" were two most important tenets of empire building from the sixteenth to the eighteenth centuries.[12] *Learning from Empire* also unravels aspects of medicine and medical practice to uncover the underlying colonial engagements and processes of transferring scientific knowledge, medical knowledge, architectural knowledge, and medical practice. It also examines the nature of networks of knowledge resulting from imperial-indigenous interactions and the various forms they acquired in the process of being established in the colonies. An important result of these encounters was the importance accorded to visual culture and images of natural history—a central feature of early modern Europeans. Projected as being indispensable to colonial expeditions in the colonies, the manufacture and use of images "through nature, particularly foreign and exotic nature, was investigated, explained and possessed by early modern Europeans;" the visual culture also made the "empire's nature identifiable, translatable, transferable and appropriable."[13] This was also influenced by the professional aspirations and curiosities of scientists, which explains their preoccupation with scientific endeavors carried out within the paradigm of European-indigenous interactions. Ricardo Roque has recently studied this with particular reference to East Timor[14] where

[12] Timothy Walker, "Acquisition and Circulation of Medical Knowledge within the Early Modern Portuguese Colonial Empire," in *Science in the Spanish and Portuguese Empires, 1500–1800*, ed. Daniela Bleichmar, Paula De Vos, Kristin Huffine, and Kevin Sheehan (Stanford: Stanford University Press, 2009), 247.

[13] Daniela Bleichmar, "A Visible and Useful Empire: Visual Culture and Colonial Natural History in the Eighteenth-Century Spanish World," in *Science in the Spanish and Portuguese Empires*, 310.

[14] Ricardo *Roque, Headhunting and Colonialism: Anthropology and the Circulation of Human Skills in the Portuguese Empire, 1870–1930* (Basingstoke: Palgrave Macmillan, 2010).

new curiosities of colonialism, he admits, provided varying perspectives on construction of racial categories; these new curiosities and new racial categories were manifested through the colonial past of human remains collections. Another feature of imperial-indigenous encounters can also be deciphered through the print culture of the seventeenth and eighteenth centuries, which bridged the gap between the unseen and the visible—as has been described in early modern central Africa. The manuscripts were not only visually constructed images that employed "representation as a strategic tool…to shape viewers' understanding of elusive forms of knowledge" but also were a medium through which ideas could be translated across cultural lines.[15]

The preeminence of racialist theories within the Portuguese Empire has acquired greater significance in current debates on colonialism. Cristiana Bastos's study on physicians under the Portuguese Empire is particularly noteworthy for its contributions to unraveling various perspectives on locating and examining their contributions and interactions with local healers in the Portuguese colonies. In *Race, Medicine and the Late Portuguese Empire*,[16] Bastos examines how the Indo-Portuguese physicians trained at the Medical School of Goa handled ideas on racialist theories under the paradigm of a "transcontinental Portugueseness."

In discussing the nature of interactions between physicians as agents and the colonial authorities, Bala's essay focuses on the significance of royal patronage in knowledge transfers. Locating various agents of establishment of networks and of knowledge transfers, these are being addressed here through institutions and the architectural layout of medical institutions that depict a new hygiene project combining the European social medicine and the ideology of the paternalistic Portuguese dictatorial regime, as discussed by Alice Santiago Faria. This was also achieved through the medical manuscripts that arrived in Portugal from India and revealed the historical dynamics of centralized power and its eventual dwindling as these networks were established, as discussed in the essay by Fabiano Bracht and Amelia Polonia**,** and through local medical knowledge and different sociocultural contexts.

A new perspective in the connectedness of knowledge is provided by

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[15] Cecile Fromont, "Collecting and Translating across Cultures: Capuchin Missionary Images of Early Modern Central Africa, 1650–1750," in *Collecting Across Cultures: Material Exchanges in the Modern Atlantic World*, ed. Daniela Bleichmar and Peter C. Mancall (Philadelphia: Pennsylvania University Press, 2011): 134.

[16] Cristiana Bastos, "Race, Medicine and the late Portuguese Empire: The Role of Goan Colonial Physicians," *Journal of Romance Studies* 5, no. 1 (2017): 25.

the indispensable role of African slaves as "human agents" in transferring knowledge as they migrated from one sociocultural context to another. While "slavery was a permanent institution but a transient culture with few artifacts produced out of slavery having any aesthetic value,"[17] in late seventeenth- and eighteenth-century Jamaica, the paucity of surviving possessions of slaves, however, dictated partly by "endemic racism,"[18] has impeded the "memorialization of legacy of slavery."[19] Nevertheless, they have played a significant role in shaping medical knowledge. Eugenia Rodrigues focuses on the transfer of medical knowledge, primarily medicinal plants, through African slaves from Mozambique who were used as purveyors of medical knowledge in the imperial project. As scientific knowledge and, therefore, medical knowledge advanced, ideas on successful public health care and the growth of anatomy as a specialty became sites of contestation and conflicts between the metropole and the colonies**.** Despite the latent tensions and conflicts, as Isabel Amaral discusses in her essay, there was "general consensus" on colonial strategies and policies that were to shape Portuguese colonial discourse on disease, health, and medicine. Taking this further, Monique Palma's chapter focuses on the emergence of anatomy and knowledge of bones as a prerequisite for the understanding of the human body in the eighteenth century; travels and migration of doctors also enabled forging a complex framework of medical and surgical knowledge.

The gradual internationalization of networks and shifts in epistemological approaches and scientific research, thus, opened up new opportunities for the development of therapies, as discussed by Philip Havik**,** while their circulation was achieved through scientific translation, often perceived as indispensable to their transfer to the scientific paradigm and circulation**.** Ricardo Roque highlights this aspect in his discussion on the scientific translation of the seeds used in medical practices for combatting smallpox. Translation as a method of transfer of knowledge acquires greater significance in terms of knowledge and cultural exchanges, which focus on communicating scientific, social, technical, or cultural ideas. While the biodiversity and heritage in the colonies facilitated new policies necessary for imperial expansion and colonization, strategies of disease control were often governed by the sociocultural and political context in which they occurred. On several occasions, scientific

[17] Trevor Burnard, "Collecting and Accounting: Representing Slaves as Commodities in Jamaica, 1674–1784," in *Collecting Across Cultures*, ed. Bleichmar and Mancall, 180.
[18] Ibid.
[19] Ibid.

curiosities and "proven scientific" efficacy of medicinal drugs and procedures act as formidable barriers to appropriation of, especially, indigenous knowledge. Ana Cristina Roque charts out a trajectory of lack of cooperation by European physicians with indigenous healers and the knowledge they possessed in Mozambique. Along the same lines, Bárbara Direito and Jorge Varanda suggest that the scientific and political agendas of the colonial medical services between 1900 and 1974 were largely responsible for limited and "ineffective" control of major public health hazards, including both trypanosomiasis (sleeping sickness) and tuberculosis. This was despite the new shift to collective and preventive health care colonial agenda with focus on restructuring native populations in Portuguese colonies. In his recent research, Samuel Coghe outlines these policies in Portuguese Angola where colonial visions of a "new" Angola also became part of a global project of social reform at the same time connecting Portugal with the "global history of rural development in twentieth century colonialism."[20]

The essays in *Learning from Empire* demonstrate the indispensability of both human and nonhuman agents of transfer of knowledge, often reinforced by various social, cultural, and political underpinnings. Together, they deal with the significance of interlocking networks of empire created through encounters, movements, travels, and enhanced means of communication as a result of improved scientific technology. In all of these, agents, networks, and constructed knowledge became imperative in a cross-cultural context. Different webs of circulation and their internationalization in the Portuguese Empire were a result of circulation of knowledge created by various *purveyors of knowledge* in the form of medical manuscripts, visual culture, physicians, African slaves, ideas, and their shared culture of translation of ideas and disease-control programs.

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[20] Samuel Coghe, "Reordering Colonial Society: Model Villages and Social Planning in Rural Angola, 1920–1945," *Journal of Contemporary History* 52, no. 1 (2017): 18. Samuel Coghe's is a very comprehensive and informative account of the development of model villages in Portuguese Angola with the engagements of the native population.

CHAPTER ONE

PHYSICIANS, KNOWLEDGE AND CURIOSITIES IN COLONIAL GOA

POONAM BALA

> Unable to meet the proper conditions, a situation that has crystallized since its founding in 1865, I believe that it might be better to close the Medico-Surgical School of Nova Goa, and financially support a group of students that may wish to take courses in the Medical School of Bombay every year. Portuguese India would have nothing to lose, and would probably only figure to gain, stated Cesar Gomes Barbosa, the then Health Inspector, in his report to the Minister of Navy and Overseas Affairs in Portugal in 1897.[1]

Medical education

Cesar Gomes Barbosa's comment, as above, speaks volumes on the state of the Medical Surgical School toward the end of the nineteenth century. It seems that although medical education acquired equal significance in the British and Portuguese Empires, its merits and the impact in the colonies differed. While there was the "Portuguese administration's lack of interest in exercising 'colonial biopower' in India,"[2] British India witnessed the emergence of new trends in medical practice, sanitation, and public health measures under the overarching ideology of Western biomedical power and its use as a tool for the imperial control. To this effect, medical education in Bombay acquired

[1] See Cristiana Bastos, "The Inverted Mirror: Dreams of Imperial Glory and Tales of Subalternity from the Medical School of Goa," *Etnográfica* 5, no.1 (2002): 66. César Gomes Barbosa, (1897) *Relatório da inspecção ao Serviço de Saúde do Estado da Índia* Arquivo Histórico Ultramarino, Sala 12, Serviço de Saúde da Índia, maço # 1988, cited by Cristiana Bastos, "The Inverted Mirror."

[2] Cristiana Bastos, "Race, Medicine and the Late Portuguese Empire: The Role of Goan Colonial Physicians," *Journal of Romance Studies* 5, no.1 (March 2005): 27.

greater significance in the Portuguese Empire as well as under the East India Company and later under the British Empire. Established with the patronage of local urban-wealth elites and successful Parsis, the medical school in Bombay, called the Grant Medical College, forged useful links between physicians trained at the Medical School in Goa (detailed discussion below) and the Portuguese authorities. This essay argues that although Portuguese physicians offered useful resources for medical practice throughout the Portuguese-ruled colonies of Africa as well as in Portuguese Goa, they encountered an unforeseen competition with indigenous doctors practicing Ayurveda[3] as well as physicians trained under the East India Company. This also created a "new culture of multiple spaces" within which prevailed ideas and multiple paradigms of scientific and medical learning. This was further strengthened by the institutionalization of medical training. The establishment of the first medical institution in India (the Native Medical Institution [NMI; founded in 1822]), the first medical school of Goa (founded in 1842), and the Grant Medical College of Bombay (established in 1845) was symbolic of these new developments. The NMI was established in Calcutta[4] for the purpose of instructing young Indians—Hindus and Muslims—to fill the subordinate positions as native doctors in the civil and military establishments of the Presidency of Bengal; it also aimed to supply government dispensaries and local medical institutions in India with a class of hospital apprentices apart from creating a profession of Indian doctors, "which should, some day, rival the professional bodies of Europe."[5] Its foundation also marked a new phase in the medical history of British India and represented the first organized effort by the British administrators to make medical education accessible to the Indian population. About the same time, colonial interests in encouraging an independent medical profession were placed high on the list of colonial priorities in health matters. The medical emergencies as a result of the First War of Independence (1857) and the local demands for extended medical services put a greater strain on the medical authorities to increase their responsibilities toward the general population; this was

[3] Based on the five natural elements and three humors (tridoshas) for diagnostics and treatment, this is one of the oldest practicing medical systems, believed to have originated almost 2,000 years ago. In India, Ayurveda is currently practiced with other medical systems, including Unani, Siddha, homoeopathy (under the government-supported department of AYUSH), and modern biomedicine.

[4] This is the capital city of the state of West Bengal, which was earlier part of the Presidency of Bengal under the British Empire, now renamed, Kolkata.

[5] H. A. Haines, ed., *Memorandum of the Life and Work of Charles Morehead* (London: W. H. Allen, 1884), 18.

taken care of by strengthening the subordinate medical services to cater to the troops arriving in Bombay for the suppression of the First War of Independence. The exigencies of the epidemics and their repeated occurrence also pushed the government into new decisions and policies on protecting the European and civilian population. While the epidemic cholera of the early to mid-nineteenth century was a major precursor to expansion of medical services in India, elsewhere, in the largest colony of Portugal, Angola, the outbreak of the sleeping sickness epidemic alarmed and created great deal of anxiety and panic about high mortality rates. This called for increased focus on health care policies to avert high infant death rates; these anxieties were based on the belief that "the African population under their rule was diminishing, or at best stagnating and physically degenerating."[6]

The founding of the *Escola de Médico-Cirúrgica Nova Gova* (Medical Surgical School of Nova Goa; hereafter, Medical Surgical School) in 1842 is a history of negotiations between the Portuguese administration and the local population in Goa. There are several narratives that speak of the Medical Surgical School as being the oldest in Asia, as having pioneered medical education in India and produced eminent doctors who became indispensable in providing medical relief during the epidemic outbreaks of various tropical diseases, including sleeping sickness, the plague, and smallpox in Portuguese colonies; nevertheless, Lisbon did not acknowledge its existence until 1847 when empire building in Africa called for further deployment of various physicians—Africans, Portuguese, or Indo-Portuguese—as "imperial agents" in the services of colonial Africa under Portuguese administration. Nevertheless, Bastos, in unraveling the role of physicians in Portuguese India, contends that although the medical role of these physicians cannot be overlooked, the Indo-Portuguese physicians trained at the Medical Surgical School exhibited social and racial differentiations of the prevailing system by reinforcing concepts of race and racism within the Portuguese Empire by being excluded from the colonial paradigms of acceptable professional positions.[7] Arthur Ignacio da Gama (an Indo-Portuguese physician who graduated from the Medical Surgical School in 1875 and practiced in colonial Mozambique) and Germano Correia (a physician-anthropologist in Portuguese Angola)

[6] Silva Telles, "These Assistência aos Indígenas," in *Sociedade de Geografia de Lisboa, I Congresso Colonial Nacional. Actas das Sessões* (Lisboa: Typ. A Liberal, 1902), 25–26. Details on this have been obtained from Samuël Coghe, "Inter-imperial Learning and African Health Care in Portuguese Angola in the Interwar Period," *Social History of Medicine* 28, no. 1, (2015): 134–54.

[7] Bastos, "Race, Medicine and the Late Portuguese Empire," 23–36.

"pioneered" the theorization of race and racism through their manuscripts and medical writings that would "show a racialized society where hierarchies were naturalized on the basis of physical differences."[8] This also meant a reaffirmation of white supremacy and relegating "the Africans lowest level of human existence."[9] Although both physicians "epitomized a feature of Portuguese colonialism: the production and segregation of particular groups that were allocated a key role in the colonial administration," they were "banned from its upper echelons"[10] this reinforced racialized and discriminatory ideas on the "innate inequality between the Africa and the European, the former living in an earlier state of civilization than the latter, and only capable of evolution through contact with the latter."[11] This may have only added to this growing dissatisfaction and differences within the community. After 1868, the graduates of Goa occupied nearly two-thirds of the second-tier positions in the colonial health services.[12]

The Medical Surgical School played a different role in Portuguese India than the medical schools founded by the British authorities. By the time the Medical Surgical School was established, India under the East India Company, already had had the first medical schools where indigenous healing systems, Ayurveda and Unani, were taught in Indian vernaculars. Besides, the abolition of the NMI in 1835 did not mean the end of medical instructions to Indian people, for classes in medicine were transferred into separate schools. By the 1880s, the strength of indigenous medical groups under British India, coupled with anticolonial polices that found expression in the rise of nationalism, pushed the authorities into

[8] Ibid., 25. For details, see other articles by Bastos. Bastos "Um luso-tropicalismo às avessas: colonialismo científico, aclimação e pureza racial em Germano Correia," in *Fantasmas e fantasias imperiais no imaginário Português contemporâneo,* ed. Margarida Calafate Ribeiro and Ana Paula Ferreira (Oporto: Campo das Letras, 2003), 227–53; and Cristiana Bastos "O médico e o *inhamessoro*: relatório do goês Arthur Ignacio da Gama em Sofala," in *A persistência da história*, ed. Clara Carvalho and João de Pina Cabral (Lisbon: Imprensa de Ciências Sociais, 2004), 91–117.

[9] Bastos, "Race, Medicine and the Late Portuguese Empire."

[10] Ibid., 25.

[11] Patricia Ferraz de Matos, *The Colours of the Empire: Racialized Representations during Portuguese Colonialism*, trans. Mark Ayton (Oxford: Berghahn Books, 2013), 114.

[12] For details, see Cristiana Bastos in Poonam Bala, "Teaching Europe and Medicine in Nineteenth-Century Goa: Local and Colonial Agendas," in *Contesting Colonial Authority: Medicine and Indigenous Responses in Nineteenth- and Twentieth-Century India*, ed. Poonam Bala (MD: Lexington Books, 2012), 33.

implementing new health policies for India. The establishment of the Calcutta Medical College in 1835 opened up a new chapter in the history of Western medical education in India. The Calcutta Medical College, along with the Grant Medical College in Bombay (founded in 1845 and modeled on European-style teaching) introduced a new paradigm for medical practice but also enriched it with new perceptions of disease, medicine, and health, redefining the epistemology of Western biomedicine in India. Nevertheless, Ayurveda, Unani, and other local practices continued to thrive and became an indispensable part of several competing healing practices; medical pluralism, defined by contestation and competition and appropriation between Indian and Western medicine, characterized the nature of the medical profession under British rule and in so doing, contestations over medical practices "revealed the unstable and contested nature of power in colonial times and places."[13] By contrast, there is much to be said about the Medical Surgical School and its tumultuous trajectory under Portuguese-administered Goa. In accepting that the Medical Surgical School may not have been designed to train Western-style doctors for the services of the empire, the engagements and the interests of the agency and influential social groups become significant; perhaps it was an outcome of a collective and conscious decision by both in setting boundaries in how much they wanted to learn about Western-style medical education.[14]

The status of indigenous healing practices in Goa reflected parallels with those in the Presidencies of Bengal and Bombay under British rule in India, especially in the decades after the 1850s. Competition and rivalry between practitioners of indigenous medicine and those trained in Western medicine became apparent and more intense, often punctuated by mutual appropriation and acceptance. In Goa, too, varying degrees of disapproval and resistance characterized this relation, although some reports about the Medical Surgical School indicate the popularity of indigenous practices over Western-style medicine.[15] This may have led to professional animosity between Western-styled medical doctors and indigenous healers

[13] Poonam Bala and Amy Kaler, "Contested 'Ventures': Explaining Biomedicine in Colonial Contexts," in *Biomedicine as a Contested Site: Some Revelations in Imperial Contexts*, ed. Poonam Bala (MD: Lexington Books, 2009), 7.

[14] Cristiana Bastos, "Medical Hybridisms and Social Boundaries: Aspects of Portuguese Colonialism in Africa and India in the Nineteenth Century," *Journal of Southern African Studies* 33, no. 4 (2007): 767–82.

[15] In "Medical Hybridisms," Bastos examines this in the light of detailed discussions in the reports by the head surgeon, José António de Oliveira and by the head physician, Eduardo Freitas e Almeida.

practicing Ayurveda and Unani, for the latter's popularity created a wide gulf between physicians at various levels.

The royal courts, physicians, and curiosities

The apparent lack of recognition of medical education at the Medical Surgical School became more evident and public with the rising expressions of new print culture and through various narratives toward the end of the nineteenth century. In this context, the medical graduates of the Medical Surgical School, these narratives indicate, are replete "with expressions of bitterness about how they always ranked lower than the Portuguese. Goa's graduates were taken as good enough to practice in Africa and Asia, but not good enough to do so in Portugal, or to coordinate the health services, or to teach in their own school."[16] While the British colonial doctors gained fame and recognition and built new and successful careers through their long association with the Grant Medical College in Bombay, the Calcutta Medical College, and other medical institutions, this was not the case for graduates and doctors of the Medical Surgical School, as the latter were considered inferior to those trained in Portugal.

Amid these unfavorable conditions, Portuguese physicians were quick enough in forming amicable alliances with Indian kings and nobility; this had profound implications for the justification of the power of royal patronage in rescuing the medical profession under Portuguese rule in India. Several Portuguese physicians earned a reputation amassing fortunes under the royalty; in 1699, for instance, the rulers in western part of India made repeated requests to bring in Portuguese doctors for cure of various illnesses. One name that often comes up in these discussions is that of the famous Peshwa ruler, Balaji Rao, whose son was under long-term care of a Portuguese physician.[17] Similarly, Nizam Shah extended his appreciation for Garcia da Orta when he employed him as the *persona grata* at his royal courts in Ahmadnagar; Garcia da Orta, a celebrated doctor in Goa, is the author of the famous *Coloquios dos simples e drogas e cousas medicinais da India* in 1563 (*Conversations on the Simples, Drugs and Medicinal Substances of India;* hereafter, *Coloquis)* in Goa.

[16] Cristiana Bastos, "The Inverted Mirror: Dreams of Imperial Glory and Tales of subalternity from the Medical School of Goa" *Etnográfica* VI, no. 1 (2002): 67; Anna Winterbottom and Facil Tesfaye, eds., *Histories of Medicine and Healing in the Indian Ocean*, 2 (Basingstoke: Palgrave Macmillan, 2016).

[17] For details, see Panduronga Pissurlencar, "Contributions to the History of Portuguese Medicine in India: Some Portuguese Doctors at the Indian Courts," *Arq. Escola Med.Cirurg. Nova Goa*, no. 1 (1927): 61–68.

Various "firsts" are attributed to this grand compilation; it is known to botanists as containing the first accounts of many Oriental plants, and it lay "the earliest foundation for the science of tropical medicine and materia medica, as taught in European universities, where it continued to be used as an authoritative text for the next two or three centuries,"[18] even predating "the important therapeutic advances made by illustrious members of the British and French colonial medical services."[19] It also generated awareness and ideas of Asiatic cholera within the European medical community. Compiled into fifty-nine chapters, the detailed descriptions of both traditional and modern medicinal plants are based on a "scientific" dialogue between Garcia da Orta's personal observations and "a hypothetical Dr. Ruano, a learned graduate of Salamanca but new to the tropics, who quotes the old classical medical views and theories of Dioscorides, Galen, Pliny, etc."[20]

While medical knowledge contained in the *Coloquis* acquired greater significance within the medical community of learned physicians at the time, "new technology was taken back to Portugal by Garcia Da Orta."[21] The introduction of the Inquisition in Goa by Portugal in 1560, however, displaced several physicians, putting their practice into a perilous situation as they fell from grace. Exceptions to this were a handful of physicians who, by their long-term associations with the local elites and influential patrons in Portuguese government in Goa, could escape being targeted by the Inquisition, although meeting the same fate as others; Garcia Da Orta later faced trials by the Inquisition and his practice was suspended. Prior to this, his practice had flourished a great deal when he found a safe haven under Martim Affonso de Sousa and later under Burhan Nizam Shah I (r. 1510–53) of the Ahmadnagar Sultanate where he "was one of a consortium of Persian, Arab, and Hindu physicians who also served the Shah."[22] In so doing, Garcia Da Orta had established amicable alliances with mutual collaborations with Indian physicians who were practicing Ayurveda and Unani[23] locally. Despite professional disagreements over the

[18] Ivan A. D'Cruz, "Garcia da Orta in Goa: Pioneering Tropical Medicine," *British Medical Journal* 303 (December 1991): 1593–4.
[19] A. D'Cruz, "Garcia da Orta in Goa."
[20] Ibid., 1593.
[21] Bindu Malieckal, "Early Modern Goa: Indian Trade, Transcultural Medicine, and the Inquisition," *Scripta Instituti Donneriani Aboensis*, 26 (2015): 141.
[22] Malieckal, "Early Modern Goa," 141.
[23] Unani medicine, also called Greco-Arab medicine, was introduced by physicians under the Mughal rule in India. Both Ayurveda and Unani flourished and coexisted under royal patronage in India. In earlier works, Bala discusses the historical

medicinal use of certain plants between Garcia Da Orta and local physicians, there was mutual cooperation, especially in matters of knowledge of drugs; this contributed to the development of transcultural medicine [24] that reflected common tenets of medical practice and reciprocity between Indian and European physicians. While differences and conflicts between Garcia Da Orta and native physicians arose on the use of pepper and bloodletting, there was agreement over the medicinal properties of turmeric (*açafrao da terre*), "mixed with orange juice and cocoa-nut oil"[25] in the treatment of various afflictions of the skin, eyes, and digestive system. The benefits of turmeric inspired Garcia Da Orta to advocate its wider application through commercialization, eventually importing it back to Portugal.[26]

Ibrahim Adil Shah of Bijapur is also known to have been treated by Fernão Lopes Da Orta. The thriving practices of physicians and their royal patrons inspired various missionaries to establish alliances with the royalty. In studying the role of Jesuit scientific missions in the East, Bailey uncovers the significant role played by a Portuguese physician, Pedro da Silva Leitao and Father Manoel de Figueiredo SJ, as "Jaipur's only missionaries before 1740."[27] The two names, he adds, are associated with various architectural projects in science under the rule of Maharaja Sawai Jai Singh II Kachhwaha of Jaipur.[28] Known as the most enlightened king of eighteenth-century India, Maharaja Sawai Jai Singh was able to build a platform for imperial edifice of navigational knowledge necessitating accuracy and precision in inventing new astronomical instruments. He is also hailed as a remarkable scholar of science, architecture, and mathematics,

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trajectory of Ayurveda and Unani in their initial days of collaboration as well as later under British rule and the professionalisation of medicine. Poonam Bala, *Imperialism and Medicine in Bengal: A Socio-Historical Perspective* (Delhi: Sage, 1991), and Poonam Bala, *Medicine and Medical Policies in India: Social and Historical Perspectives* (MD: Lexington Books, 2007).

[24] Malieckal, "Early Modern Goa," 144.

[25] Clements R. Markham, ed., *Colloquies on the Simples and Drugs of India* (London: Henry Sotheran, 1913),
165. See also Malieckal, "Early Modern Goa."

[26] Ibid., 165.

[27] Gauvin A. Bailey, "A Portuguese Doctor at the Maharaja of Jaipur's Court," *South Asian Studies* 11, no. 1 (1995): 51.

[28] Maharaja Sawai Jai Singh II (1686–1743) was the ruler of the Rajput State of Amber in India. The title "Sawai" (one and a quarter) was bestowed upon him by Emperor Aurangzeb under the Mughal Empire, declaring him a quarter superior to his famous forbearer, Mirza Raja Jai Singh (d. 1667), after Maharaja Sawai Singh captured the Fort of Vishalgarh from the Marathas in 1701.

and despite the various internecine wars, conflicts, and the resultant turmoil, he managed to build the city of Jaipur with the help of ancient Hindu texts on architecture, *Shilpa Shastra.* Building new astronomical projects did not only reflect Maharaja Sewai Jai Singh's passion for science and astronomy; it resonated an inherent culture of curiosity to promote his passion for astronomy and prediction of various astronomical and ecliptical events. His major contribution to science and architecture can be seen in the various Astronomical Observatories[29] he established with unparalleled enthusiasm. More importantly, building new projects also reaffirmed his power and gave legitimacy to his successful rule under the Mughals (1688–1743), often expressed through the astrology, "a science whose associations with kingship and divinity were deeply ingrained in both the Hindu and Muslim traditions."[30] Besides, behind Jai Singh's curiosity about gathering scientific knowledge from around the world lay his call for "the best scholarship of Hindu, Muslim and European worlds."[31]

Apart from royal patronage of physicians in India, some Portuguese physicians found professional consolations under the Portuguese court in the fourteenth century; no doubt, they were held in great esteem and won accolades for their medical contributions. Revered for their scientific curiosities, several Muslim physicians also brought encomiums while in the royal *camara* with thriving medical practices.[32] In discussing the role of the nobility as patrons of new knowledge, thus, a look at the Court Society of late medieval Portugal is crucial, for it not only reinforced the "physician-monarch" relationship but also lent visibility to the "ecclesiastical doctors in the royal *camara* who were among the group of servants of the body of the king, and included physicians (both Christians and Jews), surgeons, apothecaries and barbers."[33] The interconnectedness through close proximity and the carrying out of efficient functions created a "society" of noblemen, clergy, artisans, and professionals at the royal courts in Portugal wherein routine activities could be performed more

[29] Also called Jantar Mantar or "Formula of Instruments."
[30] Bailey, "A Portuguese Doctor," 51.
[31] R. K. Gupta and S. R. Bakshi, eds., *Studies in Indian History: Rajasthan through the Ages: Jaipur Rulers and Administration* (Delhi: Sarup and Sons, 2008), 4, 164.
[32] For instance, Master Mafamede was a physician to Fernando. See details in Rita Costa Gomes, *The Making of Court Society: Kings and Nobles in Late Medieval Portugal* (Cambridge: Cambridge University Press, 2007), 200.
[33] Gomes, *The Making of Court Society*, 165.

effectively through mutual trust and confidence.[34] Not surprisingly, royal recognition may have inspired Maharaja Sewai Jai Singh in later years to request from the King of Portugal, through the Viceroy of Goa, that a reputed European scientist and physician to be sent to his court. As stated above, Pere Manoel da Figueiredo, an eminent scholar of science, was accompanied by Pedro da Silva Leitao, a physician who later settled in Kachhwa; it is believed that one of his descendants, Hakim[35] Shewair, was a renowned physician of Unani medicine and an influential courtier in 1799.[36] Maharaj Jai Singh's contributions to astronomy opened new horizons for science and scientific endeavors. According to Bastos,[37] if the imperial project was designed primarily to train physicians and disperse them throughout the colonies, then the trajectory of the development and functioning of the Medical Surgical School contradicted the imperial purpose, although one finds references of physicians from the school being supported by the Indian nobility—as seen in case of Maharaja Jai Sewai Singh. Elsewhere, indigenous physicians played an important role, as seen in colonial Guatemala "where *curanderas* (female healers) and *parteras* (mid-wives) for much of the colonial period acted as ritual and medical specialists who ministered to pregnant and postpartum women and their infants"[38] and, for a long time, served as the most viable and popular health care choice. In contrast, in Europe, the practice of popular healers, witch hunting, and folk healers was dismantled with the rise of intellectual elite movements.. This also meant greater intolerance for popular healers "that resulted in a policy of systematic oppression during the eighteenth century."[39] Although historians have spent considerable time in examining

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[34] According to Gomes, between fourteenth and sixteenth centuries, noblemen, clergy, artisans, and professionals at the royal court lived in harmony both socially and professionally. See Gomes, *The Making of Court Society*.

[35] Practitioners of Unani medicine are called Hakims, while those of Ayurveda are called Vaids or Vaidyas.

[36] Gupta and Bakshi, *Studies in Indian History*.

[37] Cristiana Bastos, "Medical Teaching in Portuguese Colonial India: The Creation and Earliest Decades of the New Goa Medical-Surgical School," *Hist. Cienc Saude Manguinhos* 11 (April 2004): 11–39.

[38] Martha Few, "Medical *Mestizaje* and the Politics of Pregnancy in Colonial Guatemala, 1660–1730," in *Science in the Spanish and Portuguese Empires, 1500–1800*, eds. Danielea Bleichmar et al. (California: Stanford University Press 2009), 135.

[39] Timothy D. Walker, "Physicians and Surgeons in the Service of the Inquisition: The Nexus of Religion and Conventional Medical Training in Enlightenment-Era Portugal," in *Medicine and Religion in Enlightenment Europe*, ed. Ole Peter Grell and Andrew Cunningham (Aldershot: Ashgate, 2007), 30.