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Dissertation Advisor: Professor Evelyn Brooks Higginbotham Carolyn Elizabeth Roberts

To Heal and to Harm: Medicine, Knowledge, and Power in the Atlantic Slave Trade

Abstract

To Heal and to Harm: Medicine, Knowledge, and Power in the Atlantic Slave Trade is the first full-length study of the history of medicine in the eighteenth-century British slave trade and the first from both West African and British medical perspectives. This project examines the period from 1680 to 1807 – from the beginning of the Royal African Company's most active slave trading period through the abolition of the British slave trade. I draw upon an extensive multilingual source base largely comprised of slave trade merchants' records, correspondence, memoirs, medical treatises, pharmacopoeias, travel narratives, natural histories, and botanical texts. In examining the fragmentary evidence, I adopt an interdisciplinary approach that includes not only history (social, cultural, and medical), but also anthropology, pharmacology, ethnobotany, and religion. I theorize that the commercial medical needs of British slave traders were met through an intercontinental medical management system that relied on British and West African pharmaceutical and medical labor, resources, and knowledge. To this end, I study a largely unknown group of West African and British women and men, both enslaved and free. Their knowledge of pharmacy, surgery, and herbalism was mobilized to manage the harrowing physical, emotional, and social disorders of the slave trade.

I argue that the eighteenth-century British slave trade was a critical site of West African and British pharmaceutical and medical knowledge production in the Atlantic world. This project investigates how pharmaceutical and medical knowledge advanced in the midst of, and because of, the terrors of the eighteenth-century slave trade. In bringing together two largely

discrete fields of historical inquiry – the history of the slave trade and the history of medicine – I offer a major revision of both. On one hand, my research reveals how medical dimensions of the slave trade fundamentally shaped its daily operations, administrative structure, and economic organization, while also importantly altering the nature of life and death for African people. On the other hand, slave trade medicine influenced wider economic, professional, and scientific movements in the Atlantic world. I argue that the slave trade influenced the rise of the global drug industry, the modernization of medicine, and the development of natural history and botany. The slave trade fundamentally altered the lives of millions of captive Africans and medicine was transformed in the process. Ultimately, medicine serves as a fresh mode of analysis for interrogating the tragic commerce in human beings.

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Acknowledgements

This dissertation represents the generosity, dogged support, quiet patience, and inspiration of more individuals than I can name. The journey was far from straightforward. My dissertation committee, under the leadership of Evelyn Brooks Higginbotham, gave me one of the greatest gifts a graduate student could receive. They allowed me the freedom to follow my intellectual curiosity; to go wherever the project led me; and, to remain unbounded by the pressures of time so that I could deeply explore this topic with the rigor that I desired.

The five members of my dissertation committee deserve much thanks. Evelyn Brooks Higginbotham's clear vision directed my academic pursuits long before the dissertation process began. This project would not have been possible without her. I simply would not have become the historian that I am today without her wise counsel, patient guidance, and unwavering support. Jacob Olupona nurtured and celebrated my potential as a scholar from my earliest days in graduate school. Moments with him in the classroom remain some of my most cherished memories, and he continues to keep my gaze focused on the importance of producing new knowledge about West Africa that can contribute to its intellectual traditions. When I wandered into Evelynn Hammonds' office for the first time with nothing to recommend me other than a desire to study the history of medicine, she gave of her time, knowledge, and advice with stunning generosity. I would not have been equipped to take on this project without her expertise and guidance. Vince Brown has been such a champion of my work and he never ceases to challenge and sharpen me with his probing questions and rich insights. His scholarship and his approach to historical writing were an important source of inspiration to me as I wrestled with the kind of historical narrative I wished to produce. John Thornton models the best of historical methods and research, and I continue striving to achieve his level of rigorous analysis

and conceptual complexity in my engagement with African history. His generous feedback, advice, and guidance have been invaluable.

During nearly two years of archival research, archivists throughout the United Kingdom gave of their energy, creativity, and knowledge to help this project grow. At the Manx National Heritage Library and Archives, Wendy Thirkettle's deep knowledge of the collections and her enthusiasm made each day pleasurable as she laid out new material for me to read. Her excellent research on the relationship between the Isle of Man and the slave trade was inspiring. Dr. John Ford at the Worshipful Society of Apothecaries in London helped me begin to understand the possible relationships that might exist between apothecaries and slave traders. Karen Howell, the curator and herb archivist at The Old Operating Theatre and Herb Garret in London was simply mesmerizing as she demonstrated how certain simple drugs were made in the eighteenth century. Cathy Gibb in the Dumfries Archives made me fall in love with the history of the region through her conscientious work with me in their small reading room. The security personnel at the British Library and the National Archives at Kew endured my cheery morning greetings, and the rich conversations I had with them were some of my most memorable encounters during the research process.

Many institutions offered invaluable financial resources to make this dissertation possible. My overseas research was generously supported by Harvard University's Charles Warren Center for Studies in American History, the Krupp Foundation, and the Frank Knox Memorial Traveling Fellowship. Dissertation fellowships at the McNeill Center for Early American Studies and the Consortium for the History of Science, Technology, and Medicine offered beautiful office space, collegiality, and a vibrant intellectual community which helped

advance my thinking and writing. Generous support from the John and Elizabeth Armstrong Dissertation Fellowship allowed me to complete the writing.

This project has also benefited from lively intellectual engagement in numerous settings including Harvard University's Atlantic Studies Seminar, the Delaware Valley British Studies Seminar, Rutgers' Centre for Historical Analysis, Emory University, Loyola University, the University of Massachusetts at Boston, the American Society of Eighteenth-Century Studies, the American Association for the History of Medicine, the Northeast and Midwest Conference on British Studies, and the Society for Early Americanists.

Colleagues and fellow travelers through the graduate school process made the days better and brighter. Cohort dinners with Emily Owens, Giovanna Micconi, Erin Mosely, and Ernie Mitchell were a cherished mainstay for years. Pearl Barros always made me feel sheer delight in her presence. I remain in awe of the brilliance of my cohort at the McNeil Center who helped me and the dissertation grow in extraordinary ways.

Family and friends in the United States and the United Kingdom never ceased honoring me with their warmth, humor, and love. Darshna Vadera and her beautiful family created a home for me in Harrow. My cousin Dolly and Aunt Joyce, while she lived, brought me such joy around steaming pots of curried goat in Birmingham. The depth of love and appreciation I have for my parents and siblings is boundless. My husband Charles Berry was daily at the center of the storm and saw me through.

For Charles

List of Abbreviations

Add MS	Additional Manuscript
BL	British Library
BRO	Bristol Record Office
CO	Colonial Office Records
CRO	Cheshire Record Office
DAC	Dumfries Archives Centre
HCPP	House of Commons Parliamentary Papers
HLRO	House of Lords Records of the Parliament Office
IOR	India Office Records
LRO	Liverpool Record Office
MNHLA	Manx National Heritage Library and Archives
MHS	Middlesex Hospital Archives
NAS	National Archives of Scotland
NLS	National Library of Scotland
RCP	Royal College of Physicians
RCS	Royal College of Surgeons
SMV	Society of Merchant Venturers' Records
TNA	The National Archives, Kew
TSTDB	Transatlantic Slave Trade Database
WAS	Wirral Archives Service
WL	Wellcome Library
WSA	Worshipful Society of Apothecaries Archives

Introduction

Night after night screams of agony, sorrow, and despair reverberated throughout the slave ship *Brooks* as it crossed the Atlantic in 1783.[1] The sounds emanated from the slave hold in the belly of the ship. According to surgeon Thomas Trotter, it was "a howling melancholy kind of noise, something expressive of extreme anguish."[2] Upon hearing the sound, Trotter went below and found the women, in particular, "in violent hysteric fits." The surgeon wanted to understand the reason why, but had difficulty gathering sufficient information. When Trotter attempted to learn aspects of the captives' biographies, such as how they came to be enslaved he stated, "On making enquiries of this kind among the women, I was only answered by violent bursts of sorrow."[3] The only language many of the women offered were mournful utterances both day and night. The slave ship *Brooks* was a cacophonous wooden world marked by mourning and moaning, lamentation and grief. As the surgeon on board, Trotter was alarmed.

The primary task of slave ship surgeons during the Atlantic passage was to keep as many of the enslaved alive and in vendible condition for purchase in the Americas, and the captives' despair had the power to thwart this goal. The "depressing passions," as they were frequently referred to during the eighteenth century, such as grief, anger, fear, and anxiety, could cause disease and death.[4] "Life is sometimes extinguished by their first effects on the nervous system," wrote eminent Edinburgh physician James Gregory in 1788.[5] Such emotions could also make

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[1] For more on the *Brooks* see David Elits, et al., eds., *The Trans-Atlantic Slave Trade Database*, Voyage Identification #80664, <http://www.slavevoyages.org>, accessed 21 June 2017.

[2] House of Commons Parliamentary Papers (hereafter, HCPP), House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, vol. 73, Testimony of Thomas Trotter, 86.

[3] Ibid., 84.

[4] James Gregory, *Conspectus Medicinæ Theoreticæ, or a View of the Theory of Medicine* (Edinburgh: Printed for Stirling & Slade, 1823), 95, 380.

[5] Ibid., 95.

the body more vulnerable to disease. The depressing passions can "debilitate the whole man; disqualify him for all the vital, natural, or animal functions: whence proceed lingering illness, and often incurable diseases." The captives' despair, however, not only predisposed their bodies to disease, but provoked other life-threatening behaviors. The enslaved waged armed insurrections against their captors and likewise had a repertoire of methods by which to attempt suicide, including starvation, hanging, self-mutilation, and drowning.[6] Thomas Trotter witnessed some of this on board the *Brooks*.

The surgeon recalled that one enslaved woman helped mastermind an insurrection by stealing a knife, which she surreptitiously passed to a group of men who used the weapon to saw themselves out of their chains, before being discovered.[7] Another woman worked her way through the tall netting and plunged into the Atlantic Ocean. The mariners, however, successfully captured her and dragged her waterlogged body back on board. Without delay the captain ordered that the woman be securely chained to the mizzen-mast at the far end of the ship to hinder any future attempts she might make to escape the floating dungeon. After several days of being restrained, the captain allowed her to be unchained, and the woman again hurled herself over the edge of the ship and leapt into the rushing waters. The mariners successfully recaptured her, and the captain beat her to death.[8] Another woman refused to eat and Trotter recalled that she was "repeatedly flogged, victuals forced into her mouth, but no force could make her

[6] See for example, Marcus Rediker, *The Slave Ship: A Human History* (New York: Viking, 2007), 32–35; David Richardson, "Shipboard Revolts, African Authority, and the Atlantic Slave Trade," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 2001): 69–92; Terri L. Snyder, *The Power to Die: Slavery and Suicide in British North America* (Chicago, IL: University of Chicago Press, 2015), 23–45; Sowande M. Mustakeem, *Slavery at Sea: Terror, Sex, and Sickness in the Middle Passage* (Chicago, IL: University of Illinois Press, 2016), 94–99.

[7] HCPP, Testimony of Thomas Trotter, 87.

[8] Ibid. See also Thomas Trotter, *Observations on the Scurvy*, 2nd ed. (London: Printed for T. Longman, 1792), 63.

swallow it and she lived for the four last days in a state of torpid insensibility."[9] With dizzying repetition, these were among the events that populated the hours of the day on board slave ships as African children, women, and men were branded and chained, forcibly removed from their homes and families, and imprisoned on ships of death that would carry all who survived to the Americas.

Notwithstanding such an accumulation of violence and suffering on board ship, Trotter could not understand why nightly screams of anguish suddenly erupted in unison from the slave hold, so he sought help from the shipboard linguist. The linguist was an African woman and she was meant to serve as an interpreter, a critical mediator between West African and English languages, cultures, and worlds.[10] In the context of medicine, her interpretative skills could mark the difference between life and death as she communicated details of bodily complaints that were not immediately perceptible to the surgeon, and when gesticular modes of communication were insufficient.

Trotter ordered the interpreter repeatedly to speak with the captives to learn "the particular causes of this very melancholy noise."[11] In needing to ask her more than once, it would seem that the information was not immediately forthcoming. The enslaved may not have

[9] HCPP, Testimony of Thomas Trotter, 88.

[10] For more on the role of interpreters in the slave trade see Joan M. Fayer, "African Interpreters in the Atlantic Slave Trade," *Anthropological Linguistics* 45, no. 3 (October 2003): 281–95; Hugh Thomas, *The Slave Trade: The Story of the Atlantic Slave Trade, 1440-1870* (New York, NY: Simon & Schuster, 1997), 404; Magnus Huber, *Ghanaian Pidgin English in Its West African Context: A Sociohistorical and Structural Analysis* (Philadelphia, PA: John Benjamins Publishing, 1999), 9–58; Dale T. Graden, "Interpreters, Translators, and the Spoken Word in the Nineteenth-Century Transatlantic Slave Trade to Brazil and Cuba," *Ethnohistory* 58, no. 3 (2011): 393–419; Mariana P. Candido, "Different Slave Journeys: Enslaved African Seamen on Board of Portuguese Ships, c.1760–1820s," *Slavery & Abolition* 31, no. 3 (September 2010): 395–409; Rebecca Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," *Slavery & Abolition* 35, no. 1 (2013): 84, 91; Simon P. Newman, *A New World of Labor the Development of Plantation Slavery in the British Atlantic* (Philadelphia, PA: University of Pennsylvania Press, 2013), 166–69; Klas Rönnbäck, "The Transatlantic Slave Trade and Social Stratification on the Gold Coast," *Economic History of Developing Regions* 30, no. 2 (July 3, 2015): 171–72, 181.

[11] HCPP, Testimony of Thomas Trotter, 86.

wished to divulge such details to her, or after discovering the particulars, the interpreter may not have wanted to reveal the information to Trotter. Perhaps, from the captives' perspective some experiences on board ship were meant to be protected from the reach of their captors. Whether through threat of violence, kindly persuasion, or by some other means, the linguist eventually responded to Trotter's repeated inquiry. She explained to the surgeon that the captives experienced something akin to a collective dream. The screams of despair were "occasioned by finding themselves in a slave room, after dreaming that they had been in their own country among their friends and relations."[12] When they were roused awake and realized they were on a slave ship, the rooms erupted with their painful cries.[13] Although Trotter could not recall the exact numbers involved, it was a large enough group of people that it gave him pause.[14] The enslaved children, women, and men aboard the *Brooks* were engaged in a process of mourning that consumed their nights.

From Thomas Trotter's perspective, the collective dream offered invaluable insight for his medical practice on board the *Brooks*. He believed the nightly episode could help explain a major outbreak of scurvy that was ravaging the ship. Many of the enslaved women and men had begun to exhibit symptoms of scurvy, a disease caused by vitamin C deficiency. Long-distance sea voyages during the eighteenth century frequently had to contend with the disorder due to the lack of fresh fruits and vegetables on board.[15] Inadequate consumption of vitamin C (ascorbic

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[12] Ibid.

[13] See also Thomas Trotter, *Observations on the Scurvy* (Edinburgh: Printed for Charles Elliott, 1786), 38.

[14] HCPP, Testimony of Thomas Trotter, 96.

[15] Ascorbic acid would not be discovered until the twentieth century. The importance of eating citrus fruit to combat scurvy had been recommended and described for two hundred years by the eighteenth century. However, debate lasted through the eighteenth century in regard to the cause and the most efficacious treatment for the disease. For a small sampling of work see Kenneth J. Carpenter, *The History of Scurvy and Vitamin C*, reprint (New York: Cambridge University Press, 1987); Francis E. Cuppage et al., "James Cook's Eighteenth-Century Prevention of

acid) over an extended period of time impairs the synthesis of collagen.[16] Collagen is a protein that imparts strength, resiliency, and structural integrity to connective tissues throughout the body, such as skin, blood vessels, bones, teeth, and cartilage.[17] Without collagen, the body begins to fall apart.[18] Some of the women and men experienced severe joint pain, swollen limbs, muscle spasms, rotting gums that bled profusely, noses that gushed blood, loss of teeth, oozing skin lesions, and diarrhea.[19] In the final stages, lethargy, raving delirium, or coma served as a disquieting prelude to death.[20] Upwards of ninety people were sick at the same time, which meant "the decks in every corner were crouded [crowded] with objects of distress." With alarm, Trotter recounted that "numbers were daily taken ill, and others dropping off."[21]

Scurvy was not unfamiliar to naval surgeons as it was one of the great killers of navy seamen, and Trotter had recent experience with the disease.[22] From 1779 to 1781, Trotter served

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Scurvy by the Use of Indigenous Plants as Dietary Supplements," *Terrae Incognitae* 26, no. 1 (1994): 37–47; Mark Harrison, "Scurvy on Sea and Land: Political Economy and Natural History, c. 1780–c. 1850," *Journal for Maritime Research (Print)* 15, no. 1 (May 2013): 7–25; Jonathan Lamb, *Scurvy: The Disease of Discovery* (Princeton, NJ: Princeton University Press, 2016).

[16] Jürgen Fuchs and Podda Maurizio, "Vitamin C in Cutaneous Biology," in *Vitamin C in Health and Disease*, ed. Lester Packer and Jürgen Fuchs (New York: Marcel Dekker, 1997), 335; Lamb, *Scurvy*, 14–15.

[17] Donald R. Kirsch and Ogi Ogas, *The Drug Hunters: The Improbable Quest to Discover New Medicines* (New York: Arcade Publishing, 2016), 230; Bruce Wingerd, *The Human Body: Concepts of Anatomy and Physiology*, 3rd ed. (Baltimore, MD: Lippincott Williams & Wilkins, 2013), 78–79; Charles M. Lapière and Betty Nusgens, "Collagen Pathology at the Molecular Level," in *Biochemistry of Collagen*, ed. G. N. Ramachandran and H. A. Reddi, reprint (New York: Springer Science & Business Media, 2013), 395–97.

[18] Lamb, *Scurvy*, 14.

[19] Trotter, *Observations on the Scurvy*, 1786, 33–36; Trotter, *Observations on the Scurvy*, 1792, 55–60.

[20] Trotter, *Observations on the Scurvy*, 1786, 36; Trotter, *Observations on the Scurvy*, 1792, 59.

[21] Trotter, *Observations on the Scurvy*, 1786, 39; Trotter, *Observations on the Scurvy*, 1792, 65–66, 69.

[22] Much has been written about scurvy in the context of the Royal Navy. During the eighteenth century, clinical trials were conducted on navy vessels in order to combat the disease including improvements in food and hygiene. Scurvy also seriously impeded the British army, and the disease was responsible for more deaths in the British army in North America during the French and Indian War, than any other cause of mortality. Lessening the effects of scurvy was considered crucial to Britain's imperial aims. See for example, James Lind, *A Treatise on the Scurvy*, 3rd ed. (London: Printed for S. Crowder, D. Wilson and G. Nicholls, et al., 1772); Paul E. Kopperman, "The British

as surgeon's mate on board the *Berwick*, a ship of the line in His Majesty's Royal Navy during the American War of Independence.[23] When scurvy afflicted the *Berwick*, Trotter was able to recover many of his patients, but he lost thirty seamen to the distemper.[24] The slave ship, however, offered a new perspective on the illness which was unlike anything he had ever witnessed. "There was now little doubt that the disease in question was scurvy," Trotter wrote, "though I could by no means reconcile circumstances to any thing I had ever read or seen of it."[25] Scurvy often occurred after several months of confinement at sea, but on the *Brooks* some of the enslaved were afflicted after only being on board for fourteen days, and the sufferers were "young, stout, and apparently healthy."[26] Not only did scurvy appear earlier than was typically expected, but it also progressed more rapidly and the disease expressed itself in a particularly virulent form – one that was as severe as any recorded instance of the disorder, Trotter asserted.[27]

In attempting to comprehend the crisis, Trotter believed the collective dream represented

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Army in North America and the West Indies, 1755-83: A Medical Perspective," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 51–86; Christopher Lawrence, "Disciplining Disease: Scurvy, the Navy, and Imperial Expansion, 1750-1815," in *Visions of Empire: Voyages, Botany, and Representations of Nature*, ed. David Philip Miller and Peter Hanns Reill (New York: Cambridge University Press, 1996), 80–106; Stephen R. Bown, *Scurvy: How a Surgeon, a Mariner, and a Gentlemen Solved the Greatest Medical Mystery of the Age of Sail* (New York: St. Martin's Press, 2005); J. Bowden-Dan, "Diet, Dirt, and Discipline: Medical Developments in Nelson's Navy—Dr. John Snipe's Contribution," *Mariner's Mirror* 90 (2004): 260; Harold J. Cook, "Practical Medicine and the British Armed Forces after the 'Glorious Revolution,'" *Medical History* 34 (1990): 1–26; Brian Vale, "The Conquest of Scurvy in the Royal Navy 1793-1800: A Challenge to Current Orthodoxy," *The Mariner's Mirror* 94, no. 2 (January 2008): 160–75; Cuppage et al., "James Cook's Eighteenth-Century Prevention of Scurvy by the Use of Indigenous Plants as Dietary Supplements"; Joyce E. Chaplin, "Earthsickness: Circumnavigation and the Terrestrial Human Body, 1520–1800," *Bulletin of the History of Medicine* 86, no. 4 (2012): 515–42.

[23] Brian Vale and Griffith Edwards, *Physician to the Fleet: The Life and Times of Thomas Trotter, 1760-1832* (Rochester, NY: Boydell Press, 2010), 37–47.

[24] Thomas Trotter, *Medicina Nautica: An Essay on the Diseases of Seamen*, vol. 3 (London: Printed for Longman, Hurst, Rees, and Orme, 1804), 378–79; Vale and Edwards, *Physician to the Fleet*, 41–42, 44.

[25] Trotter, *Observations on the Scurvy*, 1786, 34–35.

[26] Ibid., 29; Trotter, *Observations on the Scurvy*, 1792, 66.

[27] Trotter, *Observations on the Scurvy*, 1792, 65, 69.

an interpretative key. Trotter argued that the captives' debilitating grief and homesickness hastened the onset of the disease and contributed to its aggressive nature.[28] The agonizing longing experienced by captive Africans on board the *Brooks* was confirmed, he theorized, through instances of suicide that the enslaved pursued with "a *stoick* [stoic] enthusiasm."[29] When Trotter testified before Parliament on behalf of the abolition of the slave trade, one of the members challenged him and asked whether food was the cause of scurvy on board the *Brooks*. Trotter replied, "I do not think the food alone would have done it."[30] Their grief and longing for home was a more consequential factor. Extreme distress and despair over the loss of their countries and kin was present from the moment most of the captives boarded the *Brooks*, and the collective dream proved how relentless and unyielding this grief was for many, the surgeon argued.[31] The enslaved children, women, and men were consumed by "depressing passions which must ever be inseparable from the situation of a human being, torn from all that is to be valued in existence," Trotter declared before Parliament.[32] Such deeply felt nostalgia for home and kin among the enslaved illustrated "the powerful effect of sedative passions of the mind, in pre-disposing the habit to scurvy."[33]

The collective dream represented a significant medical observation. Through their nightly agonies and anguish, the enslaved children, women, and men on the *Brooks* unwittingly contributed to eighteenth-century medical science in regard to the role of nostalgia in the

[28] Lamb, *Scurvy*, 34–35.

[29] Trotter, Observations on the Scurvy, 1792, 63, [emphasis his].

[30] HCPP, Testimony of Thomas Trotter, 97.

[31] Ibid., 86.

[32] Ibid.

[33] Ibid., 96-97.

etiology (cause) of scurvy. Although the depressing passions had long been established as an etiological factor in disease in general, and in scurvy in particular, Trotter became the first naval physician to explicitly theorize about the unique role of nostalgia in scurvy because of the collective dream.[34] Beyond merely predisposing the body to the disorder, Trotter grew to believe that nostalgic longings were "the first symptoms and the constant attendants of the disease in all its stages."[35] In fact, existing categories of scurvy were insufficient to truly capture what Trotter witnessed on the *Brooks*, and as he continued to test these ideas, he determined that new nomenclature was required to better reflect the significance of nostalgia in scorbutic complaints. Trotter later dubbed the condition "scorbutic nostalgia," which represented a complex joining of two diseases – nostalgia and scurvy, a linkage that took particularly vivid expression in the slave trade.[36]

Armed with this new knowledge, Trotter committed his insights to paper and authored his

[34] Lamb, *Scurvy*, 110; Jonathan Lamb, "Scorbutic Nostalgia," *Journal for Maritime Research* 15, no. 1 (May 1, 2013): 28. William Buchan's well-known *Domestic Medicine*, first published in 1769, with 142 separate editions published until 1871, articulated the commonly held belief about scurvy that "grief, fear, and other depressing passions, have a great tendency to produce this disease." See William Buchan, *Domestic Medicine* (Edinburgh: Printed by Balfour, Auld, and Smellie, 1769), 471. For more on Buchan's text see Charles E. Rosenberg, "Medical Text and Social Context: Explaining William Buchan's Domestic Medicine," *Bulletin of the History of Medicine* 57, no. 1 (1983): 22–42.

[35] Trotter, *Observations on the Scurvy*, 1792, 44.

[36] In the seventeenth century, nostalgia (derived from the Greek *nostos*, for homecoming, and *algos*, for pain or longing) was identified as a specific medical condition. The term was first coined in 1688 by Swiss physician Johannes Hofer in his *Dissertatio Medica de Nostalgia oder Heimweh* (Medical Dissertation on Nostalgia, or Heimweh) to describe the severe, and often fatal homesickness experienced by Swiss soldiers stationed abroad. For more on the history of nostalgia as a disease see George Rosen, "Nostalgia: A 'Forgotten' Psychological Disorder," *Psychological Medicine* 5, no. 04 (1975): 340–54; G. E. Berrios, "Melancholia and Depression during the 19th Century: A Conceptual History.," *The British Journal of Psychiatry* 153 (1988): 298; Filiberto Fuentenebro de Diego and Carmen Valiente Ots, "Nostalgia: A Conceptual History," *History of Psychiatry* 25, no. 4 (2014): 404–411; Philippe Birmes et al., "Early Historical Literature for Post-Traumatic Symptomatology," *Stress & Health: Journal of the International Society for the Investigation of Stress* 19, no. 1 (February 2003): 20; Helmut Illbruck, *Nostalgia: Origins and Ends of an Unenlightened Disease* (Evanston, IL: Northwestern University Press, 2012); Adrián López Denis, "Melancholia, Slavery, and Racial Pathology in Eighteenth-Century Cuba," *Science in Context* 18, no. 02 (2005): 179–99; L. Tatu, J. Bogousslavsky, and Michèle Battesti, eds., "Nostalgia in the Army (17th-19th Centuries)," in *War Neurology* (New York: Karger Medical and Scientific Publishers, 2016), 132–42; Ramesh Mallipeddi, *Spectacular Suffering: Witnessing Slavery in the Eighteenth-Century British Atlantic* (Charlottesville, VA: University of Virginia Press, 2016), 146–79.

first medical treatise, which was published in 1786, just two years after completing his voyage on the *Brooks*. "Scurvy had not been mentioned under such circumstances by any preceding writer, and it has added some very new facts to illustrate the history, and add to our general knowledge of the disease," Trotter explained to the Members of Parliament.[37] Indeed, the surgeon credited the slave ship *Brooks* for the new knowledge he published regarding scurvy. Referring to himself in the third person, Trotter wrote, "Much of the information contained in these pages, was the result of his practice in that voyage: to find that it is of any service to medical science, will, in some degree, repay him for the unpleasant months he spent in the unhallowed trade."[38]

The slave ship *Brooks* and the collective dream are not unfamiliar episodes in the history of the slave trade. Rarely, however, have these events been explored from the vantage point of medicine. As the collective dream illustrates, the slave trade and the lived experiences of captive African children, women, and men, were literally written into eighteenth-century British medicine. Although this was one episode on one slave ship out of the tens of thousands that groaned across the Atlantic, it offers a paradigmatic example of the dynamic interplay between medicine and slave trading in the Atlantic world. On one level, the collective dream and the ravages of scurvy that followed in its wake, foregrounds the intimate, bodily experiences of the enslaved. Whether acting upon suicidal desire by hurling themselves overboard, wracked with nightly anguish that reverberated throughout the ship, or wallowing in blood and excrement during epidemic outbreaks of disease, the world of medicine in the Atlantic slave trade was embodied in the lives of millions of vulnerable captives whose corporeal existence articulated

[37] HCPP, Testimony of Thomas Trotter, 97.

[38] Trotter, *Observations on the Scurvy*, 1792, xxix.

some of the most harrowing experiences of soma and psyche that attended this troubling trade.

On another less immediately visible level, the medical world of the slave ship *Brooks* was embedded in broader intellectual, social, economic, and political movements in the Atlantic and Indian Ocean worlds. The drugs Trotter administered during the scurvy outbreak were enmeshed in Britain's political economy as the slave trade contributed to the country's drug manufacturing sector and its global market of medicines. The labor Trotter performed cannot be understood apart from the economic constraints and opportunities present within Britain's amphibious medical labor marketplace which spanned the Atlantic and Indian Ocean worlds. Trotter's medical practice on board the *Brooks*, such as the experiments he conducted to preserve lemon juice, which he tested on sick slaves, refracted the cultures of experimentalism that arose during the eighteenth century to advance the needs of state and the ambitions of empire.[39] The Edinburgh training that Trotter brought on board the *Brooks* not only influenced his thoughts on nostalgia but centers the surgeon in the midst of the modernizing forces of medicine at work during the second half of the eighteenth century when clinical education came to the fore. Importantly, the collective dream also casts the *Brooks* into transatlantic networks of knowledge concerning West African approaches to health and healing, disease and affliction, which circulated throughout the Atlantic world. Thus, the medical world of the slave trade was profoundly intimate yet tethered to broader historical processes that helped shape a modernizing world. However, medicine – whether as drugs, surgery, praxis, theory, or knowledge – has been little explored in studies of the British slave trade and, until now, the slave trade has been remarkably absent from histories of eighteenth-century British medicine. *To Heal and to Harm* explores the intersections between medicine and slave trading in the eighteenth-century Atlantic

[39] Londa L. Schiebinger, *Secret Cures of Slaves: People, Plants, and Medicine in the Eighteenth-Century Atlantic World* (Stanford, CA: Stanford University Press, 2017), 4, 92, 110.

world, with a focus on the British who were "the pre-eminent slave traders of the western hemisphere."[40]

The Absence of Medicine in Slave Trade Studies

The Atlantic slave trade resulted in the largest intercontinental forced migration in human history, and Britain was the dominant European carrier of enslaved Africans between 1660 and 1807.[41] During that period, the British trafficked over 3.4 million African children, women, and men across the Atlantic, which was more than all other slave trading nations combined.[42] Generations of historians have explored Britain's participation in the slave trade from political, economic, demographic, and cultural perspectives. Beginning in the late 1960s, quantitative and demographic priorities drove earlier methodological approaches in slave trade studies. Scholars painstakingly curated the phenomenon of death by way of mortality statistics to determine the staggering scale and sheer volume of human beings caught up in the slave trade.[43] Economic,

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[40] David Richardson, "The British Empire and the Atlantic Slave Trade, 1660-1807," in *The Oxford History of the British Empire: Volume II: The Eighteenth Century*, ed. P. J. Marshall (New York: Oxford University Press, 1998), 440.

[41] William A. Pettigrew, *Freedom's Debt: The Royal African Company and the Politics of the Atlantic Slave Trade, 1672-1752* (Chapel Hill, NC: University of North Carolina Press, 2013), 3; David Richardson, "Involuntary Migration in the Early Modern World, 1500-1800," in *The Cambridge World History of Slavery: Volume 3, AD 1420-AD 1804*, ed. David Eltis and Stanley L. Engerman (New York: Cambridge University Press, 2011), 563; Richardson, "The British Empire and the Atlantic Slave Trade, 1660-1807," 440.

[42] Richardson, "The British Empire and the Atlantic Slave Trade, 1660-1807," 440–41; Kenneth Morgan, *Slavery and the British Empire: From Africa to America* (New York: Oxford University Press, 2007), 12.

[43] Ever since Philip Curtin's 1969 *Census*, quantitative analysis, or "the numbers game," took a dominant place in slave trade studies as scholars were keen to establish the demographic contours of the trade, the numbers of slaves shipped, and the numbers of dead.

See Philip D. Curtin, *The Atlantic Slave Trade: A Census* (Madison, WI: University of Wisconsin Press, 1969); David Eltis and David Richardson, "The 'Numbers Game' and Routes to Slavery," in *Routes to Slavery: Direction, Ethnicity, and Mortality in the Transatlantic Slave Trade*, ed. David Eltis and David Richardson (London: Frank Cass, 1997); Herbert Klein and Stanley Engerman, "Long-Term Trends in African Mortality in the Transatlantic Slave Trade," *Slavery & Abolition* 18, no. 1 (April 1997): 36–48; Stephen D. Behrendt, "Crew Mortality in the Transatlantic Slave Trade in the Eighteenth Century," *Slavery & Abolition* 18, no. 1 (April 1997): 49–71; Stephen D. Behrendt, "The Annual Volume and Regional Distribution of the British Slave Trade, 1780-1807," *The Journal of African History* 38, no. 2 (January 1997): 187–211; Richard H. Steckel and Richard A. Jensen, "New Evidence on

political, and business histories have adeptly untangled the complex political and mercantile networks involved, profits won and lost, and British industries and manufacturing sectors that advanced as a result of the slave trade.[44] Social and cultural historians have conducted far-

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the Causes of Slave and Crew Mortality in the Atlantic Slave Trade," *The Journal of Economic History* 46, no. 1 (March 1, 1986): 57–77; Raymond L. Cohn, "Deaths of Slaves in the Middle Passage," *The Journal of Economic History* 45, no. 3 (1985): 685–92; Joseph C. Miller, "The Numbers, Origins, and Destinations of Slaves in the Eighteenth-Century Angolan Slave Trade," *Social Science History* 13, no. 4 (December 1, 1989): 381–419; David Eltis, "Fluctuations in Mortality in the Last Half Century of the Transatlantic Slave Trade," *Social Science History* 13, no. 3 (1989): 315–40; Robin Haines and Ralph Shlomowitz, "Explaining the Mortality Decline in the Eighteenth-Century British Slave Trade," *The Economic History Review* 53, no. 2 (2000): 262–83; Herbert Klein et al., "Transoceanic Mortality: The Slave Trade in Comparative Perspective," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 93–118; David Eltis, "The Volume and Structure of the Transatlantic Slave Trade: A Reassessment," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 17–46; Barbara L. Solow, "The Transatlantic Slave Trade: A New Census," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 9–16; Simon J. Hogerzeil and David Richardson, "Slave Purchasing Strategies and Shipboard Mortality: Day-to-Day Evidence from the Dutch African Trade, 1751-1797," *The Journal of Economic History* 67, no. 1 (March 1, 2007): 160–90.

[44] For political studies for example F. Sanderson, "The Liverpool Delegates and Sir William Dolben's Bill," *Transactions of the Historic Society of Lancashire and Cheshire* 124 (1972): 57–84; Dennis Stephen Klinge, *The African Company in British Politics, 1748-1783* (Ithaca, NY: Cornell University, 1973); Dennis Stephen Klinge, "Edmund Burke, Economical Reform, and the Board of Trade, 1777-1780," *The Journal of Modern History* 51, no. 3 (September 1, 1979): D1185–1200; James W. Logerfo, "Sir William Dolben and 'The Cause of Humanity': The Passage of the Slave Trade Regulation Act of 1788," *Eighteenth-Century Studies* 6, no. 4 (1973): 431–451; Christopher Leslie. Brown, "The British Government and the Slave Trade: Early Parliamentary Enquiries, 1713-83," *Parliamentary History* 26, no. 4 (2007): 27–41; J. Krikler, "The Zong and the Lord Chief Justice," *History Workshop Journal* 64, no. 1 (January 1, 2007): 29–47; William A. Pettigrew, "Free to Enslave: Politics and the Escalation of Britain's Transatlantic Slave Trade, 1688-1714," *William and Mary Quarterly*, 2007, 3–38; William A. Pettigrew, "Regulatory Inertia and National Economic Growth: An African Trade Case Study 1660–1714," in *Regulating the British Economy, 1660-1850*, ed. Perry Gauci (Burlington, VT: Ashgate Publishing, Ltd., 2011); Pettigrew, *Freedom's Debt*; William A. Pettigrew, "Constitutional Change in England and the Diffusion of Regulatory Initiative, 1660–1714," *History* 99, no. 338 (December 2014): 839–63.

For economic studies see for example Julia De Lacy Mann and Alfred P Wadsworth, *The Cotton Trade and Industrial Lancashire, 1600-1780* (Manchester, UK: Manchester University Press, 1931); K. G. Davies, "Joint-Stock Investment in the Later Seventeenth Century," *The Economic History Review*, New Series, 4, no. 3 (January 1, 1952): 283–301; A. P. Thornton, "The Organization of the Slave Trade in the English West Indies, 1660-1685," *The William and Mary Quarterly* 12, no. 3 (July 1, 1955): 399–409; K. G. Davies, *The Royal African Company* (London: Longmans, Green and Co., 1957); R. B. Sheridan, "The Commercial and Financial Organization of the British Slave Trade, 1750-1807," *The Economic History Review*, New Series, 11, no. 2 (January 1, 1958): 249–63; Stanley L. Engerman, "The Slave Trade and British Capital Formation in the Eighteenth Century: A Comment on the Williams Thesis," *The Business History Review* 46, no. 4 (December 1, 1972): 430–43; B. L. Anderson and David Richardson, "Market Structure and Profits of the British African Trade in the Late Eighteenth Century: A Comment," *The Journal of Economic History* 43, no. 3 (September 1, 1983): 713–21; Joseph E. Inikori, "Market Structure and the Profits of the British African Trade in the Late Eighteenth Century: A Rejoinder," *The Journal of Economic History* 43, no. 3 (September 1, 1983): 723–28; Joseph E Inikori, "The Credit Needs of the African Trade and the Development of the Credit Economy in England," *Explorations in Economic History* 27, no. 2 (April 1990): 197–231; Ann M. Carlos, "Agent Opportunism and the Role of Company Culture: The Hudson's Bay and Royal African Companies Compared," *Business and Economic History*, 2nd, 20 (1991): 142–51; David Eltis and David Richardson, "Productivity in the Transatlantic Slave Trade," *Explorations in Economic History* 32, no. 4 (October

1995): 465–84; Ann M. Carlos and Jamie Brown Kruse, "The Decline of the Royal African Company: Fringe Firms and the Role of the Charter," *Economic History Review* 49, no. 2 (May 1996): 291–313; Stephen D. Behrendt, "Markets, Transaction Cycles, and Profits: Merchant Decision Making in the British Slave Trade," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 171–204; Kenneth Morgan, "Remittance Procedures in the Eighteenth-Century British Slave Trade," *The Business History Review* 79, no. 4 (December 1, 2005): 715–49; Ann M. Carlos, Karen Maguire, and Larry Neal, "Financial Acumen, Women Speculators, and the Royal African Company during the South Sea Bubble," *Accounting, Business & Financial History* 16, no. 2 (2006): 219–243; James Oldham, "Insurance Litigation Involving the Zong and Other British Slave Ships, 1780–1807," *The Journal of Legal History* 28, no. 3 (December 1, 2007): 299–318; David Eltis, Frank D. Lewis, and Kimberly McIntyre, "Accounting for the Traffic in Africans: Transport Costs on Slaving Voyages," *Journal of Economic History* 70, no. 4 (December 2010): 940–63; Klas Rönnbäck, "Living Standards on the Pre-Colonial Gold Coast: A Quantitative Estimate of African Laborers' Welfare Ratios," *European Review of Economic History* 18, no. 2 (May 1, 2014): 185–202; Tim Keirn, "Monopoly, Economic Thought, and the Royal African Company," in *Early Modern Conceptions of Property*, ed. John Brewer and Susan Staves (New York: Routledge, 2014), 427–66; Matthew Norton, "Principal Agent Relations and the Decline of the Royal African Company," in *Chartering Capitalism*, ed. Emily Erikson (Bingley, UK: Emerald Group Publishing, 2015), 45–76; Rönnbäck, "The Transatlantic Slave Trade and Social Stratification on the Gold Coast"; Klas Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa: The Case of the Gold Coast* (New York: Routledge, 2015).

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For Bristol see for example Walter E. Minchinton, ed., *Politics and the Port of Bristol in the Eighteenth Century: The Petitions of the Society of Merchant Venturers, 1698-1803* (Bristol, UK: Bristol Record Society, 1963); Walter E. Minchinton, *The Merchants of Bristol in the 18th Century*, 1963; Patrick McGrath, *The Merchant Venturers of Bristol: A History of the Society of Merchant Venturers of the City of Bristol from Its Origin to the Present Day* (Bristol: The Society of Merchant Venturers, 1975); David Richardson, *The Bristol Slave Traders: A Collective Portrait* (Bristol Branch of the Historical Association, 1985); Kenneth Morgan, "Bristol West India Merchants in the Eighteenth Century," *Transactions of the Royal Historical Society*, Sixth Series, 3 (1993): 185–208; Kenneth Morgan, "James Rogers and the Bristol Slave Trade," *Historical Research* 76 (May 2003): 189–216.

For London see James A. Rawley, "The Port of London and the Eighteenth Century Slave Trade: Historians, Sources, and a Reappraisal," *African Economic History*, no. 9 (January 1, 1980): 85–100; James A. Rawley, "London's Defense of the Slave Trade, 1787–1807," *Slavery & Abolition* 14, no. 2 (1993): 48–69; Nuala Zahedieh, "Making Mercantilism Work: London Merchants And Atlantic Trade in the Seventeenth Century," *Transactions of the Royal Historical Society (Sixth Series)* 9 (1999): 143–58; James A. Rawley, *London, Metropolis of the Slave Trade* (Columbia, MI: University of Missouri Press, 2003); Nuala Zahedieh, *The Capital and the*

reaching inquiries into a diverse range of historical actors and revealed how their social and cultural worlds were shaped by, and responded to, the slave trade. Studies of slave ship captains and sailors, African commercial elites, free African laborers, and enslaved children, women, and men have injected the historiography with new knowledge about the individuals, communities, and polities swept up into the Atlantic traffic.[45] Thus, whether situated within the risky circuits of Atlantic commerce in an emerging capitalist world, or within the dehumanization of the Middle Passage, the insidious convergence between commerce, empire, and human suffering has proven to be of longstanding interest to scholars in a range of fields. Indeed, Herbert Klein noted in 1999 that persistent academic interest in the Atlantic slave trade has made the field of study

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Colonies: London and the Atlantic Economy 1660-1700 (New York: Cambridge University Press, 2010).

[45] See for example Colin A Palmer, *Human Cargoes: The British Slave Trade to Spanish America, 1700-1739* (Urbana, IL: University of Illinois Press, 1981); Stephen D. Behrendt, "The Captains in the British Slave Trade from 1785 to 1807," *Transactions of the Historical Society of Lancashire and Cheshire* 140 (1990): 79–140; J. D. Alsop and P. E. H. Hair, *English Seamen and Traders in Guinea, 1553-1565: The New Evidence of Their Wills* (Lewiston, NY: E. Mellen Press, 1992); Jennifer L. Morgan, *Laboring Women: Reproduction and Gender in New World Slavery* (Philadelphia, PA: University of Pennsylvania Press, 2004), 12–68; Emma Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730-1807* (New York: Cambridge University Press, 2006); Audra A. Diptee, "African Children in the British Slave Trade During the Late Eighteenth Century," *Slavery & Abolition* 27, no. 2 (2006): 183–96; Stephen D. Behrendt, "Human Capital in the British Slave Trade," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, Anthony Tibbles, and Suzanne Schwarz (Liverpool: Liverpool University Press, 2007), 66–97; Saidiya V. Hartman, *Lose Your Mother : A Journey along the Atlantic Slave Route* (New York: Farrar, Straus and Giroux, 2007); Rediker, *The Slave Ship*; Stephanie E. Smallwood, "African Guardians, European Slave Ships, and the Changing Dynamics of Power in the Early Modern Atlantic," *The William and Mary Quarterly*, Third Series, 64, no. 4 (October 2007): 679–716; Stephanie E. Smallwood, *Saltwater Slavery: A Middle Passage from Africa to American Diaspora* (Cambridge, MA: Harvard University Press, 2007); Vincent Brown, *The Reaper's Garden: Death and Power in the World of Atlantic Slavery* (Cambridge, MA: Harvard University Press, 2008), 13–59; Alexander X. Byrd, *Captives and Voyagers: Black Migrants Across the Eighteenth-Century British Atlantic World* (Baton Rouge: Louisiana State University Press, 2008); Anita Rupprecht, "'A Limited Sort of Property': History, Memory and the Slave Ship Zong," *Slavery & Abolition* 29, no. 2 (June 2008): 265–77; Suzanne Schwarz, *Slave Captain: The Career of James Irving in the Liverpool Slave Trade*, 2nd ed. (Liverpool: Liverpool University Press, 2008); Jerome S. Handler, "The Middle Passage and the Material Culture of Captive Africans," *Slavery & Abolition* 30, no. 1 (March 2009): 1–26; Billy G. Smith, *Ship of Death: A Voyage That Changed the Atlantic World* (New Haven, CT: Yale University Press, 2013); Randy J. Sparks, "Gold Coast Merchant Families, Pawning, and the Eighteenth-Century British Slave Trade," *The William and Mary Quarterly* 70, no. 2 (April 1, 2013): 317–40; Snyder, *The Power to Die*, 23–45.

"one of the more active and productive in modern historical scholarship," and scholarly production continues apace.[46]

However, one field noticeably absent from this rich historiography is the history of medicine. Although health was a vital commodity in the commercial exigencies of slave trading, and vendible enslaved bodies needed to arrive alive in the Americas, the history of medicine and the history of the slave trade have had surprisingly limited interactions. The historiographical domains of each field remain largely separate. The earlier scholarly emphasis in slave trade studies, which concerned the number of slaves shipped, mortality statistics, and the deadly conditions under which the enslaved endured or failed to endure the Middle Passage – commonly dubbed "the numbers game" – unwittingly masked its complex medical world. From the vantage point of medicine, which sought to minimize death and disrupt its presence, there is a surprising imbalance in the scholarship. Much is known about mortality but less attention has been paid to the medical management of life. While body after body was committed to the deep, others had to negotiate the debilitating experiences of physical and emotional affliction. Medicine – in the form of drugs, medical labor, and medical knowledge – intervened and intruded into this negotiation, wielding its own forms of chronic violence, chilling bodily violations, and profound harm in order to keep the enslaved alive and preserved for sale.

Although Philip Curtin's 1969 *The Atlantic Slave Trade: A Census* set in motion "the numbers game," which had scholars assiduously quantifying the dead, Curtin was also responsible for bringing significant new knowledge to bear on the epidemiology of the slave trade. In 1968, Curtin wrote about the diseases that ravaged African and European bodies during

[46] Herbert S. Klein, *The Atlantic Slave Trade* (New York: Cambridge University Press, 1999), xxi.

the centuries of the transatlantic slave trade, as well as in Africa in later periods.[47] Diseases, along with the cultural and racial ideologies embedded within them, influenced economic patterns, financial decisions, and labor preferences in the Americas in Curtin's study.[48] Curtin's research on disease spanned decades and remains invaluable.[49] However, despite Curtin's early work on historical epidemiology, new knowledge concerning medicine, health, or disease in the context of the Atlantic slave trade remained largely unexplored.[50] Instead, during the 1980s, historians of slavery in the Americas were the ones who produced important new insights into the medical world of the Atlantic slave trade.

In 1984, Kenneth Kiple published *The Caribbean Slave: A Biological History* and in 1985, Richard Sheridan published his monograph, *Doctors and Slaves.*[51] Both texts were part of a vibrant, transformative moment in the study of slavery in the Americas. Between the early 1970s and the late 1990s, historians of slavery diligently probed into questions of medicine, health, disease, nutrition, demography, and epidemiology. As Richard Dunn discussed in his groundbreaking *Sugar and Slaves* in 1972, "historical demography is in high fashion these

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[47] Philip D. Curtin, "Epidemiology and the Slave Trade," *Political Science Quarterly* 83, no. 2 (June 1, 1968): 190–216. For an earlier related study see H. Harold Scott, "The Influence of the Slave-Trade in the Spread of Tropical Disease," *Transactions of the Royal Society of Tropical Medicine and Hygiene* 37, no. 3 (December 1943): 169–88.

[48] Curtin, "Epidemiology and the Slave Trade," 216.

[49] See Philip D. Curtin, "'The White Man's Grave:' Image and Reality, 1780-1850," *Journal of British Studies* 1, no. 1 (November 1, 1961): 94–110; "Epidemiology and the Slave Trade"; *Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century* (New York: Cambridge University Press, 1989); *Disease and Imperialism before the Nineteenth Century* (Minneapolis, MN: University of Minnesota Press, 1990); "Disease Exchange Across the Tropical Atlantic," *History and Philosophy of the Life Sciences* 15, no. 3 (1993): 329–56; "Disease and Imperialism," *Clio Medica (Amsterdam, Netherlands)* 35 (1996): 99–107; *Disease and Empire: The Health of European Troops in the Conquest of Africa* (New York: Cambridge University Press, 1998); *Migration and Mortality in Africa and the Atlantic World, 1700-1900* (Burlington, VT: Ashgate Publishing, Ltd., 2001).

[50] One important exception was Darold D. Wax, "A Philadelphia Surgeon on a Slaving Voyage to Africa, 1749-1751," *The Pennsylvania Magazine of History and Biography* 92, no. 4 (October 1968): 465–93.

[51] Kenneth F. Kiple, *The Caribbean Slave: A Biological History*, Reprint (New York: Cambridge University Press, 2002); Richard B. Sheridan, *Doctors and Slaves: A Medical and Demographic History of Slavery in the British West Indies, 1680-1834* (New York: Cambridge University Press, 1985).

days."[52] His chapter "Death in the Tropics" offered one of the most expansive yet detailed medical and demographic studies of the colonial British Caribbean to enter the historiography.[53] The upsurge in scholarly interest in these topics came from several directions. Influential texts such as Alfred Crosby's pioneering *The Columbian Exchange*, which concerned the biological exchanges that wreaked havoc across the Atlantic world, foregrounded the epidemiological history of the Americas and featured microorganisms as key historical actors in the story of empire.[54] Contentious debates on slave health and nutrition were set off by cliometricians Robert Fogel and Stanley Engerman in their 1974 *Time on the Cross*, while scholars of the new social history eagerly overturned earlier scholarship that argued for the medical beneficence of the peculiar institution.[55]

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[52] Richard S. Dunn, *Sugar and Slaves: The Rise of the Planter Class in the English West Indies, 1624-1713* (Chapel Hill, N.C.: University of North Carolina Press, 1972), 300.

[53] Ibid., 300–334.

[54] Alfred W. Crosby, *The Columbian Exchange: Biological and Cultural Consequences of 1492* (Westport, CT: Greenwood Press, 1972).

[55] For *Time on the Cross*, critiques, and nutrition see Stanley L. Engerman and Robert William Fogel, *Time on the Cross: The Economics of American Negro Slavery* (Boston, MA: Little, Brown & Company, 1974); Herbert George Gutman, *Slavery and the Numbers Game : A Critique of Time on the Cross* (Urbana, IL: University of Illinois Press, 1975), 12–14, 37–38; Paul A. David and Peter Temin, "Capitalist Masters, Bourgeois Slaves," ed. Robert William Fogel and Stanley L. Engerman, *The Journal of Interdisciplinary History* 5, no. 3 (1975): 445–57; Richard Sutch, "The Treatment Received by American Slaves: A Critical Review of the Evidence Presented in Time on the Cross," *Explorations in Economic History* 12, no. 4 (1975): 335–438; Richard Sutch, "The Care and Feeding of Slaves," in *Reckoning with Slavery: A Critical Study in the Quantitative History of American Negro Slavery*, ed. Paul A. David et al. (New York: Oxford University Press, 1976), 231–301; Kenneth F. Kiple and Virginia H. Kiple, "Slave Child Mortality: Some Nutritional Answers to a Perennial Puzzle," *Journal of Social History* 10, no. 3 (1977): 284–309; Virginia Himmelsteib King and Kenneth F. Kiple, *Another Dimension to the Black Diaspora: Diet, Disease, and Racism* (New York: Cambridge University Press, 1981); Tyson Gibbs et al., "Nutrition in a Slave Population: An Anthropological Examination," *Medical Anthropology* 4, no. 2 (1980): 175–262; Richard H. Steckel, "A Peculiar Population: The Nutrition, Health, and Mortality of American Slaves from Childhood to Maturity," *The Journal of Economic History* 46, no. 3 (1986): 721–741. For more recent engagement on the topic see Kathleen M. Hilliard, *Masters, Slaves, and Exchange* (New York: Cambridge University Press, 2014), 17–22.

Historians also challenged work such as Ulrich B. Phillips'1918 *American Negro Slavery* which argued for the content, paternalistic relations between masters and slaves which included having sufficient food, clothing, and medicine. See Ulrich Bonnell Phillips, *American Negro Slavery: A Survey of the Supply, Employment and Control of Negro Labor as Determined by the Plantation Régime* (New York: D. Appleton and Company, 1918). Scholars also revised William D. Postell's 1951, *The Health of Slaves on Southern Plantations*, which argued that medical care given to enslaved people was on par with the wider population, while he also derided the role played by

In the midst of such intellectual ferment, the slave trade made a few small but weighty appearances. Although Kenneth Kiple's and Richard Sheridan's scholarship concerned slavery in the British Caribbean, both authors included the slave trade in their monographs. Kiple devoted the first three chapters of his biological history of Caribbean slaves, to the diseases and diets of West African people. Kiple explored how states of malnutrition were exacerbated

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enslaved women healers. See William D. Postell, *The Health of Slaves on Southern Plantations* (Baton Rouge, LA: Louisiana State University Press, 1951). This early revisionist literature on medicine and slavery is extensive and included rich discussions on the intersection of race and health.

See for example in chronological order Richard Shryock, "Medical Practice in the Old South," *The South Atlantic Quarterly* 29, no. 2 (1930): 160–78; St. Julien Ravenel Childs, "Kitchen Physick Medical and Surgical Care of Slaves on an Eighteenth Century Rice Plantation," *The Mississippi Valley Historical Review* 20, no. 4 (March 1934): 549; Felice Swados, "Negro Health on the Ante Bellum Plantations," *Bulletin of the History of Medicine* 10 (January 1, 1941): 460–72; Albert Deutsch, "The First U. S. Census of the Insane (1840) and Its Use As Pro-Slavery Propaganda," *Bulletin of the History of Medicine* 15 (1944): 469–82; Eugene Genovese, "The Medical and Insurance Costs of Slaveholding in the Cotton Belt," *Journal of Negro History* 45, no. 1 (1960): 141–55; Walter Fisher, "Physicians and Slavery in the Antebellum Southern Medical Journal," *Journal of the History of Medicine and Allied Sciences* 23, no. 1 (1968): 36–49; James Denny Guillory, "The Pro-Slavery Arguments of Dr. Samuel A. Cartwright," *Louisiana History: The Journal of the Louisiana Historical Association* 9, no. 3 (July 1, 1968): 209–27; Donald J. D'Elia, "Dr. Benjamin Rush and the Negro," *Journal of the History of Ideas* 30, no. 3 (July 1, 1969): 413–22; J. S. Haller, "The Negro and the Southern Physician: A Study of Medical and Racial Attitudes 1800-1860," *Medical History* 16, no. 3 (1972): 238–253; Kenneth F. Kiple, "Black Tongue and Black Men: Pellagra and Slavery in the Antebellum South," *The Journal of Southern History* 43, no. 3 (1977): 411–428; Leslie Howard Owens, *This Species of Property: Slave Life and Culture in the Old South* (New York: Oxford University Press, 1977), 19–69; Todd Lee Savitt, *Medicine and Slavery: The Diseases and Health Care of Blacks in Antebellum Virginia* (Urbana, IL: University of Illinois Press, 1978); Gary Puckrein, "Climate, Health and Black Labor in the English Americas," *Journal of American Studies* 13, no. 2 (1979): 179–93; Kenneth F. Kiple and Virginia H. Kiple, "Deficiency Diseases in the Caribbean," *The Journal of Interdisciplinary History* 11, no. 2 (October 1980): 197–215; Leslie A. Falk, "Black Abolitionist Doctors and Healers, 1810-1855," *Bulletin of the History of Medicine* 54, no. 2 (1980): 258–72; Kenneth Kiple and Virginia Kiple, "The African Connection: Slavery, Disease and Racism," *Phylon (1960-)* 41, no. 3 (1980): 211–22; Todd L. Savitt, "The Use of Blacks for Medical Experimentation and Demonstration in the Old South," *The Journal of Southern History* 48, no. 3 (1982): 331–48; C. Bougerol, "Medical Practices in the French West Indies: Master and Slave in the 17th and 18th Centuries," *History and Anthropology* 2, no. 1 (1985): 125–43; Betty Wood and T. R. Clayton, "Slave Birth, Death and Disease on Golden Grove Plantation, Jamaica, 1765-1810," *Slavery & Abolition* 6, no. 2 (September 1985): 99–121; Tom W. Shick, "Healing and Race in the South Carolina Low Country," in *Africans in Bondage: Studies in Slavery and the Slave Trade: Essays in Honor of Philip D. Curtin*, ed. Philip D. Curtin and Paul E. Lovejoy (Madison, WI: University of Wisconsin-Madison, 1986), 107–24; Richard H. Steckel, "A Dreadful Childhood: The Excess Mortality of American Slaves," *Social Science History* 10, no. 4 (1986): 427–465; Martia Graham Goodson, "Medical-Botanical Contributions of African Slave Women to American Medicine," *Western Journal of Black Studies* 11, no. 4 (Fall 1987): 198–203; Kenneth F. Kiple, *The African Exchange: Toward a Biological History of Black People* (Durham, NC: Duke University Press, 1987); Richard Sheridan, "Slave Medicine in Jamaica: Thomas Thistlewood's 'Receipts for a Physick,' 1750-1786," *Jamaican Historical Review* 17 (1991): 1; Barbara Bush-Slimani, "Hard Labour: Women, Childbirth and Resistance in British Caribbean Slave Societies," *History Workshop*, 1993, 83–99; Wonda L. Fontenot, *Secret Doctors: Ethnomedicine of African Americans* (Westport, Conn: Bergin & Garvey, 1994); Katherine Kemi Bankole, *Slavery and Medicine: Enslavement and Medical Practices in Antebellum Louisiana* (New York: Garland Publishing, 1998).

during transport to the Americas.[56] Kiple made vitamins, nutrients, amino acids, dehydration, and parasitic micro-organisms pivotal facets of the slave trade, which brought biochemical processes into the slave ship's wooden world. His scholarship remains a critical touchstone concerning linkages between diet, nutrition, and disease in the context of the Atlantic slave trade.

When Richard Sheridan published his monograph *Doctors and Slaves* in 1985, the role of medical labor and practice in the British slave trade began to come into view.[57] In eighteen pages, Sheridan produced new knowledge concerning the duties, compensation, motivation, and training of slave ship surgeons.[58] Sheridan also included an epidemiological analysis of the transoceanic voyage as well as discussions of mortality rates and causes of death. As a medical and demographic study of the eighteenth-century British Caribbean, the slave trade had marginal focus. However, Sheridan's intention in *Doctors and Slaves* was to lay bare "the catastrophic health and welfare costs of slavery and dependency."[59] The medical dimensions of the Middle Passage represented an important site for understanding the illnesses and diseases that assaulted the enslaved en route to the Americas, and in the process Sheridan created an eighteen-page foundation in regard to the organization and practice of slave ship medical labor and the

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[56] Kiple, *The Caribbean Slave*, 3–52.

[57] Richard B. Sheridan, *Doctors and Slaves: A Medical and Demographic History of Slavery in the British West Indies, 1680-1834* (New York: Cambridge University Press, 1985). See also Sheridan's "The Guinea Surgeons on the Middle Passage: The Provision of Medical Services in the British Slave Trade," *The International Journal of African Historical Studies* 14, no. 4 (January 1981): 601-25. Sheridan built upon the work of two brief articles by William N. Boog Watson written in 1969 and 1970. See Wayne N. Boog Watson, "The Guinea Trade and Some of Its Surgeons, with Special Reference to the Royal College of Surgeons of Edinburgh," *The Journal of the Royal College of Surgeons of Edinburgh* 14, no. 4 (July 1969): 203–14; Wayne N. Boog Watson, "Four Monopolies and the Surgeons of London and Edinburgh," *Journal of the History of Medicine and Allied Sciences* 25, no. 3 (1970): 311–22. For two other important essays prior to Sheridan's intervention see E. N. Chamberlain, "The Influence of the Slave Trade on Liverpool Medicine," *Atti Del XIV Congresso Internazionale Di Storia Della Medicina (Roma-Salerno)*, Societa Internazionale di Storia della Medicina, 2 (Settembre 1954): 768–73; A. Plichet, "Hygiene and Health Aboard Slave Ships," *La Presse Médicale* 66, no. 10 (1958): 209–12.

[58] Sheridan, *Doctors and Slaves*, 108–26.

[59] Ibid., xvii.

epidemiological challenges on board ship which future scholars could build upon.

Sheridan had little company, however, until Stephen Behrendt's 1993 dissertation, "The British Slave Trade, 1785-1807," which represented the first significant research to advance upon Sheridan's earlier insights.[60] In his study, Behrendt produced new demographic knowledge about slave ship surgeons who practiced medicine in the later eighteenth century. With painstaking detail, Behrendt took on the unwieldy task of tracing the lives of a select group of slave ship surgeons, whose elusive lives are extraordinarily difficult to pin down with accuracy. Behrendt managed to penetrate their seemingly impenetrable backgrounds, educational training, and employment history in the slave trade, including their average age upon being hired, the number of voyages they embarked upon, and their mortality rates. Along with a later article entitled "Human Capital in the Atlantic Slave Trade," slave trade surgeons began to take on flesh-and-blood status as individuals deeply embedded in the unique circumstances of late eighteenth-century slave trade medicine.[61] However, despite Behrendt's masterful intervention, scholars of the slave trade continued to register only cursory interest in slave trade surgeons and the broader world of medicine that these doctors inhabited and brought into the odious commerce.[62]

While our knowledge of slave ship surgeons to date largely begins with Sheridan and ends with Behrendt, there is another body of scholarship, extraordinary in both its scope and narrative power, which has contributed to how questions of health and disease have been discussed in scholarship on the Atlantic slave trade. These studies reflect what I refer to as an

[60] Stephen D. Behrendt, "The British Slave Trade, 1785-1807: Volume, Profitability, and Mortality" (Ph.D., The University of Wisconsin - Madison, 1993).

[61] Behrendt, "Human Capital in the British Slave Trade."

[62] Noteworthy exceptions include texts written about James Irving and Thomas Trotter. See Schwarz, *Slave Captain*; Vale and Edwards, *Physician to the Fleet*.

"experiential turn" in slave trade studies. As described earlier, quantitative, economic, and demographic approaches to the slave trade dominated the historiography for decades. Between 1990 and 2017, with the bulk of scholarship occurring since 2002, the human experience of the slave trade has been thrust into the foreground, and many historians have articulated the necessity of such a shift.[63] In 2007, Marcus Rediker wrote a "human history" of the slave ship and examined the slave trade from on board its wooden decks, which brought new focus to a broad range of historical actors who had been previously overlooked.[64] By populating the decks of the slave ship with the lives of captains, sailors, and slaves, Rediker offered a major correction to slave trade studies. A human history was necessary because, as he explained, "numbers can occlude the pervasive torture and terror."[65] The same year, Stephanie Smallwood reflected that "a great deal has been learned from the data on mortality aboard the slave ship, but overall numbers – and our interpretation of them – correspond only loosely to the ways African captives experienced and understood shipboard mortality."[66]

In 2008, Vincent Brown evocatively wrote that the focus on mortality rates "renders the deadly migration of Africans somewhat like the chalk outline of a murder victim. The data

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[63] This is not to deny the importance of earlier work that either integrated economic/demographic concerns with the human experience of slave trading or took on the experiential dimensions more exclusively. Instead, it is meant to emphasize that dominant approaches in slave trade studies have tended to under-analyze the human experience, and in response, there has been a gradual increase in works detailing the experiential dimensions of slave trading. Examples of earlier work include Joseph Calder Miller, *Way of Death: Merchant Capitalism and the Angolan Slave Trade, 1730-1830* (Madison, WI: University of Wisconsin Press, 1988); Darold D. Wax, "A Philadelphia Surgeon on a Slaving Voyage to Africa, 1749-1751," *The Pennsylvania Magazine of History and Biography* 92, no. 4 (October 1968): 465-493; David Henige, "John Kabes of Komenda: An Early African Entrepreneur and State Builder," *The Journal of African History* 18, no. 1 (January 1977): 1-19; and William D. Piersen, "White Cannibals, Black Martyrs: Fear, Depression, and Religious Faith as Causes of Suicide Among New Slaves," *The Journal of Negro History* 62, no. 2 (April 1, 1977): 147-159.

[64] Rediker, *The Slave Ship*, 11.

[65] Ibid., 12–13.

[66] Smallwood, *Saltwater Slavery*, 137.

delineate scale, proportion, and distribution quite well, but they cannot represent the wrenching personal trials endured by the enslaved, any more than an outline on the street can convey the passions that drove someone to kill, or the grief of the survivor who cries out from the scene of the crime to demand some measure of justice."[67] Likewise, in 2016, Sowande' Mustakeem argued that "in an attempt to recover the wooden world of slave ships and the personal narratives lost behind the numbers, a small yet growing body of scholarship – which I refer to as "Middle Passage studies" – has begun to deepen the analysis of slavery by recentering the forcible sale and oceanic transport of African captives into the New World."[68]

Filling the ship with human lives, not numbers; creating thick descriptions of the cultures from which the enslaved came; narrating their manifold journeys onto the blood-stained decks of the slave ship; and honoring the intimate struggles that comprised their living and dying are key themes that occupy the historian's gaze in this ever-growing body of literature. From this perspective, narrating disease and death offer valuable pathways into the experiential dimensions of the slave trade and their broader social and political implications. As Sowande' Mustakeem writes, captives were subjected to "mental disorientation, familial and communal separation, malnourishment, lack of sanitation and cleanliness, severe isolation, debilitating diseases, miscarriages, sexual abuse, psychological instability, and bearing witness to physical violence committed against kin and shipmates."[69] Thus, descriptions of disease and death exist within a broader field of human suffering – refracting the trauma, terror, and agonies of captivity that the enslaved endured and wrestled with in order to remake their lives.[70]

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[67] Brown, *The Reaper's Garden*, 29.

[68] Mustakeem, *Slavery at Sea*, 4.

[69] Ibid., 7.

[70] See Vincent Brown, "Social Death and Political Life in the Study of Slavery," *The American Historical Review*

Taken as a whole, the medical world of the British slave trade exists in fragments. Whether we consider Richard Sheridan's eighteen-page foundation documenting slave trade medical practice; Kenneth Kiple's chapters on nutrition and health; Philip Curtin's historical epidemiology; Stephen Behrendt's demographic analysis of slave trade surgeons; or experiential studies that foreground the phenomenon of life and death in the slave ship's wooden world, the medical dimensions of British slave trading have received little sustained attention. Little new knowledge has been produced.

To Heal and to Harm: An Overview

To Heal and to Harm is the first full-length study of the history of medicine in the eighteenth-century British slave trade and the first from both West African and British medical perspectives. I examine the period from 1680 to 1807 – from the beginning of the Royal African Company's most active slave trading period through the abolition of the British slave trade. I theorize that the commercial medical needs of British slave traders were met through an intercontinental medical management system that relied on British and West African pharmaceutical and medical labor, resources, and knowledge. Rather than slave trade medicine being lodged solely in the hands of male surgeons from the British Isles, this project studies a largely unknown group of West African and British women and men, both enslaved and free. Their knowledge of pharmacy, surgery, and herbalism was mobilized on behalf of the trade in human flesh.

I argue that the eighteenth-century British slave trade was a critical site of West African and British pharmaceutical and medical knowledge production in the Atlantic world. This project investigates how pharmaceutical and medical knowledge advanced in the midst of, and

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114, no. 5 (December 2009): 1249.

because of, the terrors of the eighteenth-century slave trade. In bringing together two largely discrete fields of historical inquiry – the history of the slave trade and the history of medicine – I offer a major revision of both. On one hand, my research reveals how medical dimensions of the slave trade fundamentally shaped its daily operations, administrative structure, and economic organization, while also importantly altering the nature of life and death for African people. On the other hand, slave trade medicine influenced wider economic, professional, and scientific movements in the Atlantic world. I argue that the slave trade influenced the rise of the global drug industry, the modernization of the surgical profession, and natural history and botany.

The intercontinental nature of the medical management system calls attention to a broad network of resources, previously unstudied, which were dynamically interrelated across three continents in order to medically manage the violent transport of captive Africans. In this system, diverse medical labor, culture, and knowledge were put into circulation and linked together the multiple geographies that structured the commerce in African people. More than solely an oceanic, blue water phenomenon defined by the Middle Passage, the medical world of the slave trade was also embedded in port cities in the British Isles, riverine waterways on the West African coast, and feverish harbors in the Americas. The dissertation illustrates that these Atlantic geographies of medicine were not only part of what Joseph Roach describes as an "oceanic interculture," but were also interdependent, akin to a "medical ecosystem."[71] In this polygeographical medical ecosystem, the medical management of the slave trade required apothecaries, drugs, and surgeons from the British Isles; enslaved West African herbalists and surgeons in the slave trading zones; and West African *materia medica* culled from rainforests, mangrove swamps, and coastal estuaries. All of these resources were mobilized to stench the

[71] Joseph R. Roach, *Cities of the Dead: Circum-Atlantic Performance* (New York: Columbia University Press, 1996), xi; Muriel R. Gillick, "Medicine as Ecoculture," *Annals of Internal Medicine* 151, no. 8 (2009): 577–580.

wastage of human life. Thus, this project is centered upon the people, places, culture, and knowledge that were interconnected in the medical world of the British slave trade.

"The Atlantic world began in Western Africa," however most histories of the Atlantic world do not attend to this central fact.[72] The intercontinental medical management system of the British slave trade offers a unique opportunity to robustly integrate West African medicine, labor, and knowledge into an Atlantic history that is rooted in an African, rather than in an American, context. The dissertation takes seriously James Sweet's critique that Atlantic world scholarship "largely fail[s] to accommodate African historical perspectives, either on their own terms or as integral parts of a tightly braided Atlantic world."[73]

Multiple experiences of enslavement in the Atlantic world also come into focus through this history.The robust cadre of enslaved West African medical laborers who were fundamental to the medical management of the slave trade were castle slaves, and they were held as property for life at British slave factories along the coast. Castle slavery has claimed minimal attention from historians, particularly in comparison with studies of other forms of enslavement in the Atlantic world. In 1975, Albert van Danzig identified this absence, and in 1983, Paul Lovejoy also noted that castle slavery had been little studied either from the perspective of slavery in Africa or slavery in the Americas.[74] A small but growing body of impressive scholarship has

[72] Toby Green, *The Rise of the Trans-Atlantic Slave Trade in Western Africa, 1300-1589* (New York: Cambridge University Press, 2012), 69.

[73] James H. Sweet, *Domingos Álvares, African Healing, and the Intellectual History of the Atlantic World* (Chapel Hill, NC: University of North Carolina Press, 2011).

[74] See Albert van Dantzig, "Effects of the Atlantic Slave Trade on Some West African Societies," *Revue Française d'Histoire d'Outre-Mer* 62, no. 226 (1975): 265–66. Paul Lovejoy's *Transformations in Slavery* placed castle slavery within a broader African context, including its relationship to European enclaves in Cape Town and Zamebezia. See Paul E. Lovejoy, *Transformations in Slavery: A History of Slavery in Africa* (New York: Cambridge University Press, 1983), 128–30.

begun to address this absence through the efforts of Richard Newman, Ty Reese, Rebecca Shumway, Klas Rönnback, and others.[75]

To Heal and to Harm is, therefore, an Atlantic history of medicine that imagines the medical world of the slave trade through the metaphor of entanglement to emphasize the multiple interconnected relations that exist in this medical story.[76] By bringing diverse historical actors

[75] Richard Newman's *A New World of Labor* importantly frames enslaved and free labor at British forts and settlements within a broader study of developing labor patterns in the British Atlantic world. See Newman, *New World of Labor*; Simon P. Newman, "Rethinking Runaways in the British Atlantic World: Britain, the Caribbean, West Africa and North America," *Slavery & Abolition* 38, no. 1 (January 2, 2017): 61–64. Rebecca Shumway makes an important contribution in addressing the question of gender in the institution of castle slavery. See Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)."

Ty Reese has authored a small corpus of scholarship that includes much research on castle slavery beginning with his 1999 dissertation and further developed through a series of essays. See Ty M. Reese, "Toiling in the Empire: Labor in Three Anglo-Atlantic Ports, London, Philadelphia and Cape Coast Castle, 1750-1783" (Ph.D., The University of Toledo, 1999); "The Drudgery of the Slave Trade: Labor at Cape Coast Castle, 1750-1790," in *The Atlantic Economy During the Seventeenth and Eighteenth Centuries: Organization, Operation, Practice, and Personnel*, ed. Peter A. Coclanis (Columbia, SC: University of South Carolina Press, 2005), 277–96; "'We Must Keep Black Men of Power in Our Pay': The Reliance of the English Slave Trade on African Labor," *Proceedings of the Ohio Academy of History*, 1999, 57–60; "Wives, Brokers, and Laborers: Women at Cape Coast, 1750-1807," in *Women in Port: Gendering Communities, Economies, and Social Networks in Atlantic Port Cities, 1500-1800*, ed. Douglas Catterall and Jodi Campbell (Boston, MA: Brill, 2012), 307–10; Ty M. Reese, "Class at an African Commercial Enclave," in *Class Matters: Early North America and the Atlantic World*, ed. Simon Middleton and Billy G. Smith (Philadelphia, PA: University of Pennsylvania Press, 2011), 78–79, 85–87; "Facilitating the Slave Trade: Company Slaves at Cape Coast Castle, 1750–1807," *Slavery & Abolition* 31, no. 3 (September 2010): 363–77.

Klas Rönnbäck's investigation of labor and living standards on the Gold Coast has also contributed valuable new knowledge to castle slavery, framed within a broader spectrum of waged labor, social stratification, and living standards. See Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa*; "Waged Slavery – Incentivizing Unfree Labour at Cape Coast Castle in the Eighteenth Century," *Slavery & Abolition* 37, no. 1 (January 2, 2016): 73–93; "The Transatlantic Slave Trade and Social Stratification on the Gold Coast."

For additional contributions to the topic see A. W. Lawrence, *Trade Castles & Forts of West Africa* (Stanford, CA: Stanford University Press, 1964), 46–56; Walter Rodney, "African Slavery and Other Forms of Social Oppression on the Upper Guinea Coast in the Context of the Atlantic Slave-Trade," *The Journal of African History* 7, no. 3 (January 1, 1966): 437–40; Johannes Postma, *The Dutch in the Atlantic Slave Trade, 1600-1815* (New York: Cambridge University Press, 1990), 71–73; Smallwood, "African Guardians," 712–13; Kwabena Adu-Boahen, "The Impact of European Presence on Slavery in the Sixteenth to Eighteenth-Century Gold Coast," *Transactions of the Historical Society of Ghana*, no. 14 (2012): 181–89; Per O. Hernæs, "Fort Slaves at Christiansborg on the Gold Coast: Wage Labour in the Making?," in *Slavery across Time and Space: Studies in Slavery in Medieval Europe and Africa*, ed. Per O. Hernæs and Tore Iversen, vol. no. 38 (Trondheim, Norway: Historisk Institutt, 2002); Liza Gijanto, "The Nature of Marginality: Castle Slaves and the Atlantic Trade at San Domingo, the Gambia," in *The Archaeology of Slavery: A Comparative Approach to Captivity and Coercion*, ed. Lydia Wilson Marshall (Carbondale, IL: Southern Illinois University Press, 2014), 64–92.

[76] Entangled or connected histories also represent a new style of historical inquiry. Historians are writing "entangled histories" although they encompass a variety of priorities, paradigms, and methodologies. As a methodological

into a shared, analytical space, and adopting a kaleidoscopic style of inquiry that views the medical world of the slave trade from different, shifting perspectives, I am particularly influenced by scholars engaged with the social history of knowledge. Scholars such as Peter Burke illustrate that the way information is arranged, ordered, and sorted, is a powerful indicator of what can be known and understood about a particular topic.[77] While this dissertation could have focused on just one element of the medical management system, I query what new knowledge can be produced by weaving together the fragmented perspectives of different historical actors and putting them into relationship. How do our stories of medicine and slave trading change when slave traders become invalids, captives become healers, and doctors become captors?

Ultimately, as the title *To Heal and to Harm* suggests, medicine in the context of the slave trade forces a reckoning with the meaning of medicine itself. What does it mean for medicine to operate in a space of terror? What is healing when it is embedded in a system that relies on the violent dehumanization of human beings for its successful operation, when surgeons brutally beat slaves who refuse to eat, and then care for the wounds they themselves inflicted? Concepts of medicine, health, and healing were made and unmade in the context of the slave

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approach for Atlanticists, it offers a mode of analysis that pushes back against nationalistic frameworks. I am not, however, locating this study within that new field. Instead, I engage with entanglement metaphorically. For more on entangled or connected histories see Jürgen Kocka, "Comparison and Beyond," *History and Theory* 42, no. 1 (2003): 39–44; Göran Therborn, "Entangled Modernities," *European Journal of Social Theory* 6, no. 3 (August 1, 2003): 293–305; Eliga Gould, "Entangled Atlantic Histories: A Response from the Anglo-American Periphery," *The American Historical Review* 112, no. 5 (2007): 1415; Jorge Cañizares-Esguerra, "Entangled Histories: Borderland Historiographies in New Clothes?," *The American Historical Review* 112, no. 3 (June 1, 2007): 787–99; E. H. Gould, "Entangled Histories, Entangled Worlds: The English-Speaking Atlantic as a Spanish Periphery," *The American Historical Review* 112, no. 3 (2007): 764–786; Klaus Hoch and Gesa Mackenthun, eds., *Entangled Knowledge: Scientific Discourses and Cultural Knowledge* (New York: Waxmann Verlag, 2012); Diego Adrián Olstein, *Thinking History Globally* (New York: Palgrave Macmillan, 2014); Ralph Bauer and Marcy Norton, "Introduction: Entangled Trajectories: Indigenous and European Histories," *Colonial Latin American Review* 26, no. 1 (2017): 1–17; Scott Cave, "Madalena: The Entangled History of One Indigenous Floridian Woman in the Atlantic World," *The Americas*, 2017, 1–30.

[77] Peter Burke, *A Social History of Knowledge: From Gutenberg to Diderot* (Malden, MA: Polity, 2000).

trade. West African and British medicine had to adapt to the exigencies of this odious traffic. The West African side of this story, however, is particularly challenging to access.

The Elusive Presence of West African Medicine

The Americas simply abounded with enslaved healers whose presence, skill, and knowledge is documented in a rich, and still growing, historiography. Enslaved women *hospitalières* and herbalists in Saint-Domingue were widely praised for their medical knowledge, which often proved more successful than European medicine on the island.[78] The healing skills and efficacious herbal remedies administered by African-born healers like Domingo Álvares were under threat in Portuguese Angola and in the Iberian Americas as the Inquisition prosecuted them for heretical practices or superstitious cures.[79] In Jamaica, enslaved healers were held in such high regard that the lieutenant governor of Jamaica, Sir Henry Morgan, sent for black doctors when European treatments were unsuccessful.[80] Henry Barham's residence in Jamaica included naming a plant "Majoe bitters" (*Picramnia antidesma* Sw.) after a gifted enslaved woman healer named Majoe who created decoctions from the plant to cure difficult diseases like

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[78] Londa L. Schiebinger, "Prospecting for Drugs: European Naturalists in the West Indies," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L. Schiebinger and Claudia Swan (Philadelphia, PA: University of Pennsylvania Press, 2005), 122–23; Londa L Schiebinger, *Plants and Empire : Colonial Bioprospecting in the Atlantic World* (Cambridge, MA: Harvard University Press, 2004), 78–79, 81; Karol K. Weaver, "The Enslaved Healers of Eighteenth-Century Saint Domingue," *Bulletin of the History of Medicine* 76, no. 3 (2002): 439–41; Karol Kimberlee Weaver, *Medical Revolutionaries: The Enslaved Healers of Eighteenth-Century Saint Domingue* (Urbana, IL: University of Illinois Press, 2006), 43.

[79] Kalle Kananoja, "Healers, Idolaters, and Good Christians: A Case Study of Creolization and Popular Religion in Mid-Eighteenth Century Angola," *The International Journal of African Historical Studies* 43, no. 3 (January 1, 2010): 443–65; Timothy Dale Walker, *Doctors, Folk Medicine and the Inquisition: The Repression of Magical Healing in Portugal During the Enlightenment* (Boston, MA: Brill, 2005), 82–87, 291–93. See also Noemí Quezada, "The Inquisition's Repression of Curanderos," in *Cultural Encounters: The Impact of the Inquisition in Spain and the New World*, ed. Mary Elizabeth Perry and Anne J. Cruz (Berkeley, CA: University of California Press, 1991), 37–57.

[80] Schiebinger, "Prospecting for Drugs," 123; Christopher P. Iannini, *Fatal Revolutions: Natural History, West Indian Slavery, and the Routes of American Literature* (Chapel Hill, NC: University of North Carolina Press, 2012), 46–47.

yaws and venereal disease when European physicians failed.[81] In Surinam, renowned naturalist Linneaus named a new tree species *Quassia amara* after a Surinam slave called Kwasi who used the roots of the tree to create an effective febrifuge (fever remedy), stomach tonic and a restorative for the appetite, and the tree became one of Surinam's major drug exports.[82] An enslaved man named Onesimus was responsible for bringing knowledge of West African traditions of smallpox inoculation to Boston, which contributed to its adoption in the diseased city.[83] Caesar won his freedom by patenting a highly efficacious poison remedy and antidote for rattlesnake bites in South Carolina, which was widely published in domestic medical treatises through the antebellum period. In Virginia, James Pawpaw (also known as Papan) developed a potent cure for yaws and syphilis, which became a popular medicine because it replaced the harmful mercurials utilized by European and American doctors.[84] There were, also, the many

[81] Henry Barham, *Hortus Americanus* (Kingston, Jamaica: Printed and published by Alexander Aikman, 1794), 96; Kathleen S. Murphy, "Translating the Vernacular: Indigenous and African Knowledge in the Eighteenth-Century British Atlantic," *Atlantic Studies* 8, no. 1 (2011): 34–35; Matthew Mulcahy, *Hubs of Empire: The Southeastern Lowcountry and British Caribbean* (Baltimore, MD: Johns Hopkins University Press, 2014), 172.

[82] John Gabriel Stedman, *Stedman's Surinam: Life in an Eighteenth-Century Slave Society. An Abridged, Modernized Edition of Narrative of a Five Years Expedition Against the Revolted Negroes of Surinam* (Baltimore, MD: Johns Hopkins University Press, 1992), 301; Susan Scott Parrish, *American Curiosity: Cultures of Natural History in the Colonial British Atlantic World* (Chapel Hill, NC: University of North Carolina Press, 2006), 1–5; Susan Scott Parrish, "Embodying African Knowledge in Colonial Surinam," in *Slave Portraiture in the Atlantic World*, ed. Agnes Lugo-Ortiz and Angela Rosenthal (New York: Cambridge University Press, 2013), 269; Schiebinger, *Plants and Empire*, 211–14; Catherine Jones, "Tobias Smollett, Travel Writing, and Medical Botany," in *The Scottish Enlightenment and Literary Culture*, ed. Ronnie Young, Ralph McLean, and Kenneth Simpson (Lewisburg, PA: Bucknell University Press, 2016), 70.

[83] Donald R. Hopkins, *The Greatest Killer: Smallpox in History* (Chicago, IL: University of Chicago Press, 2002), 173–74; John Hope Franklin and Evelyn Brooks Higginbotham, *From Slavery to Freedom*, 9th ed. (New York: McGraw-Hill, 2010), 67–68; Margot Minardi, "The Boston Inoculation Controversy of 1721-1722: An Incident in the History of Race," *The William and Mary Quarterly*, Third Series, 61, no. 1 (January 2004): 47–76; Matthew Wynn Sivils, "Dissecting the Pamphlet Literature of the Boston Smallpox Inoculation Controversy," *Literature and Medicine* 29, no. 1 (2011): 39–57; Kelly Wisecup, "African Medical Knowledge, the Plain Style, and Satire in the 1721 Boston Inoculation Controversy," *Early American Literature* 46, no. 1 (2011): 25–50; Amalie M. Kass, "Boston's Historic Smallpox Epidemic," *Massachusetts Historical Review* 14 (2012): 10–11.

[84] Kelly Miller, "The Historic Background of the Negro Physician," *The Journal of Negro History* 1, no. 2 (1916): 101–2; Robert Voeks, "African Medicine and Magic in the Americas," *Geographical Review* 83, no. 1 (January 1993): 72–73; Murphy, "Translating the Vernacular," 35; Peter McCandless, *Slavery, Disease, and Suffering in the Southern Lowcountry* (New York: Cambridge University Press, 2011), 176; Todd Savitt, *Medicine and Slavery: The*

unnamed and anonymous enslaved herbalists, nurses, and midwives who attended to the health needs of diverse communities often with little notoriety. They healed broken bodies and administered cures to combat the dehumanization of enslavement. Although they had been violently transported from their homelands, African people quickly learned their new landscapes, experimented with plants, recognized familiar species, and exchanged medical knowledge with local Amerindian inhabitants and European settlers.

With such rich documentation of African and African-American healers in the Americas, it is surprising that very little scholarship has been produced concerning the history of medicine in West Africa prior to the nineteenth century. Writing in 1974, K. D. Patterson stated that "the medical history of Africa is a vital but neglected field" and that the "medical history of precolonial Africa is an almost entirely unexplored field."[85] Since Patterson's assessment, excellent studies of colonial and postcolonial medicine continue to emerge with great regularity, and it has become a thriving area of interdisciplinary scholarship. Maureen Malowany writes, "the wealth of historical and anthropological research has placed studies of disease, illness, curing and healing squarely in the mainstream of historical enquiry."[86] From analyses of colonial medicine, including imperial and colonial psychiatry, missionary medicine, public health studies that focus on individual diseases, and contemporary health crises, much new

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Diseases and Health Care of Blacks in Antebellum Virginia, reprint (Urbana, IL: University of Illinois Press, 2002), 76; Helen Brock, "North America, a Western Outpost of European Medicine," in *The Medical Enlightenment of the Eighteenth Century*, ed. Andrew Cunningham and Roger French (New York: Cambridge University Press, 1990), 215; Joseph E. Holloway, "'What Africa Has Given America': African Continuities in the North American Diaspora," in *Writing African History*, ed. John Edward Philips (Rochester, NY: University of Rochester Press, 2005), 424; Rebecca Tannenbaum, *Health and Wellness in Colonial America* (Santa Barbara, CA: Greenwood Press, 2012), 159.

[85] K. David Patterson, "Disease and Medicine in African History: A Bibliographical Essay," *History in Africa* 1 (January 1974): 141, 143.

[86] M. Malowany, "Unfinished Agendas: Writing the History of Medicine of Sub-Saharan Africa," *African Affairs* 99, no. 395 (April 2000): 329.

knowledge has been produced.[87] However, the sixteenth, seventeenth, and eighteenth centuries are largely absent from this rich body of literature.[88] In four major historiographical essays written since Patterson's 1974 assessment of the field, the absence of pre-nineteenth-century studies was not acknowledged.

To Heal and to Harm offers the first extended discussion of precolonial West African herbal medicine between the sixteenth and eighteenth centuries. This project illustrates the ways in which West African indigenous medical knowledge and practice was epistemologically

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[87] For missionary medicine see for example Michael Gelfand, *Godly Medicine in Zimbabwe: A History of Its Medical Missions* (Gweru, Zimbabwe: Mambo Press, 1988); Charles M. Good, *The Steamer Parish: The Rise and Fall of Missionary Medicine on an African Frontier* (Chicago, IL: University of Chicago Press, 2004); Markku Hokkanen, *Medicine and Scottish Missionaries in the Northern Malawi Region 1875-1930: Quests for Health in a Colonial Society* (Edwin Mellen Press, 2007); Terence O. Ranger, "Godly Medicine: The Ambiguities of Medical Mission in Southeast Tanzania, 1900-1945," in *The Social Basis of Health and Healing in Africa*, ed. John M. Janzen and Steven Feierman (Berkeley, CA: University of California Press, 1992); Jean Comaroff and John L. Comaroff, *Of Revelation and Revolution* (Chicago, IL: University of Chicago Press, 1997).

For colonial medicine and psychiatry see for example Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Stanford, CA: Stanford University Press, 1991); J. McCulloch, *Colonial Psychiatry and" the African Mind"* (New York: Cambridge University Press, 1995); Jonathan Hal Sadowsky, *Imperial Bedlam: Institutions of Madness in Colonial Southwest Nigeria* (Berkeley, CA: University of California Press, 1999); Sloan Mahone, "The Psychology of Rebellion: Colonial Medical Responses to Dissent in British East Africa," *The Journal of African History* 47, no. 02 (2006): 241–58; Julie Parle, *States of Mind: Searching for Mental Health in Natal and Zululand, 1868-1918* (Scottsville, South Africa: University of KwaZulu-Natal Press, 2007).

For public health and disease histories see for example Gillian Burke and Peter Richardson, "The Profits of Death: A Comparative Study of Miners' Phthisis in Cornwall and the Transvaal, 1876–1918," *Journal of Southern African Studies* 4, no. 2 (1978): 147-171; Maryinez Lyons, *The Colonial Disease: A Social History of Sleeping Sickness in Northern Zaire, 1900-1940* (New York: Cambridge University Press, 2002); Helen Tilley, "Ecologies of Complexity: Tropical Environments, African Trypanosomiasis, and the Science of Disease Control in British Colonial Africa, 1900-1940," *Osiris* 19, 2nd Series (January 2004): 21-38; Terence Ranger and Paul Slack, eds., *Epidemics and Ideas: Essays on the Historical Perception of Pestilence* (New York: Cambridge University Press, 1996); John Iliffe, *The African Aids Epidemic: A History* (Athens, OH: Ohio University Press, 2006).

[88] Notable exceptions exist although much of this scholarship is not focused on West Africa. See Emmanuel K. Akyeampong, "Disease in West African History," in *Themes in West Africa's History*, ed. Emmanuel K. Akyeampong (Athens, OH: Ohio University Press, 2006), 186–207; Ambe J. Njoh, "Ideology and Public Health Elements of Human Settlement Policies in Sub-Saharan Africa," *Cities* 26, no. 1 (February 2009): 9–18; J. N. P. Davies, "The Development of `Scientific' Medicine in the African Kingdom of Bunyoro-Kitara," *Medical History* 3, no. 1 (1959): 47–57; John M. Janzen, "Ideologies and Institutions in the Precolonial History of Equatorial African Therapeutic Systems," *Social Science & Medicine* 13, no. 4 (December 1979): 317–26; John M. Janzen, *Lemba, 1650-1930: A Drum of Affliction in Africa and the New World* (New York: Garland Publishing, 1982); Sweet, *Domingos Álvares*; Gloria Waite, "Public Health in Pre-Colonial East-Central Africa," *Social Science & Medicine* 24, no. 3 (1987): 197–208; Gloria Waite, *A History of Traditional Medicine and Health Care in Pre-Colonial East-Central Africa* (Lewiston, NY: Edwin Mellen Press, 1992); Ismail Hussein Abdalla, *Islam, Medicine, and Practitioners in Northern Nigeria* (Lewiston, N.Y.: Edwin Mellen Press, 1997).

dynamic, complex, and flexible. I produce new knowledge concerning herbal and surgical practices, public health and disease, the economics of precolonial West African medicine, the health-seeking process, and theories of disease causation. Such an account of precolonial West African medicine is consequential. Writing in 2016, Kiatezua Lubanzadio Luyaluka articulated what remains an enduring problem – "African indigenous knowledge seems to many as unscientific, delusory and as no more than a bunch of magical beliefs."[89] Anthropologists continue debating whether Africans believe all disease simply boils down to witchcraft.[90] In 2008, Kwasi Konadu argued, "in reducing African medicinal systems to 'witchcraft,' global readers and Africans consume such anthropological or colonial renderings of those systems and, invariably, fail to appreciate the layers of indigenous (medicinal) knowledge possessed by various members of a community."[91]

Methodology and Sources

There is a methodological challenge to telling the story of medicine in the British slave trade. The textual artifacts are hidden, scattered, and diffused throughout the archives. I spent nearly two years collecting unpublished manuscript sources culled from forty-one different archival repositories scattered throughout England, Scotland, and the Isle of Man. The sources for this dissertation represent a multi-lingual collection of slave trade merchants' records, correspondence, memoirs, medical treatises, pharmacopoeias, travel narratives, natural histories,

[89] Kiatezua Lubanzadio Luyaluka, "An Essay on Naturalized Epistemology of African Indigenous Knowledge," *Journal of Black Studies*, May 4, 2016, 2.

[90] Robert Pool, "On the Creation and Dissolution of Ethnomedical Systems in the Medical Ethnography of Africa," *Africa (Edinburgh University Press)* 64, no. 1 (March 1994): 12; Kwasi Konadu, "Medicine and Anthropology in Twentieth Century Africa: Akan Medicine and Encounters with (Medical) Anthropology," *African Studies Quarterly* 10, no. 2 & 3 (2008): 48–54.

[91] Konadu, "Medicine and Anthropology in Twentieth Century Africa," 54.

and botanical texts. The interpretative work required pharmacological, phytochemical, ecological, religious, and anthropological literature, to further ground and confirm my findings.

As a commercial operation, much of the correspondence is silent in regard to the actual practice of medicine because the sources privilege trade goods over bodily experience, merchants over medical personnel, and male labor over female labor. Most of the records, including correspondence, were written to communicate business matters to officials and employers, and as such, they were not intended to capture daily medical practices, prescriptions administered, or surgical interventions performed in slave factories or on slave ships. Patient care delivered by both British and West African medical practitioners occurred through oral exchanges, interpreters, and gesticular bodily encounters, leaving little trace. A small collection of slave ship surgeons' journals have survived for the late eighteenth century. Slave factory surgeons' journals, however, do not appear to have survived except for one small fragment I discovered in a box of uncatalogued papers.

The sources are strongest for what they reveal about economic concerns, personnel management in London and West Africa, and the daily barrage of illnesses, injuries, despair, and death, which assaulted captive Africans and free Britons on the coast. Through accounting records, the material world of the slave trade can be traced at times. Drugs, pharmaceutical equipment, surgical instruments, food, drink, and personnel can elucidate trends over time when sufficient evidence exists to study objects longitudinally. In contrast, correspondence can open up insight into one moment on one day – medicines are destroyed by fire; vermin nibble at the flesh of sick slaves; barley is given to an invalid soldier; hungry animals at Cape Coast Castle await their next corpse.

Documentation in regard to the presence of enslaved medical practitioners occurs through merchants' accounting records; however European-authored travel narratives represent the most significant body of evidence regarding West African medical and botanical knowledge between the sixteenth and eighteenth centuries. These travelogues are considered "historical sources of the first rank," although the narratives are descriptive accounts, which preclude the ability to discern change over time.[92] At times, they are also, vague or lacking in the detail needed to identify specific ethnic groups, places, and plant species with any level of exactitude; however, their benefits to historical reconstruction outweigh these considerations. John Thornton writes, "contemporary eyewitness testimony, for all its problems, is still the philosopher's stone of the historians' craft."[93] These travel accounts captured a significant amount of herbal, medicinal knowledge, and the tables in the Appendix show a sampling of the therapeutic plentitude held in the medical traditions of various precolonial West African communities.

What is Medicine?

During the eighteenth century, the standard definition of medicine in Britain was "the art of physic; also a physical remedy."[94] Physic was "Natural Philosophy, a science which shews the nature of things, with the causes, remedies; a purge."[95] Physic also referred to "the art or

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[92] J. D. Fage, "Continuity and Change in the Writing of West African History," *African Affairs* 70, no. 280 (July 1, 1971): 238; J. D. Fage, "The Prehistory of African History," *Paideuma* 19/20 (January 1, 1973): 149.

[93] John K. Thornton, "Religious and Ceremonial Life in the Kongo and Mbundu Areas, 1500-1700," in *Central Africans and Cultural Transformations in the American Diaspora*, ed. Linda M. Heywood (New York: Cambridge University Press, 2002), 71–90. See also P. E. H Hair, *Africa Encountered: European Contacts and Evidence, 1450-1700* (Brookfield, VT: Variorum, 1997), viii; J. D. Fage, *A Guide to Original Sources for Precolonial Western Africa Published in European Languages* (Madison, WI: University of Wisconsin Press, 1987), vii; Fage, "The Prehistory of African History," 149; John Thornton, "European Documents and African History," in *Writing African History*, ed. John Edward Philips (Rochester, NY: University of Rochester Press, 2005), 256..

[94] *A New Complete English Dictionary: Containing a Brief and Clear Explication of Most Words in the English Language*, 2nd ed. (Printed by David Paterson, 1770), 336.

[95] Ibid., 384.

practice of healing" as well as the medical profession.[96] Medicine and physic during the period of our study was also related to remedies for "spiritual, psychological, or social matters."[97] In other words, the word "medicine" in the eighteenth-century British context referred to natural philosophy, purges, drugs, and remedies for not only physical illnesses but for spiritual, psychological, or social matters as well. Medicine had a surplus of meanings beyond treating a sick body. Medicine as eighteenth-century natural philosophy included theology, metaphysics, epistemology, methodology, physics, chemistry, and the philosophy of science.[98]

Typically, West African medicine is described in such manner, having a surplus of meanings beyond physical illness. The concept of medicine in precolonial West Africa, as well as today, is linguistically and conceptually embedded in broad semantic domains that encompass a wide range of afflictions.[99] More than physical sickness, medicine also aids poor harvests, the market economy, trade relations, interpersonal conflicts, and other forms of misfortune. In both British and West African traditions, the wrath of a god or deity was among the causes of ill health during this period. Pluralistic therapeutic systems existed in both, and as is discussed in the pages that follow, amulets, cupping, herbal remedies, and enemas were part of the healing methods practiced by both. Although the meanings attributed to various therapeutic interventions differed, and functioned within different intellectual, epistemological, and

[96] *OED*, s.v. "physic."

[97] Ibid., s.v. "medicine."

[98] Nicholas Maxwell, *In Praise of Natural Philosophy: A Revolution for Thought and Life* (Quebec: McGill-Queen's Press, 2017), 4.

[99] Janzen, "Ideologies and Institutions in the Precolonial History of Equatorial African Therapeutic Systems," 317; Thornton, "Religious and Ceremonial Life in the Kongo and Mbundu Areas, 1500-1700," 77, 80; Steven Feierman and John M. Janzen, "African Religions," in *Science and Religion Around the World*, ed. John Hedley Brooke and Ronald L. Numbers (New York: Oxford University Press, 2011), 235–36.

cosmological worlds, the concept of "medicine" in eighteenth-century West Africa and Britain likely resembled one another more than they resembled scientific medicine.

Given their early modern kinship and mutual legibility as healing systems, in this dissertation both West African and British systems of health and healing are referred to as "medicine." Rather than following a common practice of referring to West African medicine as healing and curing to indicate its broad semantic field, both West African and British medicine overflowed the boundaries of what would later be demarcated by biomedicine. The definition of medicine that I use is from historian Owsei Temkin. Temkin wrote that medicine is "healing (and prevention) based on such knowledge as is deemed requisite. Such knowledge may be theological, magic, empirical, rationally speculative, or scientific."[100] In this way, medicine is a system of healing, open to a plurality of approaches. Diverse epistemological domains are granted legitimacy. Medicine as healing need not be conceived of in a purely physical sense. Instead, it is a polysemous domain, which understands that states of unwellness have environmental, societal, and interpersonal coordinates, as well as biological ones.

Similarly, I refer to all who practiced medicine, both West African and British, with the same basic vocabulary. I liberally use terms such as "medical practitioner," "herbalist," "healer," "doctor," "medical laborer," and "surgeon," rather than naming all Africans who practice medicine as "healers." It is more than simply a matter of language choice. These categories shape what can be known and they also reify certain modes of thinking. My intention is to disrupt the inherent denigration of indigenous medical knowledge that is often implicit in words like "healers" and "folk medicine," by using it alongside other less-charged terms. The British referred to enslaved castle healers as "doctors" and "doctresses," and at times I follow

[100] Owsei Temkin, *The Double Face of Janus and Other Essays in the History of Medicine* (Baltimore, MD: Johns Hopkins University Press, 2006), 16.

suit. Waltraud Ernst emphasizes, however, that words like "healers," "even when they are not explicitly denigrated, their scientific status, the validity of their knowledge base and integrity of their practitioners is almost automatically impugned."[101] I am attentive to the fact that "indigenous forms of knowledge are always at risk of being grounded in, emerging from, and ultimately upholding non-Indigenous ontologies, epistemologies, methodologies, and axiologies."[102] It is my hope that through the pages that follow, the appellations used to describe the enslaved might take on the meanings of rainforests and spirit shrines, mangrove swamps and savannah woodlands, re-centered and redefined by way of the healing knowledge these children, women, and men produced in the volatile slave trading zones.

The Knowledge Economy of the Slave Trade

In 1690, Dalby Thomas, a chief merchant for the Royal African Company wrote that "Labour and Industry rightly apply'd, is the Sole cause of the Wealth of the Nation."[103] The same could be said for the successful operation of the slave trade. Labor and industry needed to be mobilized and manipulated correctly to support the purchase and violent transport of millions of captive Africans across the Atlantic. Underground dungeons were built to house captives in West African slave factories. Ships were transformed into floating prisons, netting was erected to prevent suicide, and larger crews were hired to ensure adequate, vigilant surveillance. Medical labor took an unprecedented form in the context of eighteenth-century medicine. British

[101] Waltraud Ernst, ed., "Plural Medicine, Tradition and Modernity. Historical and Contemporary Perspectives: Views from Below and From Above," in *Plural Medicine: Tradition and Modernity, 1800-2000* (New York: Routledge, 2002), 3.

[102] Emilie Cameron, Sarah de Leeuw, and Caroline Desbiens, "Indigeneity and Ontology," *Cultural Geographies* 21, no. 1 (January 1, 2014): 24.

[103] Dalby Thomas, *An Historical Account of the Rise and Growth of the West India Collonies* (London,: Printed for J. Hindmarsh, 1690), 4.

surgeons were employed to keep human cargo alive not only by treating diseases, but they also had to restrain captives from self-mutilation and suicide; force feed them when they attempted starvation; whip them when they refused to eat; and administer medicines with whips and pistols nearby to force compliance. These were innovations of the slave trade. Stephanie Smallwood writes, "turning captives into commodities was a thoroughly scientific enterprise. It turned on perfecting the practices required to commodify people and determining where those practices reached their outer limits (that is, the point at which they extinguished the lives they were meant to sustain in commodified form)."[104]

I frame the intercontinental medical management system as an insidious knowledge project because of how pharmacy and medicine innovated in order to meet the requirements of British slave traders. In writing about antebellum slavery Caitlin Rosenthal argued that "innovation was, in a sense, a by-product of bondage."[105] Something similar can be said about the slave trade – industries and occupations took new form. However, medical knowledge is typically conceived of as a useful discovery that has a direct impact on the practice of medicine. When medical knowledge advances often a disease has a ready cure (such as citrus fruits for scurvy), a new efficacious drug comes into use (such as cinchona, the South American antimalarial), or new technological inventions enter into medical practice (such as the stethoscope in 1816). For slave traders, as Patrick O'Brien writes in regard to disease, climate, and the risks of overseas travel, "the sciences, medicines, and transportation technologies of the

[104] Smallwood, *Saltwater Slavery*, 43.

[105] Caitlin Rosenthal, "Slavery's Scientific Management: Masters and Managers," in *Slavery's Capitalism: A New History of American Economic Development*, ed. Sven Beckert and Seth Rockman (Philadelphia, PA: University of Pennsylvania Press, 2016), 63.

eighteenth century continued to provide palliatives but not solutions."[106]

The kind of knowledge produced in the amphibious sites that structured the commerce in African people was different. The slave trade required new knowledge in the form of techniques, technologies, and executable practices in order to thrive, what I am calling "prescriptive knowledge," which I borrow from economist Joel Mokyr. In the medical world of the slave trade this knowledge took the form of larger-scale drug production, new approaches to clinical medicine, and West African medicinal and botanical knowledge. However, this was knowledge that operated in the context of mass graves and oozing sores and amputated limbs. It was knowledge forged in a broken world. Steven Jackson writes, "Here, then, are two radically different forces and realities. On one hand, a fractal world, a centrifugal world, an always-almost-falling-apart world. On the other, a world in constant process of fixing and reinvention, reconfiguring and reassembling into new combinations and new possibilities, creativity and destruction."[107]

Bridging the Economic and the Experiential

People's lived experiences in the slave trade dominate the pages that follow. However, the medical management system that these individuals were part of was driven, in large measure, by economic concerns. Richard Hoffman's statement that "whether consciously or not, biology and economy are inherently and intrinsically interconnected," has particular relevance in the context of the Atlantic slave trade.[108] The need to fill American markets with vendible human

[106] Patrick O'Brien, "Inseparable Connections: Trade, Economy, Fiscal State, and the Expansion of Empire, 1688-1815," in *The Oxford History of the British Empire: Volume II: The Eighteenth Century*, ed. P. J. Marshall (New York: Oxford University Press, 1998), 60.

[107] Steven J. Jackson, "Rethinking Repair," in *Media Technologies: Essays on Communication, Materiality, and Society*, ed. Tarleton Gillespie, Pablo J. Boczkowski, and Kirsten A. Foot (Cambridge, MA: MIT Press, 2014), 222.

[108] Richard C. Hoffman, "Bugs, Beasts, and Business: Some Everyday and Long-Term Interactions between Biology

commodities set in motion a series of ancillary concerns that had economic consequences for those involved. For British merchants, the choice of drugs, drug providers, pharmaceutical equipment, surgical instruments, and medical labor were motivated by economic and political demands. The use of enslaved West African medical practitioners is a vivid example of this because utilizing slave labor not only cost a fraction of what British slave factory surgeons were paid, but it was also a medically sound intervention because of the efficacy of West African indigenous medicine.

Slave trade merchants, however, were not alone in foregrounding material concerns in their business, professional, and personal lives. As scholars have shown in regard to other British industries such as textiles, shipbuilding, metalworking, and gunsmithing, the slave trade helped bolster other branches of commerce and this included the pharmaceutical trade and Britain's drug manufacturing sector. The lucrative profits that could be gained drove slave trade drug suppliers to engage in heated battles with their competitors. Their conflicts drew in the most power medical corporations in the city of London and spilled into the halls of Westminster where the British Parliament intervened. The drugs that enslaved children, women, and men in slave factories and on slave ships were forced to consume represented the lucrative nature of a drug industry that fed off their commodified lives and expanded its global reach in the process.

In contrast, slave trade surgeons were faced with economic distress in a medical labor marketplace that was fraught with insecurity. The slave trade thrived, in part, upon surgeons' economic need, offering them lucrative compensation in the very bodies they were meant to keep alive and preserve for sale. By placing doctoring and human commodification into a bold new relationship, the slave trade produced a uniquely violent and violating form of medicine that had

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and Economy in Preindustrial Europe," in *Economic and Biological Interactions in Pre-Industrial Europe, from the 13th to the 18th Century*, ed. Simonetta Cavaciocchi (Florence, Italy: Firenze University Press, 2010), 138.

chilling effects upon captive Africans and upon the practice of medicine itself. The experiential and the economic were entwined in the medical world of the slave trade, which poses challenges in writing about both the history of slave trading and the history of eighteenth-century medicine.

As described earlier, one of the most significant shifts in slave trade studies to occur over the past twenty years has been the increasing importance given to the human experience of the slave trade by focusing on the individuals embedded in its powerful web of commerce and capital, human labor and human loss. Quantitative, economic, and demographic approaches to studying the slave trade have been rightly critiqued for their inability to adequately capture the human costs of this traffic, the cultural embedding of economic behavior, and the manifold ways in which African societies were affected.[109] In his 2000 *Rise of African Slavery in the Americas* David Eltis wrote that "in the end any economic interpretation of history risks insufficient probing of the behaviour of people. At the very least, it will run the risk of missing the cultural parameters within which economic decisions are made."[110] In 2013 Mariana Candido wrote that "an emphasis on quantitative analysis fails to recognize the prevailing force of violence and its devastating effects on West Central African societies."[111] In contrast to histories of capitalism permeating studies of American slavery, the slave trade remains divided between those who argue for and against the value of quantitative, economic, and demographic approaches to studying the trade in human flesh.[112]

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[109] Green, *The Rise of the Trans-Atlantic Slave Trade in Western Africa, 1300-1589*, 4–5.

[110] David Eltis, *The Rise of African Slavery in the Americas* (New York: Cambridge University Press, 2000), 284.

[111] Mariana Candido, *An African Slaving Port and the Atlantic World: Benguela and Its Hinterland* (New York: Cambridge University Press, 2013), 16.

[112] For some of the literature on the history of capitalism and slavery see for example Seth Rockman, *Scraping by : Wage Labor, Slavery, and Survival in Early Baltimore*, Studies in Early American Economy and Society from the Library Company of Philadelphia (Baltimore, MD: Johns Hopkins University Press, 2009); Joshua D. Rothman, *Flush Times and Fever Dreams: A Story of Capitalism and Slavery in the Age of Jackson* (Athens, GA: University

While engaging with economics in the context of the slave trade is fraught given its historiographical past, scholars of eighteenth-century British medicine instead struggle with the absence of economic perspectives in the literature. For several decades, historians have called for deeper attention to the economic dimensions of medicine. In 1982, Margaret Pelling wrote that "few of the economic aspects of medicine have received the attention they deserve from historians," adding that "economic historians have conspired with historians of medicine to minimise the role played by medical practitioners in the wider social and economic context."[113] In 1994, Anne Digby produced a seminal work on the economic dimensions of medical practice and observed, "the economic history of medicine is a strangely neglected field."[114] In 2006, Steven King wrote that Anne Digby's research agenda has largely not been followed up and "the economics of doctoring" remains understudied.[115]

This appears to be an ideal moment to re-engage with economic questions in the history of the Atlantic slave trade, and to contribute to the rather sparse literature on the economic dimensions of pharmacy and medicine in eighteenth-century Britain. Economic topics are

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of Georgia Press, 2012); Walter Johnson, *River of Dark Dreams: Slavery and Empire in the Cotton Kingdom* (Cambridge, MA: Harvard University Press, 2013); Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014); Edward Baptist, *The Half Has Never Been Told: Slavery and the Making of American Capitalism* (New York: Basic Books, 2014); Calvin Schermerhorn, *The Business of Slavery and the Rise of American Capitalism, 1815–1860* (New Haven, CT: Yale University Press, 2015); Sven Beckert and Seth Rockman, eds., *Slavery's Capitalism: A New History of American Economic Development* (Philadelphia, PA: University of Pennsylvania Press, 2016).

[113] Margaret Pelling, "Occupational Diversity: Barber-Surgeons and the Trades of Norwich, 1550-1640," *Bulletin of the History of Medicine* 56, no. 4 (1982): 486.

[114] Anne Digby, *Making a Medical Living: Doctors and Patients in the English Market for Medicine, 1720-1911* (New York: Cambridge University Press, 1994), 1.

[115] Steven King, "Accessing Drugs in the Eighteenth-Century Regions," in *From Physick to Pharmacology: Five Hundred Years of British Drug Retailing*, ed. Louise Hill Curth (Burlington, VT: Ashgate Publishing, Ltd., 2006), 51. In addition to Anne Digby's groundbreaking scholarship, other studies of seventeenth- and eighteenth-century medical practitioners, which include discussions of their business practices and economic survival strategies are Loudon, *Medical Care and the General Practitioner, 1750-1850*; Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol*; Margaret Pelling, *The Common Lot : Sickness, Medical Occupations, and the Urban Poor in Early Modern England* (London: Longman, 1998).

abounding in historical research.[116] In 2015, Naomi Lamoreaux observed that historians were showing renewed interest in studying topics connected with economic history and that interdisciplinary exchanges were a necessity.[117] In 2016, Cathy Matson remarked how economic histories were expanding to integrate findings from such fields as indigenous studies, anthropology, and linguistics; exploring the subaltern as well as imperialists, nation-states and "microworlds of economic change."[118] In 2016, Kenneth Lipartito similarly observed historians' desire to engage seriously with the material and symbolic dimensions of life.[119] Two recent studies of the slave trade intentionally locate themselves at the intersection of the quantitative and the qualitative, or "the empirical and the humane," as Greg O'Malley describes it.[120]

This dissertation is promiscuously interdisciplinary, and in the realm of economics, I engage with business industry, manufacturing, labor markets, and the culture of money in discussing how British pharmacy, surgery, and slave trading were engaged in "processes of mutual influencing," while penetrating the bodies of enslaved children, women, and men and affecting their living and their dying. Indeed, rather than apprehending economic topics as

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[116] Caitlin Rosenthal, "Seeking a Quantitative Middle Ground: Reflections on Methods and Opportunities in Economic History," *Journal of the Early Republic* 36, no. 4 (2016): 659.

[117] Naomi Lamoreaux, "The Future of Economic History Must Be Interdisciplinary," *The Journal of Economic History* 75, no. 4 (2015): 1254–56. See also Naomi R. Lamoreaux, "Beyond the Old and the New: Economic History in the United States," in *Routledge Handbook of Global Economic History*, ed. Francesco Boldizzoni and Pat Hudson (New York: Routledge, 2015), 35–54.

[118] Cathy Matson, "Economic History at a Crossroads: Reconsidering Methods, Spaces, and Peoples," *Journal of the Early Republic* 36, no. 4 (2016): 602–4.

[119] Kenneth Lipartito, "Reassembling the Economic: New Departures in Historical Materialism," *The American Historical Review* 121, no. 1 (February 1, 2016): 101, 105.

[120] Daniel B. Domingues da Silva, *The Atlantic Slave Trade from West Central Africa, 1780–1867* (New York: Cambridge University Press, 2017), 8–10. Greg O'Malley does not make this explicit in the body of his monograph, *Final Passages*, but instead discusses it in a blog post, "Balancing the Empirical and the Humane in Slave Trade Studies," Omohundro Institute of Early American History and Culture, Uncommon Sense – The Blog, January 14, 2015, <http://blog.oieahc.wm.edu/balancing-the-empirical-and-the-humane-in-slave-trade-studies/#comments> accessed January 31, 2017.

necessarily occluding human experience, this dissertation illustrates how economic questions can make visible aspects of the human costs of the slave trade and dimensions of enslavement that were previously unrecognized.

Organization and Chapter Descriptions

The dissertation is organized geographically and thematically. The first three chapters are set in the British Isles and the second three chapters are set in West Africa. Each chapter examines groups of practitioners involved in the medical management system of the British slave trade. The first chapter, "The Mortar and the Pestle," is set in the chemical laboratories and apothecary shops that produced drugs for the slave trade. This chapter represents the first study of slave trade drugs, the global pharmaceutical dimensions of the eighteenth-century slave trade, and the apothecaries, chemists, and druggists who met the massive drug needs for the slave trade. This chapter argues that the slave trade not only helped propel larger scale drug manufacturing in the British Isles, but contributed significantly to the rise of the global drug industry.

The second chapter, "Paid in Human Flesh," is set in the market towns and port cities in the British Isles where surgeons struggled to make a medical living. The chapter examines the reasons why they entered into the slave trade, the broader medical labor marketplace, and what it meant to be "paid in human flesh."

The third chapter, "Medicine and Captivity," explores the relationship between slave ship medicine and the rise of surgeons as a profession. The chapter examines how surgeons' training in hospital wards and dissecting theatres gave them intellectual resources that allowed slave trade medicine to thrive, and in the process made slave trade medicine a critical participant in the modernizing forces at work in the second half of the eighteenth century.

The fourth chapter, "Plants, Spirits, Knowledge," enters the rainforests and coastal enclaves of precolonial West Africa and offers the first extended study of West African herbalism between the sixteenth and eighteenth centuries. The chapter explores the epistemological complexity of precolonial West African medicine, theories of disease causation, and the relationship between material and spiritual aspects of healing and curing.

The fifth chapter, "A Vulnerable Place," is set in the volatile slave trading zones and examines how vulnerability and violence structured the social world. From frequent food shortages, to disease, madness, and despair this chapter explores the pathogenic landscape of British slave factories and its medical needs.

The sixth chapter, "Doctoring a Broken World," is set amidst the tumult of the slave trading zones and studies the medical labor and knowledge of castle slaves at Cape Coast Castle. The chapter examines the intercultural medical world at British settlements and efforts to discover new drug commodities by exploiting the botanical knowledge held by the enslaved.

This Introduction began with Thomas Trotter and the collective dream in part because it represents the origins of this project as well as its motivation. The relations between British surgeons and enslaved Africans and the mental afflictions, grief, and mourning endured by the captives on board these *tumbeiros* (floating coffins), drove this project forward. In particular, the Middle Passage took root in my consciousness. At the outset, I imagined that the transoceanic journey would be the most significant aspect of this dissertation. The slave ship was for me, as it is for many others, a kind of originary moment of diasporan consciousness. In this liminal space, on the precipice between life and death, the slave ship is both a site of history and memory. It contains a surplus of meanings that smuggle in the personal and political, the historical and the poetic, ancestral pasts and lingering soul wounds. Scholars have aptly explored how the slave

ship was a place of cultural rupture as well as a site in which new social formations and cultural adaptations were forged. The slave ship stretches the limits of historians' imaginations as they tread carefully upon its decks knowing that all attempts to truly articulate what occurred in that wooden world necessarily fall short. The medical world that exists in such a space offers much for historians to wrestle with, perhaps a lifetime of questions are contained within it.

This dissertation however became something profoundly different. It became about the meaning of medicine itself and its effect upon African people. The slave trade from the perspective of British medicine upends comfortable notions that link curing with caring and healing with doing no harm. Instead, the relationship between the slave trade and medicine invites an inquiry into the meaning of medicine in the context of large-scale systems driven by economic interests where human exploitation, cultural biases, and inchoate (or fully formed) racial and gender biases thrive. What does it mean to cure or care, heal or harm when a medical system is a product of commerce, commodification, and violence?

It is my hope that other researchers will build on this study, joining what I hope will be a robust area of slave trade studies that explores medicine, in all its guises, with thoughtful rigor – but also with a gaze toward our present and future. Surely, this is a history whose contours of healing and harming we must never forget.

Part One: Great Britain

Chapter One: The Mortar and the Pestle

In December 1791, the slave ship *Alice* was anchored at Anomabu on the Gold Coast in West Africa.[121] The vessel had been in Africa for five months slowly plying the coast for captives. Each day enslaved children, women, and men were chained, stripped, examined, purchased, and herded on board. The *Alice* would depart in two months for the island of St. Vincent in the Caribbean, but not without first having its share of disease and death.

On December 10, surgeon Daniel Bushell recorded that one enslaved woman was experiencing "violent purging and gripings" in her lower extremities.[122]

On December 11: "Very bad, with very severe gripings, Evacuating slimy Bleeding stools."

On December 12: "Much the same as yesterday."

On December 13: "This Morning much worse, stools very bad. Patient very languid."

On December 14: "Very bad, Evacuating Involuntary stools."

On December 15: "This morning growing worse. In capable of Receiving Nourishment Medecines &c. but with great difficulty."

On December 16th at six o'clock in the morning the anonymous enslaved woman died from dysentery. Upon her passing, the surgeon scrawled into his medical ledger: "1 Woman Buried," and one man purchased, "175 Remains."[123]

Dysentery was a highly contagious gastro-intestinal disease described as "a horrid

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[121] David Elits, et al., eds., *The Trans-Atlantic Slave Trade Database*, Voyage Identification #80189, <http://www.slavevoyages.org>, accessed 5 September 2015.

[122] Wirral Archives Service (hereafter, WAS), ZMZ/2, Slave Ship Alice, Daniel Bushell Medical Journal. "Griping" refers to spasmodic cramping and constrictions in the bowels.

[123] WAS, ZMZ/2, Slave Ship Alice Medical Journal.

Torture of the Bowels."[124] It would have caused her body to shake and shiver before becoming hot and feverish.[125] She would have felt sharp pains throughout her abdomen while blood, mucous, and fecal matter flowed out of her uncontrollably. Dysentery resulted in inflammation of the mucous membrane and glands of the large intestine.[126] Often referred to as the "flux" (bacillary dysentery, or, shigellosis) and the "bloody flux" (amoebic dysentery), the disease was one of the most frequent causes of mortality in the slave trade.[127] The illness resulted from contaminated food and water and spread through an oral-fecal route. The crowded, filthy, and unhygienic conditions on board slaving vessels created the toxic environment responsible for epidemic outbreaks of the disease.[128] Bacillary dysentery (shigellosis) and amoebic dysentery ravaged individuals during the loading period and the Middle Passage.[129] Both types of the disease produced diarrhea with blood, but amoebic dysentery was distinctive in its profusion of bloody stools where twenty or more could be passed daily.[130] The anonymous African woman had a messy, painful, bloody death.

During the enslaved woman's illness, Bushell compounded and administered several

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[124] Richard Brookes, *The General Practice of Physic*, 5th ed., vol. 2 (London: Printed for J. Newbery, 1765), 56.

[125] Thomas Sydenham, *The Works of Thomas Sydenham, M. D., on Acute and Chronic Diseases: With Their Histories and Modes of Cure* (Philadelphia: Benjamin & Thomas Kite, 1809), 440.

[126] Richard B. Sheridan, "The Guinea Surgeons on the Middle Passage: The Provision of Medical Services in the British Slave Trade," *The International Journal of African Historical Studies* 14, no. 4 (January 1981): 603.

[127] Kenneth F. Kiple and Brian T. Higgins, "Mortality Caused by Dehydration during the Middle Passage," *Social Science History* 13, no. 4 (December 1989): 425–427; Richard H. Steckel and Richard A. Jensen, "New Evidence on the Causes of Slave and Crew Mortality in the Atlantic Slave Trade," *The Journal of Economic History* 46, no. 1 (March 1, 1986): 60–62, 65, 73–74; Sheridan, "The Guinea Surgeons on the Middle Passage," 603–605. Kenneth Kiple theorizes that the distinctions in eighteenth-century sources between "flux" or "white flux" and "bloody flux" reflected attempts to differentiate between bacillary dysentery (shigellosis) and amoebic dysentery.

[128] Steckel and Jensen, "New Evidence on the Causes of Slave and Crew Mortality," 65; Kiple and Higgins, "Mortality Caused by Dehydration," 426.

[129] Steckel and Jensen, "New Evidence on the Causes of Slave and Crew Mortality," 60.

[130] Kiple and Higgins, "Mortality Caused by Dehydration," 426.

prescriptions, such as:

> ℞ Sal. Glaub ʒi solve in Aq Puræ ʒifs stat sumend
>
> [1 ounce of Glauber's salt dissolved in 1 1/2 ounces of water to be taken immediately]
>
> ℞ Pulv Ipecac gr iij tertia quaq hor sumend
>
> [3 grains of powdered Ipecacuanha to be taken every three hours]
>
> ℞ Ext Theb gr ij h.S.S.
>
> [2 grains of Thebaic Extract (Purified Opium) to be taken at bedtime]
>
> ℞ Inject Enema Astring cum Amylum ad ʒvi
>
> [Inject Astringent Clyster with Wheat Starch to 6 ounces]
>
> ℞ Sperm Ceti ʒi Camphor ʒi Bals Traum ʒfs Vin Rub ʒii Tr Theb ʒi Aq Puræ ʒiv Sach Alb ʒii M ft Cujus Capiat Cochl iv quarta quaq hor
>
> [Mix one drachm of Spermaceti, one drachm of Camphor, 1/2 drachm of Vulnerary Balsam, 2 ounces of Red Wine, 1 drachm of Tincture of Opium, four ounces of Water, 2 drachms of White Sugar, let him take four spoonfuls every four hours] [131]

The surgeon administered opiate-laden tinctures, vomit-inducing draughts and bitter purgatives to the enslaved woman. As she lay naked on the wooden boards of the vessel, the surgeon rolled her on her stomach and inserted a clyster pipe into her rectum containing a compound medicine of lime water, opium, French clay, wheat starch, the syrup of dry roses, and several other ingredients.[132] With its astringent and absorbent qualities, the enema was intended, in part, to help bind the loose stools.[133] The surgeon administered chemical remedies such as the

[131] The English prescription translations are mine. Medicines were measured by Apothecaries' weights, also known as Troy weights. The system of measure is divided into grains, scruples, drachms, ounces, and pounds. Twenty grains equaled one scruple. Three scruples equaled one drachm. Eight drachms equaled one ounce. Twelve ounces equaled one pound. Liquids were also weighed rather than measured volumetrically. In the pages that follow all references to pounds refer to the Apothecaries' pound or Troy pound unless otherwise specified. See J. Worth Estes, *Dictionary of Protopharmacology: Therapeutic Practices, 1700-1850* (Canton, MA: Science History Publications, U.S.A., 1990), 124–25.

[132] Richard Brookes, *An Introduction to Physic and Surgery*, 2nd ed. (London: Printed for J. Newbery, 1763), 295, 281. See page 295 for *Enema de Amylo* and *Enema Astringens*, and page 281 for *Confectio Roborans.*

[133] See for example, the description of *Pulvis e Bole compositus cum Opio* for the glutinous astringency of clay in

nauseous and bitter-tasting Glauber's salt (*Sal Mirabile Glauberi*, or sodium sulphate), which was a popular purgative.[134] The powdered ipecacuanha (*Cephælis Ipecacuanha*) that she swallowed would have caused her to vomit and sweat in her already weakened state.[135]

This anonymous enslaved woman who died from dysentery, was one of millions of African captives trafficked across the Atlantic, whose living and dying was profoundly shaped by medicines. The experience of enslavement in the context of the slave trade included drugs that surgeons forced into the orifices of valuable human cargo in order to keep them alive for sale. Many enslaved children, women, and men journeyed toward death while feeling the shivering sweats that came from narcotic preparations, the dizziness that resulted from medicines that induced vomiting, and the blows and beatings that ensued whenever they refused to take these drugs. Medicines, however, were not solely therapeutic agents, but represented "material things," global commodities that were integral to the economic and political life of the Atlantic slave trade.[136]

Little has been written about slave trade drugs and the British apothecaries, chemists, and druggists who prepared and compounded the medicines that found their way into surgeon Daniel Bushell's medicine chest and into the medicine chests of other slave trade surgeons.[137]

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the use of dysentery in Quincy, *Pharmacopœia Officinalis et Extemporanea*, 471. For the disputed status over the role of astringents in the treatment of dysentery in the eighteenth century see William Cullen, *A Treatise of the Materia Medica*, vol. 2 (Edinburgh: Printed for Charles Elliot, 1789), 11.

[134] John Rutty, *Observations on the London and Edinburgh Dispensatories: With an Account of the Virtues of Various Subjects of the Materia Medica* (London: Printed for Edward and Charles Dilly, 1776), 160; and John Quincy, *Pharmacopœia Officinalis et Extemporanea: Or, A Complete English Dispensatory*, 15th ed. (London: Printed for T. Longman, 1782), 275.

[135] Quincy, *Pharmacopœia Officinalis et Extemporanea,* 161.

[136] Susan Reynolds Whyte, Sjaak van der Geest, and Anita Hardon, *Social Lives of Medicines* (New York: Cambridge University Press, 2002), 3.

[137] In 2009, Stuart Anderson remarked that despite an increasing interest in the history of slavery, "to date there has been very little interest shown in it by historians of pharmacy." Stuart Anderson, "Pharmacy and Slavery:

Thousands of slave ships, store ships, and sloops departed British waters equipped with medicine chests in service of the slave trade. British forts and settlements in West Africa, scattered across many thousands of miles of African coastline, were furnished with medicines from the metropole to replenish their doctors' stores. British pharmaceutical provisions circulated among the various seaborne and land-based geographies that structured the commerce in African people. While historians have explored how the commercial needs of slave traders influenced various industries in eighteenth-century Britain, we know little about the individuals who operated chemical laboratories in London, pharmaceutical warehouses in Liverpool, and wholesale druggist shops in Bristol.[138] Admittedly, there is a dearth of business records for the individual pharmaceutical

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Apothecaries, Medicines and the Slave Trade: 1650 to 1807," *Pharmaceutical Historian* 39, no. 1 (March 2009): 11. Anderson authored two additional essays on the history of pharmacy and slavery. These two-page articles represent the most recent discussions concerning the topic and make an important contribution to the field. See Stuart Anderson, "James Goodwin's Bonfire of Medicines," *The Pharmaceutical Journal* 283 (December 2009): 705–6; and, "Liverpool Apothecary in the Slave Trade," *The Pharmaceutical Journal* 285 (December 2010): 732–33.

In 2003, Anderson wrote that "the history of pharmacy has been a neglected and under-researched field within the broader history of medicine for far too long." See Stuart Anderson, "Researching and Writing the History of Pharmacy," in *Making Medicines: A Brief History Of Pharmacy and Pharmaceuticals*, ed. Stuart Anderson (London: Pharmaceutical Press, 2005), 10. Harold Cook and Timothy Walker note that within the history of medicine, pharmacy is an "adjacent discipline…with comparatively few practitioners." The authors note that the languages required and the technical knowledge necessary to decipher the documents can make the research inaccessible. See Harold J. Cook and Timothy D. Walker, "Circulation of Medicine in the Early Modern Atlantic World," *Social History of Medicine* 26, no. 3 (August 1, 2013): 345. Unlike the social history of medicine, the history of pharmacy remains somewhat specialized. Book-length treatments are geared toward pedagogical needs. The historical writing in the industry's journals and periodicals tend to be "narratives or short notes." The history of pharmacy is still dominated by pharmacists writing for the benefit of the profession. The field exists in large measure outside the purview of professional historians. See J. K. Crellin, "The President's Address: History of Pharmacy: What Is It? Or How Should AIHP Develop Its Policies?," *Pharmacy in History* 29, no. 4 (January 1, 1987): 214. For a more recent reflection on what the history of pharmacy should become see the 2008 address by Elizabeth Siegel Watkins, "From History of Pharmacy to Pharmaceutical History," *Pharmacy in History* 51, no. 1 (January 1, 2009): 3–13. Important additions to the field have been made by economic, social, and cultural historians. These works are referenced frequently in the pages that follow.

[138] Producing trade goods that would be bartered for human beings consumed a significant amount of the outfitting costs for slave ships. Between fifty-five and sixty-five percent of the total costs for outfitting a slaver were trade goods, some of which had to be imported. See Klein, *The Atlantic Slave Trade*, 87. The industries responsible for manufacturing goods such as textiles, guns, and metal work thus, dominate the literature for good reason. See for example Chris Evans, *Slave Wales: The Welsh and Atlantic Slavery, 1660-1850* (Cardiff: University of Wales Press, 2010); Joseph E. Inikori, "The Import of Firearms into West Africa 1750-1807: A Quantitative Analysis," *The Journal of African History* 18, no. 3 (January 1, 1977): 339–68; Joseph E. Inikori, *Africans and the Industrial Revolution in England: A Study in International Trade and Economic Development* (Cambridge University Press, 2002); David Eltis, Frank D. Lewis, and Kimberly McIntyre, "Accounting for the Traffic in Africans: Transport

providers.[139] The very existence of these drug suppliers is scattered haphazardly throughout the late seventeenth and eighteenth centuries, primarily in the records of slave trade merchants. Tucked away in correspondence and accounting ledgers, there are occasional letters, references in minute books, names indicating payments rendered, and a small collection of itemized drug invoices.

From these fragments, a complex pharmaceutical network becomes visible. The drugs consumed by the anonymous enslaved woman who died of dysentery were in fact part of what I am calling "slave trade pharmacy," which was a robust branch of British pharmaceutical practice that emerged to service the hefty medicinal requirements of the slave trade. The slave trade and the burgeoning trade in pharmaceuticals formed a powerful alliance during the eighteenth century. Existing at the intersection of medicine, empire, and trade, merchants of medicine and merchants of African people sought to master some of the most critical pharmaceutical demands of Britain's burgeoning slave trading empire.

The Pharmaceutical Appetites of a Slave Trading Empire

In his high-ranking capacity as Physician to the Fleet, former slave ship surgeon Thomas Trotter wrote that medicine was a "handmaid to the art of war," but medicine was also the

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Costs on Slaving Voyages.," *Journal of Economic History* 70, no. 4 (December 2010): 940–63; Stephen D. Behrendt, "Markets, Transaction Cycles, and Profits: Merchant Decision Making in the British Slave Trade," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 171–204; Matthew David Mitchell, "Three English Cloth Towns and the Royal African Company," *Journal of The Historical Society* 13, no. 4 (2013): 421–47; Jane Longmore, "'Cemented by the Blood of a Negro'? The Impact of the Slave Trade on Eighteenth-Century Liverpool," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, Anthony Tibbles, and Suzanne Schwarz (Liverpool, U.K.: Liverpool University Press, 2007), 227–51; Kenneth Morgan, "Liverpool's Dominance in the British Slave Trade, 1740-1807," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, et. al, 14–42.

[139] The absence of records for eighteenth-century apothecaries, chemists, and druggists is not only a challenge facing studies of slave trade providers, but is a general problem for historians of pharmacy. See Juanita G. L. Burnby, *A Study of the English Apothecary from 1660 to 1760*, Medical History, Supplement No. 3 (London: Wellcome Institute for the History of Medicine, 1983), 20.

handmaid of empire.[140] The preservation of health was a key strategic consideration in the imperial and commercial activities of the eighteenth-century Atlantic world. Broken, maimed, diseased, and dying bodies were "a more serious, constant and certain threat" to imperial might than armed conflict.[141] In the context of the slave trade, health was one of its most vital commodities. The slave trade had to transport large and frequent supplies of forced laborers to the Americas and longevity did not figure into the structure of the plantation labor system.[142] There was an ongoing, ceaseless demand for healthy, vendible captives because British plantations consumed enslaved lives and required constant replenishment. The plantations represented a war zone to Thomas Tryon who in 1684 wrote that the plantations resembled "the *Fields of Mars,* where often *Recruits* are required to supply the place of the *slaughtered Soldiers*."[143] New deliveries of enslaved persons were necessary to compensate for those who had died from overwork, debilitating punishments, fatal injuries, malnourishment, disease, and intentional neglect.[144]

To carry out these transports, drugs became part of the system of control, containment, and domination exercised against individuals who had become valuable objects of exchange in the transatlantic marketplace. Like the rigging that was erected to prevent African captives from

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[140] Thomas Trotter, *Medicina Nautica: An Essay on the Diseases of Seamen*, vol. 1 (London: Printed for T. Cadell, Jr. and W. Davies, 1797), 9.

[141] Cook and Walker, "Circulation of Medicine in the Early Modern Atlantic World," 338.

[142] Kenneth F. Kiple, *The Caribbean Slave: A Biological History*, reprint (New York: Cambridge University Press, 2002 [1984]), 53.

[143] Thomas Tryon, *Friendly Advice to the Gentlemen-Planters of the East and West Indies* (London: Printed by Andrew Sowle, 1684), 142 [emphasis his].

[144] Dunn, *Sugar and Slaves*, 334. See in particular, chapter 9, "Death in the Tropics." See also Richard B. Sheridan, *Doctors and Slaves: A Medical and Demographic History of Slavery in the British West Indies, 1680-1834* (New York: Cambridge University Press, 1985), in particular chapter 6, "Labor, Diet, and Punishment," and Brown, *The Reaper's Garden*, 48–59.

jumping overboard and the large crews that merchants hired to maintain vigilant surveillance, forced drug consumption was stipulated to help preserve the health and life of human cargo.[145] From the perspective of slave trade merchants, medicines helped maximize life and win profits in a world structured by violence, terror, and death. As the chief merchants at Cape Coast Castle wrote in 1702, larger supplies of medicines should be regularly shipped from London in order to preserve "ye Slaves bought."[146] Such attitudes toward the value of drug taking were deeply embedded in eighteenth-century British culture.

In Britain, medical consumption was on the rise over the course of the eighteenth century, and health was increasingly understood as a commodity that could be bought and sold. In the minds of many, "there was a mixture, draught, bolus, pill, or lotion for every disorder known to medicine."[147] The dissemination of medical knowledge flowed throughout the society. From the late seventeenth century, publishers enjoyed a boom from the rising popularity of almanacs, self-help manuals, and domestic medicine treatises.[148] Kitchen physic, or home healthcare, slowly

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[145] Smallwood, *Saltwater Slavery*, 34. Slave ships carried double the number of mariners that would be required for a typical merchant ship of similar tonnage. The crewmen per ton ratio was roughly 0.17 for slaving vessels, as compared with the 0.09 crewman per ton ratio in the West Indies trade during the second half of the eighteenth century. Higher crewmen on slaving vessels was not unique to Britain but was a characteristic across all national carriers. See Klein, *The Atlantic Slave Trade*, 84–85. See also Douglass C. North, "Sources of Productivity Change in Ocean Shipping, 1600-1850," Journal of Political Economy 76, no. 5 (1968): 953–70. For African resistance on slave ships see for example Lorenzo J. Greene, "Mutiny on the Slave Ships," *Phylon (1940-1956)* 5, no. 4 (December 1, 1944): 346–54; Darold D. Wax, "Negro Resistance to the Early American Slave Trade," *The Journal of Negro History* 51, no. 1 (January 1, 1966): 1–15; William D. Piersen, "White Cannibals, Black Martyrs: Fear, Depression, and Religious Faith as Causes of Suicide Among New Slaves," *The Journal of Negro History* 62, no. 2 (April 1, 1977): 147–59; David Richardson, "Shipboard Revolts, African Authority, and the Atlantic Slave Trade," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 2001): 69–92; Eric Robert Taylor, *If We Must Die: Shipboard Insurrections in the Era of the Atlantic Slave Trade* (Baton Rouge, LA: Louisiana State University Press, 2006); and, Marcus Rediker, *The Slave Ship: A Human History* (New York: Viking, 2007), see in particular chapter nine, "From Captives to Shipmates."

[146] The National Archives, (hereafter TNA), T70/21, Abstracts of Letters Received from Africa and the Indies by the Committee of Goods, 1697, 1702-1714, Letter Abstract from Hoesley Freeman, William Hicks, Thomas Peck, Cape Coast Castle, May 16, 1702, f. 11.

[147] Loudon, *Medical Care and the General Practitioner*, 62–63.

[148] Steven King, "Accessing Drugs in the Eighteenth-Century Regions," in *From Physick to Pharmacology: Five*

changed as well. In traditional kitchen physic, women functioned as household medical practitioners who administered remedies procured from everyday foodstuffs, wild herbs, and medicinal plants harvested in gardens. British women began to supplement their household medical chests with commercially-produced medicines. Their expertise in domestic medicine included visiting local chemists for specialty ingredients and learning about mass-marketed popular nostrums from newspapers and periodicals.[149]

Rising levels of drug consumption were shaped by a growing middle class and urbanization. However, the middling and upper classes were not alone in viewing drugs as the key to health.[150] People across the social spectrum, in both rural and urban areas, accessed the robust market. Mary Fissell writes, "the passion for pills seems to have extended fairly far down the social scale," and there were an increasing variety of medical options available to the

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Hundred Years of British Drug Retailing, ed. Louise Hill Curth (Burlington, VT: Ashgate Publishing, Ltd., 2006), 52; Ginnie Smith, "Prescribing the Rules of Health: Self-Help and Advice in the Late Eighteenth Century," in *Patients and Practitioners: Lay Perceptions of Medicine in Pre-Industrial Society*, ed. Roy Porter (New York: Cambridge University Press, 2003), 249–83; Patrick Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," in *From Physick to Pharmacology: Five Hundred Years of British Drug Retailing*, ed. Louise Hill Curth (Burlington, VT: Ashgate Publishing, Ltd., 2006), 16–17; Mary E. Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol* (New York: Cambridge University Press, 2002), 15–17, 37; Peter Earle, *The Making of the English Middle Class: Business, Society and Family Life in London, 1660-1730* (Berkeley: University of California Press, 1989), 303–304; Louise Hill Curth, "Medical Advertising in the Popular Press: Almanacs and the Growth of Proprietary Medicines," *Pharmacy in History* 50, no. 1 (January 1, 2008): 3–16; Hannah Barker, "Medical Advertising and Trust in Late Georgian England," *Urban History* 36, no. 03 (December 2009): 379–98.

[149] For more on the relationship between kitchen physic and the increasing commercialization of medicines Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol*, 37–48; and, Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," 15–20.

[150] How this matrix of social, demographic, economic, and cultural factors specifically impacted medical consumerism, patient choice, and the relationships between patients and practitioners in early modern Britain has come to be known as "the medical marketplace" literature — an active field of scholarly production since the 1980s. For a key volume that reassesses and refines the methodological usefulness and analytical priorities of this literature see Mark S. R. Jenner and Patrick Wallis, eds., *Medicine and the Market in England and Its Colonies, c.1450-c.1850* (New York: Palgrave Macmillan, 2007). For discussions of the commercialization and commodification of medicine prior to the eighteenth-century see Robert Ralley, "Medical Economies in Fifteenth-Century England," in *Medicine and the Market,* 24–46; Ian Mortimer, "The Rural Medical Marketplace in Southern England, C. 1570-1720," in *Medicine and the Market*, 69–87; Patrick Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," in *From Physick to Pharmacology,* 13–27; Louise Hill Curth, "Medical Advertising in the Popular Press," 3–16.

laboring poor and those in temporarily straitened circumstances.[151] Indeed, "Tom Tinker, nor Tom Taylor now, dare not let their Wives die but in Form; Bleeding, Vomiting, Bolussing, and Blistering from Head to Foot; though the rest of the Family at the same time may be wanting Bread," wrote naval surgeon John Atkins.[152]

Morbidity and mortality loomed heavily over British society. Between the sixteenth and eighteenth centuries, infant and child mortality doubled in England for people across the social spectrum, and life expectancy at birth ranged between thirty and forty years.[153] The virulence of diseases such as consumption, smallpox, typhus, measles, scurvy, and venereal diseases destroyed many lives.[154] In a world where a cut could lead to a deadly infection and a fever could augur death, new self-dosing strategies, health regimes, and affordable cure-alls held great appeal.[155] Drugs allowed for "protection and counterattack, and the healthy and the sick ingested "heroic quantities" of medicine for prevention and cure.[156] Georgian Britain has been described

[151] Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol*, 68, 73; Fissell, "The 'Sick and Drooping Poor' in Eighteenth-Century Bristol and its Region," *Social History of Medicine* 2, no. 1 (April 1, 1989): 38; King, "Accessing Drugs in the Eighteenth-Century Regions," 57; and, Geoffrey S. Holmes and Daniel Szechi, *The Age of Oligarchy: Pre-Industrial Britain 1722-1783* (New York: Routledge, 2014), 169.

[152] John Atkins, *The Navy-Surgeon: Or, a Practical System of Surgery* (London: Printed for Caesar Ward and Richard Chandler, 1734), unpaginated front matter.

[153] Susannah R. Ottaway, *The Decline of Life: Old Age in Eighteenth-Century England* (New York: Cambridge University Press, 2004), 21; Peter Razzell and Christine Spence, "Social Capital and the History of Mortality in Britain," *International Journal of Epidemiology* 34, no. 2 (April 1, 2005): 477.

[154] Roy Porter, *Health for Sale: Quackery in England, 1660-1850*, 23; Alex Mercer, *Infections, Chronic Disease, and the Epidemiological Transition: A New Perspective* (Rochester, NY: University of Rochester Press, 2014); and, Mary J. Dobson and Richard Smith, *Contours of Death and Disease in Early Modern England* (New York: Cambridge University Press, 2003).

[155] Peter Earle, *The Making of the English Middle Class*, 302. See also Andrew Wear, *Knowledge and Practice in English Medicine, 1550-1680* (New York: Cambridge University Press, 2000), 105–106; Roy Porter, *Health for Sale: Quackery in England, 1660-1850* (New York: Manchester University Press, 1989), 22–23.

[156] Roy Porter, *Health for Sale*, 23; Digby, *Making a Medical Living*. Fissell, *Patients, Power and the Poor*, 57.

as an "age of pills and potions."[157]

Slave trade merchants transferred these cultural beliefs and consumption patterns onto slave ships. The sheer volume and scale of pharmaceutical provisioning suggest that drugs, from the perspective of slave traders, had a critical role to play in their commercial endeavors. Medicines on board slave ships were not comprised of a handful of vials and ointments in a neat little chest. The array of medicines loaded onto each slave ship weighed over one hundred pounds and could reach nearly four hundred pounds. Merchants purchased boxes, casks, cannisters, and chests to carry and preserve these goods during their transatlantic journey. Empty gallipots and glass vials of various sizes were ordered by the dozens to hold medicines that were compounded shipboard. Slave traders acquired corks by the gross, or twelve dozen, and many yards of flannel and Irish linen to bandage wounds. Diverse other equipment accompanied this pharmaceutical world of goods. A well-stocked dispensary was very much a part of the slave ship's wooden world.

For the majority of the eighteenth century, the London laboratory at the Society of Apothecaries held a monopoly in supplying medicines to the East India Company and the Royal Navy —the two other major consumers of maritime medicine in Britain.[158] With over a dozen furnaces, steam boilers, a still house, a saline room, and a magnesia room, the laboratory at Apothecary's Hall in London handled the massive needs of war and the empire's accelerating

[157] King, "Accessing Drugs in the Eighteenth-Century Regions," 49.

[158] The Society of Apothecaries won the monopoly to supply the Royal Navy with medicines in 1703. The East India Company began using the Society for their drug supply in 1706. However, between 1748 and 1766, the company decided to use private individuals because of the high costs being charged. In 1766, as part of the cessation of the Seven Years' War, the East India Company implemented several medical reforms. This included contracting with the Society of Apothecaries for all future drug supply. See Penelope Hunting, *A History of the Society of Apothecaries* (London: The Society of Apothecaries, 1998), 170–173; Peter M. Worling, "Pharmacy in the Early Modern World, 1617 to 1841 AD," in *Making Medicines: A Brief History of Pharmacy and Pharmaceuticals*, ed. Stuart Anderson (London: Pharmaceutical Press, 2005), 63–64; and, Erica Charters, *Disease, War, and the Imperial State: The Welfare of the British Armed Forces During the Seven Years' War* (Chicago, IL: University of Chicago Press, 2014), 144–148.

eastward incursions into India.[159] This was not the case for the slave trade. Pharmaceutical labor was enmeshed in the bustling economic activities that spread throughout London and the country's out-ports on behalf of the slave trade. Slave trade drug supply was met through private manufacture and operated out of the shops, laboratories, workrooms, and warehouses of individual businesses.

Slave trade pharmacy had unique challenges from the perspective of volume, content, and cost. A diverse assortment of medicines was required for hundreds of people on ships away from the home port for upwards of two years – all of which had to be furnished at a competitive cost. No other maritime trade required individual drug vendors to produce this level of pharmaceutical provisioning. The dynamic shaped, in part, what businesses were able to specialize in, and benefit from, the pharmaceutical market that emerged in support of Britain's slave traders. In the continually diversifying economy of the eighteenth century, the drug trade shifted to meet new demands, and slave trade pharmacy became a crucial branch of British pharmaceutical practice.[160]

The Pharmaceutical Requirements of a Slave Ship

James Morgan & Company were Bristol druggists and colourmen.[161] Situated on Corn

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[159] Geoffrey Tweedale, *At the Sign of the Plough: 275 Years of Allen & Hanburys and the British Pharmaceutical Industry, 1715-1990* (London: J. Murray, 1990), 52; Anna Simmons, "Medicines, Monopolies and Mortars: The Chemical Laboratory and Pharmaceutical Trade at the Society of Apothecaries in the Eighteenth Century," *Ambix* 53, no. 3 (November 1, 2006): 221–36; and, Simmons, "Stills, Status, Stocks and Science: The Laboratories at Apothecaries' Hall in the Nineteenth Century," *Ambix* 61, no. 2 (May 1, 2014): 141–61. The Society claimed in 1810 that medicines for thirty thousand soldiers could be produced within ten days. See Ibid., 147.

[160] Sheryllynne Haggerty, *The British-Atlantic Trading Community, 1760-1810: Men, Women, and the Distribution of Goods* (Boston: Brill, 2006), 36.

[161] W. F. Jackson, *The First Bristol Directory* (Bristol: Temple Local History Group, 1993), 21. The 1775 directory lists the company as "druggists and colourmen" but later directories simply list them as druggists. Colourmen provided paint-related supplies and it was common for paints to be sold by drug vendors. In Bristol, apothecary William Dyer, James Morgan & Company, and Wells & Arthur all supplied slave ships with medicines. All three businesses also supplied West India trading vessels with paint-related goods along with medicines. Ready-made

Street, the business was located in the commercial center of the city. Corn Street was synonymous with the mercantile interests of the port. The elegant Exchange, the Council House, and the Commercial Rooms opposite the Exchange, similar to Lloyd's in London, were located nearby.[162] By the 1780s, the port was responsible for a minor share of Britain's slave trade.[163] In comparison with Liverpool's seventy-five percent of the slave trade, Bristol claimed ten percent.[164] Yet several Bristol merchants remained vigorously involved in fitting out slave ships and financially investing in slaving voyages, and these vessels needed medicines.

In 1785, James Morgan & Company, provided drugs for the slave ship *Pearl*.[165] The *Pearl* was a large 370-ton vessel that belonged to James Rogers & Company and five other individuals.[166] The ship departed Bristol with forty-nine crewmen on board, to which were added 437 enslaved children, women, and men.[167] This was not James Morgan & Company's first contract with Bristol's slave traders. Henry Bright & Company was among the company's

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paints and ground pigments contained ingredients used in making medicines. Linseed oil, which was the vehicle for mixing oil paints, and turpentine, which was used for drying paint, were both medicines in their own right. Because *materia medica* and ingredients in the decorative arts were both composed of plants, animal-derived substances, and minerals, there was much overlap. For more on the shared ingredients in paints, medicines, and in the decorative arts more broadly see Paula De Vos, "Apothecaries, Artists, and Artisans: Early Industrial Material Culture in the Biological Old Regime," *Journal of Interdisciplinary History* 45, no. 3 (November 1, 2014): 277–366.

[162] John Gorton, *A Topographical Dictionary of Great Britain and Ireland: Compiled from Local Information, and the Most Recent and Official Authorities*, vol. 1 (London: Chapman and Hall, 1833), 294.

[163] Kenneth Morgan, "James Rogers and the Bristol Slave Trade," *Historical Research* 76 (May 2003): 190.

[164] Ibid. Morgan writes that between 1780 and 1799, 2,220 slaving vessels departed Liverpool, London, and Bristol. Liverpool was responsible for 1,657 ships, London for 339, and Bristol for 234.

[165] TNA, James Rogers' Papers, C 107/12. For additional voyage information see Eltis, et al., eds., *The Trans-Atlantic Slave Trade Database*, Voyage Identification #17957, <http://www.slavevoyages.org>, accessed 6 September 2015.

[166] In the late eighteenth century, the average vessel tonnage was 200. James Rogers was one of the two largest slave trade merchants in Bristol. Rawley and Behrendt, *The Transatlantic Slave Trade*, 157. James Rogers & Company dispatched fifty-six slaving voyages during the latter part of the eighteenth century. See Kenneth Morgan, "James Rogers and the Bristol Slave Trade," *Historical Research* 76 (May 2003): 189. The other owners were James Laroche, John Goodrich, Richard Fydell, Richard, Blake, and John Powell, Jr.

[167] Eltis, *Trans-Atlantic Slave Trade Database*, Voyage ID: 18054.

customers in the 1750s and James Rogers throughout the 1780s and 1790s.[168] Some of the port's leading slave trade merchants sat with James Morgan on Bristol's Common Council, the city's governing body.[169] Morgan had been on the council since 1778, and would become mayor in 1793.[170] By exporting medicines to Ireland and to the Caribbean plantations, as well as provisioning British slave ships, James Morgan's drugs trade had placed him among the leading inhabitants of the city.[171]

Bristol's slave trading activities were highly concentrated among a small group of merchants. After 1770, 79.5 percent of Bristol voyages were managed by just ten individuals.[172]

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[168] In 1758, James Morgan & Company provided paint, oil, and brushes for Henry Bright's Jamaica-bound vessel, the *Ruby*. Throughout the 1780s and 1790s, James Morgan & Company supplied medicines for several of James Rogers' slaving vessels, as well as for his West Indies trade vessels. The company provided medicines for the following slave ships: the *Pearl* (Voyage ID #17957), the *Fly* (Voyage ID #18276), the *Sarah* (Voyage ID # 18054), the *Dragon* (Voyage ID# 18067), the *Princess* (Voyage ID# 18114), and the *Morning Star* (Voyage ID #18153). James Morgan & Company also provided medicines and paints for nine vessels in James Rogers' West Indies trade: the *Diana*, the *Minerva*, the *Commerce*, the *Martin*, the *Fanny*'s 1788 and 1790 voyages, the *Monmouth*'s 1789 and 1790 voyages, and the *Friendship*. Medicines for the *Commerce*, however, were veterinary medicines for the mules on board. See The National Archives, Chancery Exhibits, James Rogers' Papers C 107/1 for the merchant ships *Commerce*, *Martin*, and the 1790 voyage of the *Monmouth*; C 107/2 for the merchant ships *Minerva* and the 1789 voyage of the *Monmouth*; C 107/3 for the merchant ship *Fanny*; C 107/5 for the slave ships *Dragon*, *Morning Star* and for the merchant ship *Diana*; C 107/6 for the slave ship *Sarah* and the merchant ship *Friendship*; and C 107/12, for the slave ships *Pearl* and *Princess*. For the *Ruby* see Bristol Record Office, 39654/1, Ruby 1758-1772, Cash Disbursements, First Outset to Jamaica, 23 October 1758.

[169] For the slave ship *Sarah* (Voyage ID# 18054), two of the owners, James Laroche and Richard Blake, were on the council with Morgan. For the members of the Common Council see Peter Barfoot and John Wilkes, *The Universal British Directory of Trade, Commerce, and Manufacture*, vol. 2 (London: Printed for the Patentees, 1790-1794), 129. For more on Bristol's Common Council and its relationship with the mercantile interests of the city see Kenneth Morgan, "Bristol West India Merchants in the Eighteenth Century," *Transactions of the Royal Historical Society*, Sixth Series, 3 (1993): 185–208. See also Walter E. Minchinton, ed., *Politics and the Port of Bristol in the Eighteenth Century: The Petitions of the Society of Merchant Venturers, 1698-1803* (Bristol, UK: Bristol Record Society, 1963), xvi, as well as the petitions that form the body of the text. It provides further insight into the role played by the Common Council in the slave trade.

[170] Alfred B. Beaven, *Bristol Lists: Municipal and Miscellaneous* (Bristol, UK: T. D. Taylor, Sons, and Hawkins, 1899), 302. Morgan also held the office of sheriff from 1778-1779 and from 1790-1791.

[171] There is a record of James Morgan & Company sending four bales of apothecary wares to Ireland in 1790. See Walter E. Minchinton, ed., *The Trade of Bristol in the Eighteenth Century*, vol. 20 (Bristol, UK: Bristol Record Society, 1957), 63. The druggists also carried large volumes of medicines to the Caribbean in support of the British plantations. James Morgan & Company supplied the merchant vessel *Martin* with three hundred pounds of Glauber's salts, for example. See TNA, James Rogers' Papers, C 107/1.

[172] David Richardson, ed., *Bristol, Africa and the Eighteenth-Century Slave Trade to America*, vol. 4 (Bristol, UK:

Class distinction and elitism" were defining elements in the management of Bristol's slave trade.[173] This was an exclusive body, and resources and risk were spread among them.[174] Given this small knot of merchants, their tightly-arranged business network, and James Morgan's status among the group, it is likely that Henry Bright and James Rogers were not his company's only slave trading clients during the second half of the eighteenth century. The drug orders Morgan filled for James Rogers during the 1780s and 1790s could have been the result of years of pharmaceutical provisioning for British slave ships; however, with no surviving business records we cannot know for certain.

The medicine chest that James Morgan & Company furnished for the *Pearl* contained 112 different medicines which weighed just over 373 pounds.[175] Opiates, mercurial remedies, herbal simples, compound medicines, as well as animal and mineral products were on board. That there were 112 different medicines on the *Pearl* was not unique to the slave trade. It reflected the British pharmacopoeia and "the legacy of several millennia of accumulation."[176]

In Europe, pharmacopoeias (from the Greek, *pharmakon* (drug) and *poiia* (making)), were formularies and textbooks. As formularies they were meant to standardize pharmaceutical practice by dictating the official formulae apothecaries, chemists, and druggists were required to follow in making medicines. As a textbook, pharmacopoeias represented instructional guides with basic information related to the practice of pharmacy. The texts described chemical

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Bristol Record Society, 1986), xxi.

[173] Rawley and Behrendt, *The Transatlantic Slave Trade*, 159.

[174] Richardson, ed., *Bristol, Africa and the Eighteenth-Century Slave Trade*, xxi.

[175] The exact number was 373.19 in Troy pounds, 307.08 in today's pounds. As stated previously, all pounds referred to in the following pages are in Troy pounds unless otherwise specified.

[176] Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," 21.

processes, pharmaceutical weights and measures, equipment, dosage recommendations, and how to check for adulterated medicines.[177]

Pharmacopoeias were essential because medicines were composed from a copious number of medicinal substances, and apothecaries were required to compound their medicines according to complex directives. The first official pharmacopoeia in 1618 contained 936 approved recipes and required 1,190 simples. The extensive list of substances necessitated a broad repository of knowledge for pharmaceutical practitioners. Not exclusive to Britain however, the wide-ranging *materia medica* reflected a shared European medical tradition. The medicine chest on the Dutch slave ship *De Vergulde Vrijheyt* during its 1701 voyage contained seventy-five different medicines, in comparison with the 112 medicines on board the *Pearl*.[178]

The British pharmacopoeia grew more simplified over the course of the eighteenth century. In the 1721 edition were 464 approved preparations, rather than 936 for example.[179] Yet, even in 1773, John Clark wrote that East India Company vessels tended to carry over 150 different medicines.[180] Clark added that it was a ridiculous practice "to fit out the medicine-chest

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[177] Ibid., 25. For more on the history of pharmacopoeias see George Urdang, "The Development of Pharmacopoeias: A Review with Special Reference to the Pharmacopoeia Internationalis," *Bulletin of the World Health Organization* 4, no. 4 (1951): 575; David L. Cowen, *The Spread and Influence of British Pharmacopoeial and Related Literature: An Historical and Bibliographic Study*, Veröffentlichungen Der Internationalen Gesellschaft Für Geschichte Der Pharmazie E. V. ; N. F., Bd. 41 (Stuttgart: Wissenschaftliche Verlagsgesellschaft, 1974); Appendix six, "Pharmaceutical Literature: Some Bibliographic Historical Notes" in Edward Kremers, Glenn Sonnedecker, and Georg Urdang, *Kremers and Urdang's History of Pharmacy* (Madison, WI: American Institute of the History of Pharmacy, 1986); and Anthony C. Cartwright, *The British Pharmacopoeia, 1864 to 2014: Medicines, International Standards and the State* (Burlington, VT: Ashgate Publishing, Ltd., 2015), which contains one chapter on pharmacopoeias prior to the 19th century.

[178] A. M. G. Rutten, *Dutch Transatlantic Medicine Trade in the Eighteenth Century Under the Cover of the West India Company* (Rotterdam: Erasmus Publishing, 2000), 54.

[179] Burnby, *A Study of the English Apothecary*, 20.

[180] John Clark, *Observations on the Diseases in Long Voyages to Hot Countries* (London: Printed for D. Wilson and G. Nicol, 1773), 342. For more on East India Company vessels see Walter E. Minchinton and David J. Starkey, "Characteristics of Privateers Operating from the British Isles Against America, 1777-1783," in *Ships, Seafaring, and Society: Essays in Maritime History*, ed. Timothy J. Runyan (Detroit, MI: Wayne State University Press, 1987), 261.

with all the empty shew of an apothecary's shop."[181] Having such a vast array of medicines on hand was true outside of the maritime trades as well. In the 1790 edition of William Buchan's *Domestic Medicine,* the physician wrote that a well-stocked medicine chest ought to have 185 different medicines.[182] This is revealing as Buchan's list of drugs reflected a major intervention on his part to simplify the range of medicines in use.[183] As naval surgeon John Atkins wrote, "fashion authorizes" the quantities of medicines swallowed by Britons, and in the navy, the number of medicines on board ship was merely in "compliance with custom.[184] In the context of the slave trade, custom intersected with bodily control. What was fashion in the metropole became a tool to mitigate the deathly hazards of a risky trade. Laboring bodies needed to arrive in the Americas.

When this diverse assemblage of drugs and compound remedies was sold to individuals and families, they were packaged in small quantities that had to be purchased frequently.[185] Supplying customers with the single-dose draught, which consisted of one to two fluid ounces, and selling pills singly or doubly were favorite retail conventions.[186] This allowed drug suppliers to inflate prices by charging for the beautifully labeled and wrapped bottles the medicines came in, as well as for any sugary confections or cosmetic ingredients added to enhance taste, smell, color, or consistency.

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[181] Clark, *Observations on the Diseases in Long Voyages to Hot Countries,* 342.

[182] William Buchan, *Domestic Medicine*, 11th edition (London: Printed for A. Strahan, 1790), 650, 654–656.

[183] Ibid., 649–50. For more on Buchan see Charles E. Rosenberg, "Medical Text and Social Context: Explaining William Buchan's Domestic Medicine," *Bulletin of the History of Medicine* 57, no. 1 (1983): 22, 27; and Christopher J. Lawrence, "William Buchan: Medicine Laid Open," *Medical History* 19, no. 1 (January 1975): 20.

[184] Atkins, *The Navy-Surgeon*, 1734, iii, v.

[185] Loudon, *Medical Care and the General Practitioner*, 66.

[186] Ibid.

For James Morgan & Company and other pharmaceutical providers for the slave trade, they needed to ensure freshness in combination with volume. The majority of medicines were composed of perishable substances. Herbs had to be picked fresh, newly dried, and had a limited shelf life, for example.[187] Bulk supplies of most medicines could not be made in advance and stored in warehouses for months on end. The Edinburgh pharmacopoeia asserted that powders were "to be prepared only in small quantities at a time."[188] If kept long and exposed to the air "their virtue is in great measure destroyed."[189] William Buchan informed readers of *Domestic Medicine* that "almost every medicine suffers by being kept," and even simples are liable to spoil.[190] They might decay, be consumed by insects, or evaporate, thereby losing their efficacy.[191] Electuaries were typically made with honey, which eventually grew rancid.[192] Robert Colborne warned that spoilage would result from any "any who will attempt keeping many electuaries ready mixed up."[193] This is the reason why maritime medicine required a significant amount of shipboard drug compounding. Navy surgeon William Turnbull directed that no distilled waters or tinctures be supplied in the shipboard medical chest, as the surgeon should prepare them shipboard. The complicated prescriptions David Bushell prepared and administered to the anonymous woman who died of dysentery on the *Alice* displays how crucial

[187] Quincy, *Pharmacopœia Officinalis & Extemporanea*, 1718, 66.

[188] William Lewis, *The New Dispensatory,* 1753, 450.

[189] Ibid.

[190] Buchan, *Domestic Medicine*, 1790, 650–51.

[191] Ibid., 651.

[192] An electuary was a form of medicine comprised of powdered ingredients which were combined with sugar or honey and administered as a bolus, or large pill. See Appendix, s.v. "Electuaries" in Richard Reece, *A Practical Dictionary of Domestic Medicine* (London: Longman, Hurst, Rees, and Orme, 1808).

[193] Robert Colborne, *The Plain English Dispensatory: Containing the Natural History and Medicinal Virtues of the Principal Simples Now in Use* (London: Printed by H. Kent, 1753), xix.

it was for surgeons to create mobile pharmacies on board slaving vessels.[194]

A Pharmacy on the Slave Ship *Pearl*

The individual medicines that made up the 373 pounds of drugs on the *Pearl* were furnished from quantities that ranged from two ounces to fifty-six pounds. Some medicines were intended to be used sparingly such as opiates, mercurial remedies, and essential oils. Just four grains of purified opium (*Extractum Thebaicum*) mixed with Spanish flies, nitre, and turpentine could be made into potent diuretic pills that were easily compounded shipboard.[195] Only two scruples of white precipitate of mercury (*Mercurius Præcipitatus Albus*, mercury ammonium chloride), were needed if the surgeon decided to compose ointments to treat venereal eruptions and skin diseases during the voyage.[196] Surgeons might place three or four drops of peppermint oil (*Oleum Menthæ Piperitidis*) on a lump of sugar, dissolved in wine or water to warm the stomach and ease the bowels of enslaved people suffering from intestinal distress.[197]

The mid-range items were largely plant-based. These included two pounds each of dried chamomile flowers (*Flores Chamæmeli*) and best quality Russian rhubarb (*Rhei Russia Optimus*). The surgeon could boil the dried chamomile flowers in water and dissolve the remains in the salt of tartar, which was also on board, to alleviate fevers.[198] The Russian rhubarb

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[194] See William Turnbull, *The Naval Surgeon: Comprising the Entire Duties of Professional Men at Sea* (London: Printed for Richard Phillips, 1806), 314.

[195] See *Pilulæ Diureticæ* in William Lewis, *The New Dispensatory* (London: J. Nourse, 1753), 530. Dried Spanish flies (*Cantharides*) were also used sparingly, to the amount of sixteen grains in this recipe. There were two pounds of nitre (*Sal Nitri*, potassium nitrate) on board as well as four pounds of turpentine (*Terebinthinæ*).

[196] See *Unguentum e Mecurio Præcipitato* in John Quincy, *Pharmacopœia Officinalis et Extemporanea*, 1782, 498. See also Estes, *Dictionary of Protopharmacology*, 209.

[197] N. D. Falck, *The Seaman's Medical Instructor* (London: Printed for Edward and Charles Dilly, 1774), 84.

[198] See *Decoctum Febrifugum* in William Lewis, *The New Dispensatory,* 4th ed. (Dublin: Printed for J. Potts, 1778), 284. There were two pounds of salt of tartar (*Sal Tartari*), or potassium tartrate on board.

could be blended with the three-pound supply of the conserve of roses (*Conserva florum Rosarum*), also supplied to the *Pearl*, to compose a mild purgative.[199]

Food was considered an important therapeutic in the eighteenth century. There is much overlap in the itemized drug invoices between items we would think of as food and drug purchases. James Morgan & Company provided four pounds each of red tamarinds (*Tamarindus Ruber*) and pearls of barley (*Hordeum Perlatum*). The four pounds of tamarinds would have been shipped in the form of a viscous pulp mixed with sugar to delay spoilage.[200] Surgeons gave patients tamarind pulp to suck in order to alleviate burning fevers, and tamarinds were also valued for their gentle cathartic properties.[201] Barley water was made on board ship by boiling two ounces of the pearl barley with four pints of water. The simple remedy was considered of greater importance in curing many diseases than more complex medicines.[202] Accounting records and receipts show that slave trade merchants largely separated their purchases between grocery wares and "apothecary wares." Even if groceries were used by the surgeon, the distinction was maintained from a purchasing and provisioning perspective because different suppliers were used for each.[203]

The largest volume items were antiscorbutic (effective against scurvy), antifebrile

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[199] See *Bolus Catharticus* in Ibid., 580–81.

[200] John Hill, *A History of the Materia Medica: Containing Descriptions of All the Substances Used in Medicine* (London: Printed for T. Longman, C. Hitch and L. Hawes, et al., 1751), 451.

[201] James Alleyne, *A New English Dispensatory, in Four Parts* (London: Printed for T. Astley and S. Austen, 1733), 71.

[202] See *Aqua Hordeata* in Lewis, *The New Dispensatory*, 1753, 393. For example, on August 19, 1720, the Royal African Company ordered medicines to be purchased from Mr. Markham and groceries to be purchased from Mrs. Adams. The distinction between groceries and drugs is also made in indents requesting supplies. On November 1, 1720, the Royal African Company "Agreed to an Indent of Grocery Ware for the Use of the Surgeon on board the Gambia Castle." See TNA, T70/135, Minute Books, Committee of Shipping, August 19, 1720 and November 1, 1720, unpaginated.

[203] Chapters 5 and 6 discuss the therapeutics of food in greater detail.

(effective against fever), and antidysenteric (effective against dysentery). There were sixteen pounds of cinchona (*Cortex Peruvianus*) on the *Pearl*. The South American bark had won great success and popularity as a safe and speedy antifebrile.[204] The alkaloid quinine, one of the active principles in the bark, would not be isolated until 1820, after which it would be considered an invaluable antimalarial drug. However, by the time the *Pearl* set sail in 1785, cinchona was not only being used as a febrifuge, but also as a vermifuge in dispelling worms, carminative in relieving flatulence, suppurative in promoting pus (which helped arrest gangrene), and stomachic in promoting the appetite and assisting in digestion.[205] "There is no one Medicine perhaps more efficacious in doing good," wrote James Alleyne in 1733.[206] With sixteen pounds of the bark on board, close to four hundred doses of the medicine could be administered during the *Pearl's* voyage.[207]

The two largest quantities of medicines were the fifty-six pounds each of powdered oak bark (*Pulvis Quercus*) and Glauber's salt (*Sal Mirabile Glauberi*, or sodium sulphate). In the official pharmacopoeias of the 1780s, powdered oak bark was little used.[208] James Morgan & Company's massive supply was likely influenced by James Lind's advocacy of the medicine in his published experiments against scurvy. In Lind's study, oak bark was indispensable due to its

[204] Hill, *A History of the Materia Medica*, 672.

[205] Ibid. For a discussion of the increasingly broad indications for cinchona during the eighteenth century see Andreas-Holger Maehle, *Drugs on Trial: Experimental Pharmacology and Therapeutic Innovation in the Eighteenth Century* (Atlanta, GA: Rodopi, 1999), 247–58.

[206] Alleyne, *A New English Dispensatory, in Four Parts*, 120.

[207] Richard Brookes, *An Introduction to Physic and Surgery* (London: Printed for J. Newbery, 1754), 488.

[208] In the 1782 pharmacopoeia, dried and powdered oak bark does not appear in any of the official recipes. The fresh bark appears in four compound recipes. See *Syrupus Refringens*, *Decoctum refringens*, *Gargarisma Astringens*, and *Fotus Astringens* in Quincy, *Pharmacopœia Officinalis et Extemporanea*, 1782, 409, 520, 598, and 604.

astringent qualities.[209] Decoctions of oak bark could be made on board by boiling the bark in water and mixing it with brandy or cinnamon water.[210] With the standard dosage at one ounce, the *Pearl* carried close to seven hundred doses of the antiscorbutic.

Glauber's salt was recommended for a host of illnesses that required laxative action including dysentery and fevers.[211] The salt functioned as a mild purgative and could also be used as a diuretic. Other complaints for which Glauber's salt was recommended included rheumatism, epistaxis (nose bleeds), coughs, asthmas (difficulty breathing accompanied by chest pain, coughing, and expectoration), and venereal disease. On board the *Alice*, Glauber's salt was the first medicine Daniel Bushell administered to the anonymous enslaved woman when she presented symptoms of dysentery.[212] Bushell dissolved the salt in water, but it could also be blended with other substances to form a compound medicine. The recommended dosage was from a half ounce to one ounce, which means that there were as many as thirteen hundred doses available during the *Pearl's* voyage.[213]

In addition to internal remedies, the *Pearl* was furnished with just over twenty pounds of cerates, ointments, and plasters. Many of these external compound medicines were applied to

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[209] James Lind, *A Treatise on the Scurvy* (London: Printed for S. Crowder, D. Wilson and G. Nicholls, et al., 1772), 205.

[210] William Northcote, *The Ship-Master's Medical Assistant* (London: Printed for J. Wilkie and R. Baldwin, 1777), 277–278.

[211] A. Philips Wilson, *A Treatise on Febrile Diseases*, vol. 4 (Winchester, UK: J. A. Robbins, 1804), 648; Northcote, *The Ship-Master's Medical Assistant,* 1, 56. See William Cullen, *First Lines of the Practice of Physic*, vol. 2 (Edinburgh: Printed for Bell & Bradfutte, 1791), 29, 369; and Northcote, *The Ship-Master's Medical Assistant* (London: Printed for J. Wilkie and R. Baldwin, 1777), 5, 34, 45, 63.

[212] WAS, ZMZ/2, Slave Ship Alice, Daniel Bushell Medical Journal.

[213] For dosage see *Sal Catharticum Glauberi* in Richard Brookes, *An Introduction to Physic and Surgery*, 2nd ed. (London: Printed for J. Newbery, 1763), 324.

dressings and used in the treatment of wounds, burns, excoriated skin, and venereal eruptions.[214]

A sizeable quantity of medical supplies and pharmaceutical equipment were also loaded on the slave ship.[215] As discussed, many medicines were compounded shipboard, which allowed remedies to be ingested or applied externally when freshly prepared. This was not only more efficacious for certain substances, but it also allowed the surgeon to prepare compound medicines in small quantities to reduce spoilage. In addition to being used for bandages, the four yards of flannel on the *Pearl* was needed to strain liquids during the compounding process.[216] To make the febrifuge decoction of chamomile flowers described above, the boiled flowers would need to be strained, before being dissolved in the salt of tartar.[217] Three dozen gallipots, three dozen vials, an unnumbered assortment of bottles and pots, twelve dozen corks, two funnels, two pannikins, one tin saucepan, a set of weights, and a lock to protect more dangerous remedies were all among the pharmaceutical tools on board the *Pearl*.[218] Three boxes and one chest were furnished to hold this mobile, shipboard dispensary. They must have been sizeable indeed.

The pharmaceutical goods for the *Pearl* were among the larger orders James Morgan & Company received from James Rogers. Four years later, the medicines shipped on board the

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[214] The *Pearl* carried three pounds of epulotic cerate (*Ceratum Epuloticum*) and four pounds of yellow basilicon ointment (*Unguentum Basilicum Flavum*), for example. For more on their uses see Quincy, *Pharmacopœia Officinalis & Extemporanea*, 1782 497, 503.

[215] Some apothecaries also supplied a limited selection of surgical instruments. These included clyster pipes for administering enemas, bolus knives, syringes, and lancets. The full range of surgical equipment, however, was generally purchased through an 'instrument maker.' Surgical instruments are discussed in chapter two.

[216] For flannel being used to strain and filter medicinal ingredients see for example, Colborne, *The Plain English Dispensatory*, 295.

[217] William Lewis, *The New Dispensatory*, 1778, 284.

[218] Gallipots were earthenware pots of various sizes used to hold medicines. A pannikin is a small pan.

Sarah weighed just over 135 pounds.[219] The *Sarah* was a 154-ton vessel, whereas the *Pearl* was a 370-ton slaver. The *Sarah* carried a shipboard complement of 283 persons, in contrast with the *Pearl*'s 486 persons. Medicine chests had to be properly proportioned. Drugs were furnished with quantities deemed appropriate for a specific number of persons for a specific length of time. As might be expected, fewer persons required fewer drugs. The *Sarah*'s drug order differed in quantity but not, largely, in kind. Rather than the *Pearl*'s fifty-six pounds of Glauber's salt, the *Sarah* carried twenty pounds, for example. Rather than the *Pearl's* sixteen pounds of cinchona bark, the *Sarah* carried four pounds.

Proportioning drug supply so that it would meet the needs of several hundred individuals on a multi-lateral voyage was certainly not an exact science, but it had become a common practice throughout the maritime trades. In 1675, the Royal African Company hired John Pearse to "inspect and proportion the chests of medicines" for their slaving voyages.[220] The volume of medicines supplied by James Morgan & Company appears largely consistent with proportioning efforts made on behalf of the Royal Navy. In an effort to reform the naval pharmacopoeia, surgeon William Turnbull, suggested a list of medicines and their respective quantities to service one hundred men over the course of one year on board ship. The weight of the medicines came to approximately eighty pounds.[221] This breaks down to 0.8 pounds of medicine per person,

[219] *TSTDB*, Voyage ID# 18054.

[220] TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, Minutes March 4, 1675, f. 36v.

[221] Turnbull calculated most of the medicines by weight, and these come to 62.8 pounds. He also included fourteen pints of liquids. Most often liquids were listed by weight not volume on drug invoices. In order to arrive at a very rough estimate of the weight of all items on the list, I converted his liquid measures to weight based on the weight of a pint of water, which is 1.27 Troy pounds. That adds an additional 17.7 pounds to Turnbull's overall quantity of medicines. Turnbull's estimate also takes into consideration the specific medical needs of sailing to warm climates. Turnbull suggested double the amount of cinchona for voyages to the tropics. See Turnbull, *The Naval Surgeon*, 312-314.

which is just slightly higher than the *Pearl's* 0.77 pounds of medicine per person.[222]

There are few surviving itemized invoices for drugs purchased by slave trade merchants listing the medicine purchased, the quantity purchased, and the specific cost. Itemized drug invoices have survived for approximately twenty percent of James Rogers' slaving ventures.[223] The average weight of medicine per person is 0.72 pounds.[224] Whether this average is representative of the slave trade as whole is highly speculative, and there is no way to know for certain. Provisionally, it may be reasonable to suggest that James Rogers' voyages offer a representative range of the pharmaceutical provisioning of slave ships. Given that proportioning medicines was a common practice throughout the naval and merchant marine, Rogers' voyages suggest a useful range of 0.38 pounds of medicine per person on the *Trelawney* to two pounds of medicine per person on the *Morning Star*.[225] The wide range certainly reflects the vagaries of slave trading. Provisions for departing slave ships were calculated and purchased based upon an estimate of the number of captive Africans intended for purchase. The *Morning Star* never purchased its full complement of human cargo, resulting in an overstock of medical supplies amounting to two pounds of medicine per person, for example.

The amount spent on medicines appears with greater frequency in slave trade merchants' accounting ledgers; compared to the overall outfitting of a voyage, the capital invested in drugs

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[222] Although we know that proportioning took into account number of people, voyage length, and destination in regard to specific climatic needs, how these various factors were weighted is unclear. The amount of medicines per person is used here as a means of comparison not as an example of how proportioning was precisely performed. It is a useful metric for comparative purposes.

[223] I have located itemized drug invoices for twelve of James Rogers' fifty-six voyages. However, three are only partial. The slave ships *Fly* (Voyage ID# 18276), *Dragon* (Voyage ID# 18067), and the *Princess* (Voyage ID# 18114) only seem to indicate medicines that were added to the original invoice. For these voyages see TNA, James Rogers' Papers, C 107/3, C 107/5, and 107/12 respectively.

[224] The average does not include the three partial invoices.

[225] The *Trelawney* (Voyage ID# 18124) and the *Morning Star* (Voyage ID# 18153).

was minimal. Drugs were among the least expensive goods shipped on board British slavers. In 1752, apothecary Sarah Freeman was paid £20 for supplying medicines for the slave ship *Molly Snow.*[226] The amount spent on foodstuffs for the voyage came to £578.[227] The medicines and medical supplies shipped on board the *Pearl* cost £37; whereas, the total outfitting costs for the voyage excluding trade goods came to £2,853.[228] Pharmaceutical goods accounted for 1.3% of the provisioning costs for the *Pearl*. Across the eighteenth century drugs and pharmaceutical equipment seem to have accounted for between one to three percent of the outfitting costs for British slave ships and for provisioning forts and settlements in West Africa.[229]

The significance of shipboard drugs in the slave trade, however, means much more than what the quantitatively insignificant 1.3% represents. The vast, mobile, shipboard dispensary was a pharmaceutical arsenal. The stockpile of drugs was sequestered into many large boxes and chests for immediate use. These had to be stored for safekeeping and kept dry between decks while dangerous remedies were protected under lock and key. Shipboard drug compounding occurred daily in the face of illness. Surgeons boiled, filtered, strained, and pounded ingredients

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[226] BRO, SMV/7/2/1/25, Accounts of the Molly Snow, Second Outset.

[227] Ibid.

[228] The exact amount for the medicine on board the *Pearl* came to £36.9.6 ½, which I have rounded up to £37. The exact amount given by David Richardson is £2853.5s, which I have rounded down to the nearest whole number. See Richardson, *Bristol, Africa and the Eighteenth-Century Slave Trade to America*, 4:105.

[229] In 1720, the store ship *Hannibal* brought trade goods and stores to Cape Coast Castle which amounted to £1,505. The medicines sent came to £54, amounting to 3.6% of the total. In 1750, the African Company spent £77 on medicines for Cape Coast Castle, out of a total of £8,034 in provisions. Medicines accounted for just under one percent. When William Dyer provided medicines for the slave ship *Swift* for Henry Bright & Company in 1752 he was paid £33 for medicines out of total outfitting costs of £2,538. Medicines accounted for 1.3% of costs. When Richard Gerrard supplied medicines for the slave ship *Apollo* in 1765, he was paid £9 out of total outfitting costs of £612. Medicines accounted for 1.5% of the total. For the *Hannibal* see TNA, T70/922, Outwards Invoice Book, 1720-1721, unpaginated front matter; T70/135, Minute Books, Committee of Shipping, 1720-1721, September 13, 1720, unpaginated; T70/921, Outwards Invoice Book, 1715-1720, August 26, 1720, f. 95. For Cape Coast Castle in 1750 see Bristol Record Office, SMV/7/2/1/2, Annual Accounts of the Company Trading to Africa, 1750-1759, f. 3-5. For the slave ship *Swift* see BRO, Volumes of Accounts for Managing Voyages of Bristol Ships, 39654/1, Voyage Accounts for the *Swift* (1759-1760), Cost of 1st Outset. For the slave ship *Apollo* see Manx National Heritage Library and Archives, MS 11532, Copy of Letter of Instruction, Slaver Apollo, 1762.

in Wedgwood mortars, amidst the harrowing violence and haunting lamentations of the Middle Passage. At the surgeon's disposal were dozens of vials to hold newly-created draughts. Scales and weights ensured that surgeons administered the correct dosage of drugs to a chained, beaten, brutalized, and imprisoned population. Quires of paper were used to label bottles of freshly mixed medicines and to tally up the numbers of the sick, the dying, and the dead.

During their waterborne captivity, enslaved children, women, and men were vulnerable to the pounds and pounds of purgatives, vomits, opiates, and enemas that surgeons plunged down their throats and inserted into their rectums. Their bodies were no longer their own. Many enslaved persons violently fought against the medical interventions of slave ship surgeons, but others were in such a weak and sickly state that it was impossible to do so. As a result, the surgeons opened their mouths, forced bitter waters down their throats, opened their veins to drain their blood, and rolled them on their backs so pewter pipes could be injected into their anuses. Their internal bodily systems were subjected to external force through drugs. The medicines compelled bodily fluids such as vomit, sweat, urine, and feces to flow uncontrollably out of their bodies. Indeed, vomit, sweat, urine, and feces were as much a part of the sights, sounds, and smells of the slave ship's wooden world as the crack of the whip, the rattling chains, the songs of lamentation, and the rhythmic waves of the Atlantic Ocean.

It has been suggested that eighteenth-century medical consumerism in the local British marketplace promised greater freedom and autonomy to its participants. With access to a wider variety of health regimes, self-dosing strategies, and medical knowledge about the body, illness, and disease, scholars have written at length about the power of the patient in the clinical landscape. E. C. Spary notes how commodification and print increased patient autonomy and

transformed their experience of illness.[230] Mary Fissell writes, "Patient-practitioner encounters were predicated upon the fact that patients knew a good deal about medicine. Negotiations over diagnosis and prognosis as well as therapy, militated against professional autonomy and reproduced a very open medical economy."[231] Quite a different reality occurred for enslaved children, women, and men on slave ships.

The pharmaceutical artifacts of Britain's slave trade starkly recalibrate the meanings that generally accrue to the culture of medical consumerism. Medical consumption by slave trade merchants was used to create a shipboard dispensary that might provide an opiate-induced stupor or a painful enema on the journey to death, as we saw on the slave ship *Alice*. Or, these hundreds of pounds of drugs might revive and recover individuals — bringing them into shipshape vendible form, despite, perchance, their longing for death. Medicines were commodities that, for many Britons, purchased greater freedom in a disease-ridden society. In the slave trade, medicines were commodities that conspired in the commodification of African people. Medicines were becoming increasingly commercialized at the same time that African people were becoming increasingly commodified. Health was more frequently seen as a good that could be bought and sold, at the same time that enslaved Africans were being bought and sold in ever larger numbers. Merchants of medicine and merchants of human flesh found in each other a catalytic synergy. The two developments grew alongside one another, and fed off one another. The "commodity careers" of drugs and people were accelerating together throughout the Atlantic world.[232]

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[230] E. C. Spary, "Health and Medicine in the Enlightenment," in *The Oxford Handbook of the History of Medicine*, ed. Mark Jackson (New York: Oxford University Press, 2011), 83.

[231] Fissell, *Patients, Power and the Poor*, 17.

[232] Whyte, Geest, and Hardon, *Social Lives of Medicines*, 16.

The Golden Age of Apothecaries and the Rise of Slave Trade Pharmacy

Unlike businesses that supplied slave traders with dried biscuit, light woollens, or guns, pharmaceutical providers found themselves in a uniquely privileged position. The eighteenth century has been described as "the golden age of the apothecary."[233] Formerly, apothecaries were part of the Grocer's Company, and the taint of shop keeping followed them.[234] Located at the bottom of the traditional, tripartite medical hierarchy underneath physicians and surgeons, apothecaries were frequently attacked by those in the learned professions who were threatened by their rising status.[235] Apothecaries were derided as "barbarous and illiterate Mechanicks" who were "bred up in some mean and contemptible trades."[236]

One of the most famous legislative events to shift the occupational status of apothecaries in the eighteenth century occurred with apothecary William Rose who was a twenty-year drug supplier for the Royal African Company. [237] In 1701 Rose was sued by the Royal College of Physicians for practicing medicine without a license.[238] Rose provided medical care to a butcher,

[233] Porter, *Health for Sale*, 40.

[234] For apothecaries' separation from the Grocer's Company see Cecil Wall, Hector Charles Cameron, and Edgar Ashworth Underwood, *A History of the Worshipful Society of Apothecaries of London*, vol. 1 (London: Published for the Wellcome Historical Medical Museum by the Oxford University Press, 1963), 8–22.

[235] For the ways in which the tripartite division of medical practice frequently broke down see Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 21–23, 217–73. See also Digby, *Making a Medical Living*, 29.

[236] Charles Goodall, *The Royal College of Physicians of London* (London: Printed by M. Flesher, 1684), A6.

[237] See for example TNA, T70/79, Minute Books, Court of Assistants, 1680-1682, August 5, 1680, f. 7r.; T70/83, Minute Books, Court of Assistants, 1690-1693, March 17, 1690/1, f. 7r.; T70/84, Minute Books, Court of Assistants, 1693-1697, December 19, 1693, f. 20v; T70/87, Minute Books, Court of Assistants, 1702-1705, December 23, 1702, f. 59; T70/132, Minute Books, Committee of Shipping, 1702-1705, November 19, 1702, f. 11-12; T70/319, Journal, Home, 1689, February 28, 1688/9, f. 32; March 26, 1689, f. 40; May 15,1689, f. 50; July 24,1689, f. 83. Rose was also a stock holder and occasionally leant money to the company. See T70/216, Accounts, Cash Books, 1672-1676, January 27, 1672; T70/319, Journal, Home, 1689, February 28, 1689, July 24, 1689, and September 23, 1689.

[238] Established in 1518 by Henry VIII, the college had the right to control the practice of medicine within the city of London and seven miles around it. Legally, medical practice was limited to members of the college or those granted a special license to practice medicine by the college. See Harold J. Cook, "Policing the Health of London: The

John Seale who had contracted syphilis. On March 15, 1704, Rose won a precedent-setting legislative battle that confirmed in law the long-standing custom of apothecaries serving as medical practitioners.[239] His case before the Court of the Queen's Bench was being debated as he fitted out medicine chests for the slave ship *Hunter*, the slave ship *Angola*, the store ship *Sierra Leone*, and prepared medicines for the company's fort in Sherbo.[240] The aftermath of the Rose case saw the lowly apothecary "leaping over the counter, stepping into the physician's shoes, and becoming a prescriber in his own right, at the same time retaining the apothecary's traditional prerogative of dispensing," write Roy and Dorothy Porter.[241]

Medical consumption also shifted the fortunes of apothecaries. As drug taking increased so too did the incomes, reputations, and status of apothecaries as a whole.[242] Drug suppliers were now "in Vogue" and part of a "very genteel business."[243] Drug prices rose by as much as

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College of Physicians and the Early Stuart Monarchy," *Social History of Medicine : The Journal of the Society for the Social History of Medicine* 2, no. 1 (1989): 1–33.

[239] Under Lord Chief Justice John Holt, the case was first heard before the Court of the Queen's Bench. After two years of debate and deliberation, Rose lost by special verdict. However, on March 15, 1704, the ruling was overturned upon appeal in the House of Lords. Preventing apothecaries from providing medical care was deemed contrary to custom and against the best interests of the public. This medical legislation continued to pave the way for the rise of the general practitioner in nineteenth-century Britain. Because of the case's significance much has been written about it. An excellent new study of the Rose case is Harold J. Cook, "The Rose Case Reconsidered: Physicians, Apothecaries, and the Law in Augustan England," *Journal of the History of Medicine and Allied Sciences* 45, no. 4 (October 1990): 527–55. See also Burnby, *A Study of the English Apothecary from 1660 to 1760*, 8; Loudon, *Medical Care and the General Practitioner, 1750-1850*, 23; Worling, "Pharmacy in the Early Modern World, 1617 to 1841 AD," 66–67; and, Hunting, *A History of the Society of Apothecaries*, 54–55. However, Rose's connection with the slave trade is not part of these histories.

[240] TNA, T70/132, Minute Books, Committee of Shipping, 1702-1705 November 19, 1702, f. 11, f. 12. For the slave ship *Hunter* see also *TSTDB*, Voyage ID# 24155 and for the slave ship *Angola* see *TSTDB*, Voyage ID# 14925.

[241] Roy Porter and Dorothy Porter, "The Rise of the English Drugs Industry: The Role of Thomas Corbyn," *Medical History* 33, no. 3 (1989): 281.

[242] Penelope J. Corfield, "From Poison Peddlers to Civic Worthies: The Reputation of the Apothecaries in Georgian England," *Social History of Medicine* 22, no. 1 (April 2009): 7–9; and, Burnby, *A Study of the English Apothecary from 1660 to 1760*, 115.

[243] T. Waller, *A General Description of All Trades* (London: Printed for T. Waller, 1747), 1.

one hundred percent between 1740 and 1750 and then leveled off during the second half of the eighteenth century.[244] If one could regularly supply medicines to the middling and upper classes, these consumers offered a potential goldmine.[245] By mid-century rank-and-file apothecaries in the provinces earned an average of £400 a year, which placed them on the upper end of the middle classes.[246] Adam Smith observed that the "Apothecaries profit is become a bye-word, denoting something uncommonly extravagant."[247]

The rising wealth and power of apothecaries met with staunch criticisms at times. In *Primitive Physick*, clergyman John Wesley wrote that the "dear" and "far-fetch'd Medicines" only served to "swell the Apothecary's Bill: Nay, possibly, on Purpose to prolong the Distemper, that the Doctor and he may divide the Spoil."[248] Satirical representations and critiques could not halt the rise of apothecaries. As in the case of druggist and colourman James Morgan, pharmacy had launched him into the upper echelons of political and social power in the port city of Bristol. Apothecaries commanded greater political power, medical authority, and cultural capital over the course of the eighteenth century.[249] Britain's accelerating slave trade provided lucrative possibilities for apothecaries to expand their businesses beyond individuals and families to

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[244] Loudon, *Medical Care and the General Practitioner*, 66.

[245] For example, in 1755, medicines were given every day of the year to Thomas Carew's family in Somerset. A total of 687 medicines were dispensed and the family had no serious or chronic illnesses. The Carew family generated approximately one-quarter of the apothecary's annual average income. In Irvine Loudon's research, the Carew family was not an outlier, but representative of the new fashion for medical consumption and the ability for apothecaries to benefit greatly from it. Ibid., 65–66.

[246] Ibid., 113.

[247] Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, vol. 1 (London: Printed for W. Strahan and T. Cadell, 1776), 137.

[248] John Wesley, *Primitive Physic, or, an Easy and Natural Method of Curing Most Diseases*, 9th ed. (London: Printed by W. Strahan, 1761), xv.

[249] Corfield, "From Poison Peddlers to Civic Worthies," 7–9; Fissell, *Patients, Power and the Poor*, 6–9; Burnby, *A Study of the English Apothecary*, 115; Porter and Porter, "The Rise of the English Drugs Industry," 281.

service the drug needs of Britain's eighteenth-century human traffickers.

In 1720 another apothecary, John Markham, was hired by the Royal African Company; he was a rising star within the London medical establishment. Not only was Markham a member of the Society of Apothecaries, but he also operated an esteemed private practice and counted the Bishop of Rochester among his patients.[250] In 1718, Markham was unanimously chosen to replace James Petiver as apothecary of London's Charterhouse, a highly-regarded charitable hospital, school, and pensioners' residence.[251] Petiver was a "celebrated Botanist and Virtuoso in all the Parts of Natural Philosophy" who also maintained strong connections with the Royal African Company.[252] In the late seventeenth century, Petiver circulated knowledge about the efficacy of West African herbalism and *materia medica* in British scientific circles, which had been studied and gathered by Royal African Company employees.[253] It was therefore fitting that Markham would not only replace Petiver at the Charterhouse, but would also become a drug supplier for the Royal African Company's slave trading operations, maintaining the deep network of connections between the slave trade and the upper echelons of the medical establishment in Britain. Markham's name spread throughout the press.[254]

The company hired John Markham, along with apothecary Job Matthews, to fit out "the

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[250] In the coming decades Markham's status within the Society of Apothecaries rose. He would be elected Renter Warden in 1749, Upper Warden in 1753, and Master in 1754. John Markham's portrait hangs in the offices of the Worshipful Society of Apothecaries in London. See C. R. B. Barrett, *The History of the Society of Apothecaries of London* (London: E. Stock, 1905), 134, 138, 140, 282. See also Worshipful Society of Apothecaries Archives (hereafter, WSA), Wall Index, s.v. "John Markham." *Post Boy (1695)*, Issue 5190, October 25 - October 27, 1722.

[251] *Weekly Journal or British Gazetteer*, Saturday, April 12, 1718; and, *Orphan Reviv'd or Powell's Weekly Journal*, Issue XVI, February 28, 1719 - March 7, 1719.

[252] *Weekly Journal or British Gazetteer*, Saturday, April 12, 1718.

[253] African herbalism and British efforts to gather African indigenous medical knowledge and commodify African *materia medica* is discussed in Chapters Four and Six.

[254] See for example *Weekly Journal or British Gazetteer*, Saturday, April 12, 1718; and, *Orphan Reviv'd or Powell's Weekly Journal*, Issue XVI, February 28, 1719 - March 7, 1719.

Surgeons Chests for the Ships, as well as the Chests sent to the Factorys."[255] The African Company's practice of distributing pharmaceutical contracts among selectively chosen apothecaries was established in 1676 after experimenting with other modes of drug supply.[256] In that pivotal year, the Court of Assistants ordered that drugs be supplied by five apothecaries – John Holmes, Spenser Piggott, Martin Higgins, Mr. Langham, and William Potts. These individuals were to be "the Companies Apothecaryes till farther order" and the Committee of Shipping was instructed to "imploy them in course & noe other for fitting the Chirurgery Chests with medicines."[257] The company's model restricted drug purchases to selected individuals, yet divided the work to preclude any one apothecary from having to produce more medicines than could be comfortably and profitably done, given their institutional commitments, private patients, and retail drug trade.

In 1720, John Markham and Job Matthews were granted the lucrative privilege. The production requirements were high. The apothecaries produced thirty medicine chests in six months.[258] If we consider the amount of drugs needed for the eight slave ships they fitted out,

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[255] TNA, T70/90, Minute Books, Court of Assistants, 1720-1721, 2 August 1720.

[256] During the previous four years, the company experimented with having ship surgeons furnish their own medicine chests at their own cost, similar to what was required by the Royal Navy. When some of the surgeons' medicine chests proved unacceptable, the company took the responsibility away from surgeons. The responsibility was then placed in the hands of ships' captains who were required to get medicines from apothecaries specified by the company. When captains refused to comply, the Committee of Shipping directly handled medicine chests for all the Company's ships and settlements, often with surgeons' recommendations and input. See T70/76, Minute Books, Court of Assistants, 1673-1676, September 30, 1674, f. 19v; June 29, 1675, f. 47v.; and, October 26, 1675, f. 58r.

[257] TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, July 18, 1676, f. 82r; July 20, 1676, f. 82v; and September 7, 1676, f. 89v.

[258] Eight medicine chests were furnished for company sloops. The company sloops supplied with medicines were the *Accra Sloop*, the *Cape Coast Sloop*, the *Congo Sloop*, the *Gambia Sloop*, the *Guinea Sloop*, the *James Island Sloop*, the *Sierra Leone Sloop*, and the *Whidah Sloop*. See TNA, T70/297, Waste Books Home, 1721, Sundry Accounts to John Markham, October 12, 1721, f. 146, and ibid., Sundry Accounts to Job Matthews, September 30, 1721, f. 142. See also T70/135, Minute Books, Committee of Shipping, 1720-1721, September 13, 1720. Three medicine chests were provided for company store ships. The store ships provided with medicines were the *Guinea Packet*, the *Hannibal*, and the *Providence*. See TNA, T70/297, Waste Books Home, 1721, Sundry Accounts to John Markham, October 12, 1721, f. 146, and ibid., Sundry Accounts to Job Matthews, September 30, 1721, f. 142. See

the total shipboard complement was 2,464 persons. Using the rough average of 0.72 pounds of medicine per person described earlier, we can speculate that the slave ships alone would have required 1,774 pounds of medicine—and slave ships represented less than thirty percent of the total number of chests provided. This was a significant undertaking and it paid well.

In just the first six months of being hired the men earned approximately £1,039, which was split between them. Generating this level of income from just one contract over a six month period was impressive. Other large institutional customers, such as London's hospitals, did not require this level of demand from an individual vendor. For example, the annual order that pharmaceutical manufacturer Corbyn & Company fulfilled for St. George's Hospital in 1763 came to £161.18.6. All the hospital contracts for Corbyn that year came to £268.7.11.[259]

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also T70/90, Minute Books, Court of Assistants, 1720-1721, August 18, 1720. Although there was a slaving voyage in the *Guinea Packet* the following year, for this voyage it functioned as a store ship. See *TSTDB*, Voyage ID# 75585.

Nine medicine chests were put on board slaving vessels. The nine slave ships were the *Cape Coast Frigate* (Voyage ID# 76538), the *Gambia Castle* which sprang multiple leaks and never made its intended voyage, the *Greyhound Sloop* (Voyage ID# 76537), the *Martha* (Voyage ID# 75817), the *Otter Frigate* (Voyage ID# 75956), the *Prince George* (Voyage ID# 76535), the *Royal Africa* (Voyage ID# 76093), the *Sherbro Galley* (Voyage ID# 76371), and the *Whidah Frigate* (Voyage ID# 76536). See TNA, T70/297, Waste Books Home, 1721, Sundry Accounts to John Markham, October 12, 1721, f. 146, and ibid., Sundry Accounts to Job Matthews, September 30, 1721, f. 142. For the problems experienced by the *Gambia Castle* which prevented the vessel from making its intended voyage see TNA, T70/46, Letters Sent from Home, 1720-1729, Letter from Francis Lynn to Captain Russell, December 30, 1720.

Ten medicine chests were sent for the use of the following forts and factories: one medicine chest for Cabenda; four for Cape Coast Castle; three for Gambia; one for Sierra Leone and Sherbro; and one for Whidah. See TNA, T70/297, Waste Books Home, 1721, Sundry Accounts to John Markham, October 12, 1721, f. 146, and ibid., Sundry Accounts to Job Matthews, September 30, 1721, f. 142. See also TNA, T70/340, Accounts, Journal, 1718-1720, f. 206, 217; T70/921, Outwards Invoice Books, 1715-1720, f. 95, 125; and, T70/922, Outwards Invoice Book, 1720-1721, f. 12, 31, 39, 72. See also TNA, T70/135, Minute Books, Committee of Shipping, 1720-1721, September 13, 1720.

[259] Wellcome Library (hereafter, WL), Corbyn & Co. Collection, MS 5439/12/2, Papers of Thomas Corbyn, Lists of the Customers or Debtors of Thomas Corbyn & Co, 1762-69. For more on Corbyn's supply of medicines to London hospitals see Porter and Porter, "The Rise of the English Drugs Industry," 290. For more on medical supply to St. George's Hospital during the eighteenth century see John K. Crellin, "Eighteenth Century Pharmacy at St. George's Hospital, London," *Medical History* 5, no. 4 (October 1961): 327–40. For the apothecary shop at St. Bartholomew's Hospital see W. S. Church, "Our Pharmacopoeia and Apothecary's Shop," in *Saint Bartholomew's Hospital Reports*, ed. W. S. Church and John Langton (London: Smith, Elder, and Company, 1884); and, "Our Pharmacopoeia and Apothecary's Shop, Continued," in *Saint Bartholomew's Hospital Reports*, ed. W. S. Church and John Langton, vol. 22 (London: Smith, Elder, and Company, 1886).

Although business records have not survived for Markham and Matthews, it is safe to assume that if both men had businesses sufficiently equipped to supply this volume of drugs, the African Company was not their only retail client. Earning £500 for six months' work from one customer, in an already bustling medical and pharmaceutical practice in the country's capital was a financial boon.

Matthews and Markham were likely hopeful concerning their future prospects as practitioners in slave trade pharmacy since drug suppliers to the African Company enjoyed contracts for anywhere between ten and twenty years.[260] They established expertise through these long-standing arrangements. The Royal African Company's practice of concentrating drug supply among a select number of long-serving pharmaceutical providers was also adopted by

[260] Some examples of the longevity with which individuals participated in this branch of pharmacy include the following: Apothecary William Rose supplied medicines for the Royal African Company from the 1680s until 1702. Nathaniel and Mary Meazy furnished medicines for the African Company from 1702 to 1716. Marmaduke Westwood was one of the company's drug vendors from 1735 through 1750. Alexander Johnston provided medicines from 1737 to 1738 and then from 1750 to 1760.

For William Rose see TNA, T70/79, Minute Books, Court of Assistants, 1680-1682, August 5, 1680, f. 7r.; T70/83, Minute Books, Court of Assistants, 1690-1693, March 17, 1690/1, f. 7r.; T70/84, Minute Books, Court of Assistants, 1693-1697, December 19, 1693, f. 20v; T70/87, Minute Books, Court of Assistants, 1702-1705, December 23, 1702, f. 59; T70/132, Minute Books, Committee of Shipping, 1702-1705, November 19, 1702, f. 11-12; T70/319, Journal, Home, 1689, February 28, 1688/9, f. 32; March 26, 1689, f. 40; May 15,1689, f. 50; July 24,1689, f. 83.

For Nathaniel and Mary Meazy see TNA, T70/87, Minute Books, Court of Assistants, 1702-1705, June 15, 1704, f. 155; T70/88, Minute Books, Court of Assistants, 1705-1713, January 3, 1705/6, f. 37; T70/89, Minute Books, Court of Assistants, 1713-1716, March 25, 1714, f. 26 and September 1, 1714; T70/258, Clerks to the Committee of Shipping, 1716-1720, June 21, 1716, f. 1r and October 8, 1716, f. 5.

For Marmaduke Westwood see TNA, T70/303, Accounts, Waste Books, Home, 1735-1738, March 21, 1734/5, f. 3; July 3, 1735, f. 15; April 13, 1736, f. 71; T70/304, Accounts, Waste Books, Home, 1738-1744, March 18, 1737/8, f. 5; April 2, 1741, f. 185; and, October 5, 1741, f. 207; T70/305, Accounts, Waste Books, Home, 1744-1750, September 5, 1744, f. 8; January 4, 1745/6, f. 62; January 6, 1748/9, f. 181.

For Alexander Johnston & Company see TNA, T70/303, Waste Books Home, 1735-1738, April 26, 1737, f. 137; T70/304, Waste Books Home, 1738-1744, July 4, 1738, f. 20; T70/143, Minute Books, 1750-1755, February 6, 1750, f. 40; December 4, 1751, f. 114; January 29, 1752, f. 126, T70/144, Minute Books, 1755-1762, September 24, 1755, f. 15v; T70/1516, Detached Papers, 1750, 1751; T70/1517, Detached Papers, 1751; T70/1518, Detached Papers, 1752; T70/1519, Detached Papers, 1752, 1753; T70/1520, Detached Papers, 1753; T70/1522, Detached Papers, 1754; T70/1524, Detached Papers, 1755, 1756; BRO, SMV/7/2/1/2, Annual Accounts of the Company Trading to Africa, 1750-1759.

private slave traders who also appear to have given their drug business to favored individuals. Thus, in 1750, when apothecary Joseph Ethrington petitioned the African Company to supply them with drugs he wrote that he had "been much accustomed to the supply of that Branch of Business amongst ye most Eminent Private Traders to the Coast of Affrica from the Port of London."[261]

Given the long tenure of apothecaries who served the African Company, Matthews and Markham likely assumed that their contract would be secure for many years. To their surprise, a competitor, James Goodwin, successfully wrested the contract away from them the following year. The Royal African Company decided Goodwin's prices would "come out considerably Cheaper than the Company have been charged by Mr. Mathews and Mr. Markham," and the two apothecaries were replaced.[262] Despite heated debates, price had won out over patronage. The fury of the two well-connected apothecaries rippled out into the some of the most powerful institutions in London, including into the halls of Parliament. Their retaliation even set Westminster ablaze with Goodwin's medicines.

A Bonfire of Medicines in Westminster

Smoke billowed down Charles Street in the Westminster area of central London. This "fine large Street" was well inhabited, boasted fashionable homes, and was located just a few minutes from the Houses of Parliament.[263] However, on June 10, 1724, the pungent smell of burning medicines filled Charles Street because a fire had been set outside James Goodwin's

[261] TNA, T70/1516, Detached Papers, 1750, 1751, Letter from Joseph Ethrington, December 17, 1750.

[262] T70/91, Minute Books, Court of Assistants, 1721-1723, August 3, 1721, August 24, 1721.

[263] John Stow and John Mottley, *A Survey of the Cities of London and Westminster, Borough of Southwark, and Parts Adjacent*, vol. 2 (London: Printed for T. Read, 1735), 643.

apothecary shop.[264] Four censors of the Royal College of Physicians completed their inspection of his medicines. In examining the freshness, quality, and purity of medicines, sold by the city's chemists, druggists, and apothecaries, the censors had the right to burn and destroy any drugs deemed defective at the door of the offender. This would be Goodwin's fate. Against the pleas and protests of Goodwin's servants inside the shop, medicines were seized and set ablaze in the street.[265] Barks, roots, resinous gums, and dried plants all turned to ash. However, Goodwin had not been present at the time. He had gone to the Royal African Company's London office on Leadenhall Street, most likely receiving a new set of drug orders.[266] In an attempt to damage his business and reputation, several of Goodwin's competitors in slave trade drug supply orchestrated the fiery, public spectacle while he was away.

Goodwin was a chemist, wholesale druggist, and apothecary.[267] He maintained at least two retail shops in London, and supplied wholesale medicines to many apothecaries throughout Britain. "There is scarce an Apothecary's Shop in England, but by one Means or other, hath good Medicaments of Mr. Goodwin's making," he wrote in describing himself.[268] In addition to being an able self-promoter, Goodwin was well-known as a manufacturing chemist. He had an extensive operation for the production of *sal ammoniacus* (ammonium chloride), and possibly also *sal volatilis* (ammonium chloride sublimed with chalk), and *ammonia præparata*

[264] Royal College of Physicians (hereafter, RCP), MS 2151, Visitation Records to Apothecary Shops, June 10, 1724.

[265] James Goodwin, *The Case of James Goodwin, Chymist and Apothecary* (London, 1727), 2; Jacob Bell, *A Concise Historical Sketch of the Progress of Pharmacy in Great Britain* (London: John Churchill, 1843), 19.

[266] Goodwin, *The Case of James Goodwin,* 2.

[267] TNA, T70/91, Minute Books, Court of Assistants, 1721-1723, Tuesday, August 1, 1721, folio illegible.

[268] Goodwin, *The Case of James Goodwin*, 2.

(ammonium carbonate).[269] Goodwin is acknowledged as being among the first in Britain to manufacture ammonium chloride, which was a noteworthy pursuit.[270] Sal ammoniac had extensive and valuable industrial use by dyers and braziers, and the chemical substance was also an important medicinal ingredient.[271] Goodwin experimented with producing ammonium chloride from the bittern of seawater (the residuum after common salt is crystallized from seawater) mixed with putrefied urine. In contrast, when imported from Egypt, the chemical was made from the soot of burned camel dung and distilled camel's urine, whereas, in Edinburgh in the mid-eighteenth century it was produced from coal soot.[272] Goodwin stands out in this period for his experiments with bittern.

As an innovator in chemical manufacture, it is possible that Goodwin used new techniques or adapted his production methods to efficiently increase his output and lower costs.

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[269] Samuel Parkes, *Thoughts on the Laws Relating to Salt: With Arguments for the Repeal of Those Laws* (London: Baldwin, Cradock, and Joy, 1817), 85; *Professional Anecdotes: Or Ana of Medical Literature in Three Volumes*, vol. 1 (London: John Knight and Henry Lacey, 1825), 19; Burnby, *A Study of the English Apothecary from 1660 to 1760*, 46;and, Robert P. Multhauf, "Sal Ammoniac: A Case History in Industrialization," *Technology and Culture* 6, no. 4 (1965): 577.

[270] A. C. Wootton, *Chronicles of Pharmacy*, vol. 1 (London: Macmillan and Company, Ltd., 1910), 336; *The Encyclopaedia Britannica: Or, Dictionary of Arts, Sciences, and General Literature*, 7th ed., vol. 2 (Edinburgh: Adam and Charles Black, 1842), 661; and, James Grier, *A History of Pharmacy* (London: Pharmaceutical Press, 1937), 143. For a discussion of the production of sal ammoniac during the third quarter of the eighteenth century see Caspar Neumann, *The Chemical Works of Caspar Neumann*, ed. William Lewis, 2nd ed., vol. 1 (London: Printed for J. and F. Rivington, 1773), 336–40. See also Parkes, *Thoughts on the Laws Relating to Salt*, 85; *Professional Anecdotes*, 1:19; W. A. Campbell, "The Nitrogen Industry," in *Chemistry, Society and Environment: A New History of the British Chemical Industry*, ed. Colin Archibald Russell (Cambridge, UK: Royal Society of Chemistry, 2000), 129–30.

[271] Campbell, "The Nitrogen Industry," 129-130. For developments in the manufacture of iron and the rolled sheet iron industry see James Moore Swank, *History of the Manufacture of Iron in All Ages*, 2nd ed., vol. 3 (Philadelphia: The American Iron and Steel Association, 1892), 53. For its use in welding and soldering see Neumann, *The Chemical Works of Caspar Neumann*, 1:342; Bertram Blount and A. G. Bloxam, *Chemistry for Engineers and Manufacturers*, vol. 1, Chemistry of Engineering, Building and Metallurgy (Philadelphia: J. B. Lippincott & Company, 1896), 35–37. For uses related to the mechanical and decorative arts see a De Vos, "Apothecaries, Artists, and Artisans": 325. For its medicinal uses see Quincy, *Pharmacopœia Officinalis & Extemporanea* (1718), pages 261-296 for example. See also Buchan, *Domestic Medicine*, 1769, xv.

[272] Neumann, *The Chemical Works of Caspar Neumann*, 1:336–40. See also Parkes, *Thoughts on the Laws Relating to Salt*, 85; *Professional Anecdotes*, 1:19; Campbell, "The Nitrogen Industry," 129–30.

For the African Company, purchasing medicines directly from manufacturers and distributors was more efficient, cost-effective, and streamlined their operations. The production of chemical remedies, for example, required specialized equipment, expertise, and access to scarce and expensive materials that were not easily obtainable by the ordinary apothecary, who relied on chemists and druggists for these goods.[273] Many chemical remedies were necessities in domestic and maritime medicine, and the African Company could now obtain them directly from Goodwin's laboratory.[274]

Similarly, individuals like Goodwin who were wholesalers and distributors were vital to the pharmaceutical supply chain. Earlier in the chapter we saw the breadth of simples required in the British pharmacopoeia. Apothecaries did not possess the ingredients, labor, time, capital, and equipment necessary to produce every medicine and could only make a small selection of the more complicated compound remedies.[275] As a result, apothecaries specialized in producing a specific range of drugs, and supplemented their shops with pre-made manufactured medicines and imported raw materials purchased from wholesalers and distributors.[276] For the African

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[273] Hunting, *A History of the Society of Apothecaries*, 157. Medical treatises advised individuals that it was wiser and more cost-effective to purchase chemical preparations rather than make them due to the capital, time, and labor involved. See Buchan, *Domestic Medicine*, 1790, 650.

[274] Chemical remedies like Glauber's salt, calomel (*mercurous choloride*), and tartar emetic (*antimony potassium tartrate*) were well-established essentials in domestic and maritime medicine. Glauber's salt, as we saw earlier, was one of the largest single-item drugs on board the slave ship *Pearl*. Calomel was the most widely used mercurial remedy from as early as 1595, and tartar emetic was the most commonly prescribed antimonial preparation. See Estes, *Dictionary of Protopharmacology: Therapeutic Practices, 1700-1850*, 14, 34.

[275] Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," 24.

[276] Ibid., 24-26. The general state of knowledge that historians have about the relationship between retail establishments, wholesalers, distributors, and chemical manufacturers in the drugs trade is quite sparse. As Roy and Dorothy Porter write because scholars have neglected the study of eighteenth-century chemists and druggists, we have a "puzzling or distorted" understanding of the entire economy of medicine. We do not know at any given point in the eighteenth century how many practitioners dried their own herbs or distilled essential oils, or what percentage of their stock was purchased pre-made from distributors and wholesalers. Some important inroads have been made. Patrick Wallis examined shop inventories in late seventeenth-century London to discuss the scope of medicines present in the shops. Philip George's article on Jeremy Cliff provides insight into what Cliff compounded out of his Kent-based shop, also noting the scanty evidence that exists concerning "the number and range of drugs that a

Company buying directly from a wholesaler or distributor would be more efficient for bulk purchasing.

Unlike Markham, Goodwin did not have high-profile clients like the Bishop of Rochester and did not have a prestigious appointment at the Charterhouse providing for patient needs at the institution. Critics bemoaned that Goodwin was not even a member of the Society of Apothecaries. Instead, Goodwin was among an increasing number of individuals who specialized in larger-scale drug manufacture, distribution, and sales rather than patient care. As contemporaries noted, patient care had driven apothecaries away from their shops. They devoted less energy to the compounding and sale of medicines.[277] As drug demand increased, a market emerged for those who wished to take advantage of new commercial possibilities in the manufacture, distribution, and sale of retail and wholesale drugs.[278] The practitioners who took up these opportunities are largely described as chemists and druggists, although individuals like Goodwin still referred to themselves as apothecaries.[279]

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typical apothecary might have been called upon to compound" or what would have been purchased. Juanita Burnby's research into Matthew Flinders and Eastwick & Coningsby offers information regarding the relationships apothecaries had with wholesale druggists and the scope of their operations. Burnby also reiterates "how many apothecaries compounded all their prescriptions and how many bought them from other apothecaries and druggists it is impossible to say." See Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London"; Philip George, "Jeremy Cliff: Apothecary of Tenterden, 1721," *The Chemist and Druggist* 162, no. 3888 (August 28, 1954): 211–13; J. G. L. Burnby, "Some Fliinders Family History: Connections with Pharmacy," *Australian Journal of Pharmacy* 63 (1987): 61–66; J. G. L. Burnby, "A Study of the English Apothecary from 1660-1760 with Special Reference to the Provinces" (Ph.D., University of London, 1979), 151–54.

[277] Jonathan Goddard, *A Discourse Setting Forth the Unhappy Condition of the Practice of Physick in London* (London: Printed by John Martyn and James Allestry, 1670), 21.

[278] Thomas H. Schmid, "London's Immortal Druggists: Pharmaceutical Science and Business in Romanticism," *Wordsworth Circle* 41, no. 3 (Summer 2010): 136. Juanita Burnby has an excellent overview of several individuals in the domestic sector who made the transition from apothecary to larger-scale producers of medicines. See Burnby, *A Study of the English Apothecary*, 47–53.

[279] Chemists and druggists were originally distinguishable up until the seventeenth century. "Drugmen" were often the middlemen between importers and apothecaries, whereas chemists produced chemical remedies for pharmaceutical use. However, chemists and druggists gradually combined to such a degree that the terms become interchangeable and "chemist and druggist" became a frequently used title by the start of the eighteenth century. These shopkeeping chemists and druggists should not be confused with the experimental chemists of the period who

A little more than two months after Markham and Matthews lost their contract to Goodwin, the Society of Apothecaries joined forces with their long-standing rivals, the Royal College of Physicians and began discussions on how they could thwart the incursion of druggists and ruin men like Goodwin.[280] The search and seizure privileges the College enacted that Wednesday in June were a result of these efforts. In May 1724, a temporary Act of Parliament was passed (10 Geo. 1. c. 20) which granted enhanced powers to the College. They were now able to search chemist and druggist shops in addition to apothecary shops. Upon its passage, the first visitation the censors made were to Goodwin's businesses. Over the course of several visitations, they harassed his wife and servants and made sure the events were well-covered in

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had little practical connection to the pharmaceutical trade. For "drugmen" see Joseph F. Kett, "Provincial Medical Practice in England 1730–1815," *Journal of the History of Medicine and Allied Sciences* 19, no. 1 (1964): 19. For how druggists and chemists gradually merged see Kremers, Sonnedecker, and Urdang, *Kremers and Urdang's History of Pharmacy*, 104; Kett, "Provincial Medical Practice in England, 1730–1815," 20; Worling, "Pharmacy in the Early Modern World, 1617 to 1841 AD," 67.

[280] Bell, *A Concise Historical Sketch of the Progress of Pharmacy in Great Britain*, 18–21; George N. Clark, *A History of the Royal College of Physicians of London*, vol. 2 (Oxford: Clarendon Press for the Royal College of Physicians, 1966), 492.

Henry Levett was instrumental in setting the retaliation in motion. Levett was physician at London's Charterhouse and had appointed Markham to become their apothecary. Levett was also physician to one of the most significant figures in the African Company's Court of Assistants, James Brydges, Duke of Chandos. Levett was named one of the Royal African Company's official physicians and was enlisted to assist the Royal African Company in the medical management of the slave trade. Levett used his new role with the African Company to help Markham secure the lucrative drug contract. When discussions were underway concerning James Goodwin's prices, Levett argued against Goodwin saying that he was a druggist and not an apothecary and lacked real medical knowledge; however, Levett's advocacy failed. As a highly placed member of the College, he helped initiate the attack.

For Levett's managerial activities see TNA, T70/90, Minute Books, Court of Assistants, August 4, 1720; August 18, 1720; August 23, 1720. T70/46, Letters Sent from Home, 1720-1729, Letter from Francis Lynn to Mssrs. Levet, Kelway, and Palmer, August 4, 1720, f. 3 and August 20, 1720, f. 6. T70/135: Minute Books, Committee of Shipping, 1720-1721, August 23, 1720. T70/91, Minute Books, Court of Assistants, 1721-1723, August 24, 1721, f. 1; August 29, 1721, f. 13; September 7, 1721, f. 18; and, September 12, 1721, f. 19. For Levett's appointment to the Charterhouse see *Post Boy (1695)*, Issue 2913, January 7 - January 9, 1714. For more on Levett's background and medical contributions see William Munk, *The Roll of the Royal College of Physicians of London, Comprising Biographical Sketches of All the Eminent Physicians Whose Names Are Recorded in the Annals*, 2nd edition, vol. 2 (London: The Royal College of Physicians, 1878), 22. For the crucial role played by Levett's patient, James Brydges, Duke of Chandos, in the African Company see Larry Stewart, "The Edge of Utility: Slaves and Smallpox in the Early Eighteenth Century," *Medical History* 29, no. 1 (January 1985): 63; Matthew David Mitchell, "'Legitimate Commerce' in the Eighteenth Century: The Royal African Company of England under the Duke of Chandos, 1720–1726," *Enterprise and Society* 14, no. 3 (September 1, 2013): 549–552; and, Pettigrew, *Freedom's Debt*, 154; 165-172

the press.[281] The Act, however, was only in force for six years.[282] In 1727, Goodwin petitioned the House of Lords against its continuation. Although he was unsuccessful at that time, the bill expired in 1731, and Goodwin was awarded £600 in damages for the abuse he suffered while it was in effect.[283]

The Westminster bonfire represented not only the lucrative and fiercely competitive nature of slave trade drug supply. The billowing smoke vividly signaled how the increasing volumes of medicines needed for the slave trade exposed a growing division in the nature of drug production in eighteenth-century Britain. The slave trade favored those who specialized in larger-scale pharmaceutical manufacture, wholesale distribution, and sales. Slave trade merchants received lower prices on their drugs as a result of the increased economy of scale. The ultimate failure of the legislation and Goodwin's vindication is a testament to how the needs of slave traders supported and nurtured the advancement of Britain's drug manufacturing sector. Goodwin supplied drugs to the company for twenty years and assisted the African Company's efforts to gather West African *materia medica* and medical knowledge.[284]

This was a critical moment for the African Company. From this point forward they

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[281] Clark, *A History of the Royal College of Physicians of London*, 2:495; Bell, *A Concise Historical Sketch of the Progress of Pharmacy in Great Britain*, 19.

[282] Clark, *A History of the Royal College of Physicians of London*, 2:495–97. As with most legislation, the original intent of the bill was not reflected in its final version, from the perspective of the Society of Apothecaries. The Society had requested that no medicines be burned by the College unless the Society's wardens agreed with the judgment. They argued that Society officials were the best judges of defective drugs, not the College. The College exerted their power and prevented this from being part of the bill. See Burnby, *A Study of the English Apothecary*, 9.

[283] Bell, *A Concise Historical Sketch of the Progress of Pharmacy in Great Britain*, 20; James Goodwin and Philanthropos, *Reasons, against the Bill, for Viewing, Searching, and Examining of All Drugs, Medicines, &c. Address'd to the Parliament of Great-Britain* (London: Printed by T. Payne, 1731).

[284] This is discussed in Chapter Six.

would use larger-scale manufacturers to absorb the bulk of their pharmaceutical provisioning.[285] The African Company was not alone, however. Their decision coincided with shifts in the commercial organization of the slave trade and in overseas trade more broadly. Efficiency gains were sought in many arenas, in addition to drug supply. Specialization trends impacted shipbuilding and helped develop a range of new commercial services.[286] Concentrating supply among specialized vendors occurred throughout the transatlantic trades.[287] As Kenneth Morgan writes, concentration and specialization gradually became part of a revolution of scale that occurred in all British ports involved in the slave, sugar, and tobacco trades.[288] As the slave trade aggressively expanded, the center of Britain's slave trade shifted to Bristol and then to

[285] I use the term "larger-scale" to indicate that a business was not simply engaged in retail sales but that chemical manufacture, distribution, overseas export trade, and/or wholesale drug supply were part of its operations. Given the absence of business records from pharmaceutical providers, there is no way to know the specific sizes of these businesses. Larger-scale producers included Alexander Johnston & Company during the 1750s, the laboratory at the Society of Apothecaries most frequently during the 1760s and 1780s, and James Bogle French during the 1770s. These businesses were supplemented by the participation of individual apothecary shops which picked up smaller orders on an ad hoc basis.

[286] William Darity, Jr., "British Industry and the West Indies Plantations," in *The Atlantic Slave Trade: Effects on Economies, Societies, and Peoples in Africa, the Americas, and Europe*, ed. J. E. Inikori and Stanley L. Engerman (Durham: Duke University Press, 1992), 275.

[287] T. S. Ashton, *An Economic History of England: The Eighteenth Century* (New York: Harper & Row, 1972), 132–136, gives a brief overview of new specialists that emerged, or older specialists, like underwriters, who took new forms during the expansion of overseas commerce in the eighteenth century. Ashton describes the work carried out by ships' husbands, ships' broker, underwriters, insurance brokers, agents, packers, and supercargoes, exchange brokers, and bullion dealers. More recently, Nuala Zahedieh discusses the new skills, knowledge, and commercial services that emerged in London to meet the needs of the transatlantic trades. These became "increasingly sophisticated and specialized" to meet transatlantic demands and tobacco and sugar importers gradually became lodged in specialist hands. Kenneth Morgan writes that in Bristol "concentration and specialization" characterized the port's sugar trade. Paul Clemens describes how craft specialization in Liverpool was critical to the eventual pre-eminence of the port. Nuala Zahedieh, *The Capital and the Colonies: London and the Atlantic Economy 1660-1700* (New York: Cambridge University Press, 2010), 15, 55, 57; Morgan, *Bristol and the Atlantic Trade in the Eighteenth Century*, 189; and, Paul G. E. Clemens, "The Rise of Liverpool, 1665-1750," *The Economic History Review* 29, no. 2 (May 1976): 212–216. See also Sherllynne Haggerty's discussion regarding the specialization and diversification of shopkeeping in Liverpool and Philadelphia. See Haggerty, *The British-Atlantic Trading Community*, 96–97.

[288] Morgan, *Bristol and the Atlantic Trade in the Eighteenth Century*, 160. See also Jacob M. Price and Paul G. E. Clemens, "A Revolution of Scale in Overseas Trade: British Firms in the Chesapeake Trade, 1675-1775," *The Journal of Economic History* 47, no. 1 (March 1, 1987): 1–43; and, Jacob M. Price, "What Did Merchants Do? Reflections on British Overseas Trade, 1660–1790," *The Journal of Economic History* 49, no. 2 (1989): 281–282.

Liverpool. Specialization strategies continued to develop among larger-scale drug suppliers and twenty-year-old Joshua Dixon had a front row seat.

Profiting from African Life and Death in the Liverpool Drug Trade

Joshua Dixon arrived in Liverpool on Saturday, 27 October 1764 after a "journey in every Shape…disagreeable."[289] He had traveled to Liverpool by "machine," or stagecoach, from his home in Whitehaven, a vibrant port town located on the west coast of Cumbria in northern England. Although Dixon's trip was off to an "exceeding Irksome" start, his passage from Whitehaven to Liverpool was no ordinary journey. He was moving away from home for the first time to embark on the next stage of his medical training. No longer serving as an apothecary apprentice in his hometown under the stern temper of his former master, Dixon would now be employed as a journeyman apothecary.[290] He had secured a position to manage Edward Parr's bustling apothecary shop on Castle Street and its small group of workers, for a salary of £20 per annum.[291]

Dixon found himself not only in a new city with a new job, but he was also thrust into the transatlantic scope of Britain's eighteenth-century pharmaceutical trade. His new employer Edward Parr was not a traditional apothecary. Although Parr maintained a busy shop-based

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[289] Wellcome Library, Joshua Dixon Letterbook, MS. 2196, Joshua Dixon, Letter to Mother, 30 October 1764, f. 2.

[290] Journeymen were part of the guild system, and referred to an individual who had completed a bound apprenticeship in his craft or trade, and could now be employed as a wage laborer. For the gendered dimensions of the medical guilds and their exclusion of women see Penelope J. Corfied. "From Poison Peddlers to Civic Worthies: The Reputation of the Apothecaries in Georgian England," *Social History of Medicine* 22, no. 1 (Apr., 2009): 16. For guilds and gender more broadly see for example "Women's Admission to Guilds in Early-Modern England: The Case of the York Merchant Tailors' Company, 1693-1776," *Gender & History* 17, no. 1 (Apr., 2005): 99-126; Joyce Burnette, *Gender Work, and Wages in Industrial Revolution Britain* (New York: Cambridge University Press, 2008), 233-240; and Anna Clark, *The Struggle for the Breeches: Gender and the Making of the British Working Class* (Berkeley: CA: University of California Press, 1997), 25-41. For more on William Shaw's temper and Joshua Dixon's relationship with him see in particular Dixon, Letter to Mother, 30 November 1764, f. 53.

[291] Dixon, Letter to William Tate, 2 November 1764, f. 9. For a description of Dixon's managerial responsibilities see for example Letter to William Shaw, 20 November 1764, f. 37.

retail trade, his business specialized in larger-scale drug manufacturing, with little time for bleeding patients or setting bones. Parr was a major supplier of medicines for Liverpool's slave trade and had a brisk export drug trade to the Americas. The city's commerce in African people provided enormous opportunities for those who could manufacture goods for slave trade merchants, creating an "enclave of high-class craftsmanship."[292] The city boasted a large manufacturing sector, and drug production for the slave trade was among these burgeoning industries.[293] Parr furnished Liverpool's slave trade merchants with "a Vast Number" of medicines, commanding as much as thirty-three percent of the port's slave trade drug supply.[294] Provisioning this quantity of medicines could not be done in the shop, but was "entirely managed in spacious Warehouses."[295] As warehouses sprang up alongside British docks and canals to store trade goods and bulk provisions needed by slave trade merchants, warehouses also became sites of pharmaceutical manufacture.

Certain aspects of drug manufacture and chemical processing typically occurred in less visible spaces such as shops, cellars, kitchens, or yards, to minimize the stench and risk of fire.[296] Furnaces, copper stills, and distillation equipment were kept away from customers so they would not be confronted with the smelly, pungent character of eighteenth-century drug production.[297]

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[292] Longmore, "'Cemented by the Blood of a Negro'? The Impact of the Slave Trade on Eighteenth-Century Liverpool," 236–39.

[293] Ibid., 236.

[294] Dixon wrote that Parr furnished twenty-four medicine chests a year for slave traders. Using Liverpool's slave trading volume during 1764 as an example, the port dispatched seventy-two voyages. Parr's corner of the market would have amounted to thirty-three percent that year. See Wellcome Library, MS 2196, Joshua Dixon Letterbook, Letter to Mother, October 30, 1764, f. 2-3.

[295] Ibid., Letter to Aunt Eskridge, December 29, 1764, f. 74.

[296] Patrick Wallis, "Consumption, Retailing, and Medicine in Early-Modern London," *The Economic History Review* 61, no. 1 (2008): 36.

[297] Ibid.

However, Parr's utilization of warehouses for slave trade drug manufacture achieved more than this. By isolating slave trade pharmacy within dockside warehouses, and removing the production process from his Castle Street shop, Parr created a specialized manufacturing process particular to the needs of Britain's slave traders. Rather than establishing a mixed-use laboratory to meet the differing requirements of his retail shop, his export drug trade to the Americas, and the maritime needs of slave traders, Parr adapted his production methods to give slave trade drug manufacture increased efficiency through exclusive focus. Additionally, medicines freshly compounded in dockside warehouses were in close proximity to departing vessels.

Dixon's labor did not occur within Parr's slave trade drug warehouses. Instead, the young journeyman served retail customers who patronized Parr's Castle Street shop and managed the apothecary's wholesale drug exports to the Americas. Dixon spent from seven o'clock in the morning until nine o'clock at night, each day but Sunday, working on filling orders for British American colonies in North America and the Caribbean.[298] "Chests croud in Upon us every Day," he wrote his mother.[299] Dixon's assistant helped manage Parr's shop-based laboratory and had done so for seven years.[300] He was responsible for making "incredible Quantities of Unguents," distilled simple waters, attended to all the laboratory processes, and performed all chemical manufacturing.[301] The larger-scale operation, laboratory, and additional workers in the shop meant that Dixon could prepare twice the amount of medicines in less time than when he worked in Whitehaven.[302]

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[298] WL, MS 2196, Joshua Dixon Letterbook, Letter to William Shaw, April 19, 1765, f. 110.

[299] Ibid., Letter to Mother, March 9, 1765, .f 104.

[300] Ibid., Letter to William Shaw, November 20, 1764, f. 37.

[301] Ibid.

[302] Ibid., f. 37-38.

With no surviving business records we cannot know the exact scope of Parr's operations. Having lost his father at the age of fifteen, Parr took over his father's apothecary shop at that time and worked in the business ever since.[303] Dixon estimated that Parr's domestic and overseas medicine trade was so lucrative that the apothecary had amassed a fortune equaling that of all the businessmen in Whitehaven combined.[304] As the primary manager of the shop, Dixon had opportunities to glimpse into the finances of the business. He remarked to his mother that "Bills to the Value of 1000£ arrived last Week and the porter who has serv'd Mr. Parr 8 yrs said he was Worth 100 such Sums."[305]

Despite fragmentary evidence, what we do know is that Parr's pharmaceutical manufacturing business was significant enough for him to diversify further, and Parr became one of Liverpool's leading slave traders in the second half of the eighteenth century.[306] Between 1748 and 1769, Parr had ownership in at least fifty-four slaving ventures.[307] He is ranked sixth out of the fifteen Liverpool merchants who sent five hundred or more slaves to the colonial

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[303] WL, MS 2196, Joshua Dixon Letterbook, Letter to Mother, January 28, 1765, f. 93.

[304] Ibid., Letter to William Tate, November 2, 1764, f. 8.

[305] Ibid., Letter to Mother, January 19, 1765, f. 82.

[306] David Pope includes Edward Parr in his preliminary prosopography of the 201 leading Liverpool slave merchants in the second half of the eighteenth century. However, Pope misidentifies Parr as a mariner who died in 1761, which would have been three years prior to Dixon's employment. In fact, Parr died in 1768, and was buried on February 21st of that year. Dixon's letterbook allows us to identify Edward Parr with greater accuracy since the details of his life remain largely unknown. See David Pope, "The Wealth and Social Aspirations of Liverpool's Slave Merchants in the Second Half of the Eighteenth Century," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, Anthony Tibbles, and Suzanne Schwarz (Liverpool, U.K.: Liverpool University Press, 2007), 213. For Parr's burial record see Liverpool Record Office (hereafter, LRO), 283 NIC1/5, Parish Burial Records, Records of Our Lady and St. Nicholas, Burials Anno Dom 1768.

[307] See the Transatlantic Slave Trade Database for slave trading voyages owned by Edward Parr, query "Edward Parr," variable "Vessel Owners," <http://www.slavevoyages.org>, (accessed 26 December 2014). It is also worth noting that in 1752, two years after the Royal African Company was replaced by the Company of Merchants Trading to Africa, Parr is listed as a member of the new company. See Thomas Baines, *History of the Commerce and Town of Liverpool*, Vol. 1 (London: Longman, Brown, Green, and Longmans, 1852). Refer to the section entitled, "A List of the Company of Merchants Trading to Africa."

Chesapeake.[308] By 1759, Parr was not only considered among the principal ship owners in Liverpool but had also invested in a sugar refinery on Cuppins Lane in nearby Chester.[309] No longer just a medical shopkeeper, Parr's ascendance was similar to James Morgan in Bristol who became a significant figure in the political hierarchy of the city. Parr became a member of Liverpool's exclusive Common Council. The forty-one member ruling body included the city's mayor, bailiffs, and treasurer.[310] Edward Parr sat on the council with John Tarleton, Robert Clay, Charles Goore, and Joseph Manesty — men who were his customers, his slave trading partners, and his co-investors in sugar production.[311] Joshua Dixon believed that it was only a

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[308] Lorena S. Walsh, "Liverpool's Slave Trade to the Colonial Chesapeake: Slaving on the Periphery," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, Anthony Tibbles, and Suzanne Schwarz (Liverpool, U.K.: Liverpool University Press, 2007), 103.

[309] For Parr as a principal ship owner in Liverpool see Baines, *History of the Commerce and Town of Liverpool*, Vol. 1, 424-425. One of the earliest references to Edward Parr's sugar refining activity appears in an indenture quadripartite dated March 21, 1757, in which Parr along with his brother John, a merchant and gunsmith, entered into a one-year agreement to be the trustees of the Cuppins Lane refinery in partnership with Joseph Manesty, Benjamin Wilson, and John Hincks. See Cheshire Record Office (hereafter, CRO), ZD Hincks/21, Declaration and Release, Sugar Refinery, Cuppins Lane, Chester, March 21, 1757. For references to Parrs's sugar refining business in Dixon's Letterbook see WL, MS 2196, Joshua Dixon Letterbook, Letter to William Shaw, January 21, 1765, f. 84. For the relationship between Liverpool's commercial development and its sugar imports see for example Paul G. E. Clemens, "The Rise of Liverpool, 1665-1750," *The Economic History Review* 29, no. 2 (May, 1976): 214-217, 219-222. For a discussion of the overlapping partnerships between slave trade merchants and Liverpool's sugar-refining industry "with Liverpool slave traders often having shares in sugar-houses," see Longmore, "'Cemented by the Blood of a Negro'? The Impact of the Slave Trade on Eighteenth-Century Liverpool," 245.

[310] For Parr's presence on Liverpool's Common Council see for example LRO, Liverpool Town Books, 352 MIN.COU I 1/11, 308, 324. Edward Parr remained on the Common Council until his death in 1768. See J. Gore, *The Liverpool Directory for the Year 1766* (Liverpool: Printed by William Nevett and Co., 1766), 33; and John Gore, *Gore's Liverpool Directory for the Year 1767* (Liverpool: Printed by William Nevett and Co., 1767), 41. For Dixon's reference to Parr on the Council see Wellcome Library, MS 2196, Joshua Dixon Letterbook, Letter to John Tate, November 29, 1764, f. 51.

[311] For Clay, Midgley, and Goore as customers of Parr's Castle Street apothecary shop, see WL, MS 2196, Joshua Dixon Letterbook, Letter to Mother, January 26, 1765, f.88. In addition to being one of Parr's Castle Street customers, Robert Clay shared ownership with Edward Parr in at least nineteen slave trading voyages, taken by three different vessels — the *True Blue*, the *Africa*, and the *Prince Eugene*. John Tarleton and Edward Parr partnered on at least eleven slaving voyages, taken by three different vessels — the *Tarleton*, the *Barclay*, and the *Fame*. Joseph Manesty, one of Edward Parr's partners in the Cuppins Lane sugar refinery, sat on the Common Council with Parr in 1764. For more on Charles Goore, see Lorena Walsh, "Liverpool's Slave Trade to the Colonial Chesapeake," 104-105. For the slave ship voyages that Edward Parr invested in with Robert Clay and John Tarleton, see *Transatlantic Slave Trade Database*, query "Edward Parr," variable "Vessel Owners," <http://www.slavevoyages.org>, accessed 11 February 2014.

matter of time before his master would be elected Mayor of the borough.[312]

From the capture, enslavement, and transport of African people on the West African coast, and from the ruthless exploitation of their labor on sugar plantations in the Caribbean, Edward Parr's financial interests metastasized across the British Atlantic. Parr supplied the medicines used on slaving voyages to help keep African women, men, and children alive. Parr then invested the profits in refining the sugar these forced laborers produced. Conditions on sugar plantations were so brutal that more enslaved people had to be seized and shipped across the Atlantic. And the cycle continued. In this way, Parr profited from the medicines necessary to traffick captives across the Atlantic; profited from their sale in the Americas; profited from the sugar they produced; and then profited from their sugar-stained deaths in the Caribbean. Medicines preserved life and simultaneously benefited from death. The apothecary situated himself within this self-perpetuating cycle of capital accumulation. Parr's business activities and investment strategies are a vivid example of how the enslaved were caught up in a profit-driven nexus of human terror, commodification, and consumption. The medicinal and the mercantile are indistinguishable in this web of human labor and human loss. As pharmaceutical provisioning for Britain's commerce in African people took on an increasing economy of scale, slave trade pharmacy contributed not only to Britain's developing pharmaceutical industry but to the global drug trade.

Drugs and Slave Trading in the Global Eighteenth Century

Textiles, cowry shells, sugar, and captive African people represented just some of the interconnected objects of value embedded in global circuits of exchange in the eighteenth century. Much has been written about how the slave trade and plantation slavery became

[312] WL, MS 2196, Joshua Dixon Letterbook, Letter to John Tate, November 29, 1764, f. 51.

fastened to a robust global commodities market that traversed the Indian and Atlantic Oceans, and the North and Mediterranean Seas.[313] Drugs figured significantly in this market.

Slave trade medicine chests served as a microcosm of both the larger transatlantic world and the global eighteenth century. The everyday labor of apothecaries, chemists, and druggists like Edward Parr focused upon drugs culled from around the world. Plants, minerals, and animal products traversed seas and continents, languages and religions, nations and empires. Imported drugs flooded British markets beginning in the seventeenth century.[314] In 1669, seventy percent

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[313] For cotton textiles see Giorgio Riello and Prasannan Parthasarathi, "Cotton Textiles and Global History," in *The Spinning World: A Global History of Cotton Textiles, 1200-1850*, ed. Giorgio Riello and Prasannan Parthasarathi (New York: Oxford University Press, 2011), 1; Sven Beckert, *Empire of Cotton: A Global History* (New York: Knopf, 2014), 10–13 [double check]. See also Giorgio Riello, *Cotton: The Fabric That Made the Modern World* (New York: Cambridge University Press, 2013). For textiles and slave ship outfitting see Herbert S. Klein, *The Atlantic Slave Trade* (New York: Cambridge University Press, 1999), 86–87; Stephen D. Behrendt, "Markets, Transaction Cycles, and Profits: Merchant Decision Making in the British Slave Trade," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 179; and, Longmore, "'Cemented by the Blood of a Negro,'" 239. See for example, Pedro Machado, "A Forgotten Corner of the Indian Ocean: Gujarati Merchants, Portuguese India and the Mozambique Slave-Trade, c.1730–1830," *Slavery & Abolition* 24, no. 2 (2003): 17–32; Machado, "Cloths of a New Fashion: Indian Ocean Networks of Exchange and Cloth Zones of Contact in Africa and India in the Eighteenth and Nineteenth Centuries," in *How India Clothed the World: The World of South Asian Textiles, 1500-1850*, ed. Giorgio Riello and Tirthankar Roy (Boston, MA: Brill, 2009), 53–84; Machado, "Awash in a Sea of Cloth: Gujurat, Africa, and the Western Indian Ocean, 1300-1800," in *The Spinning World: A Global History of Cotton Textiles, 1200-1850*, ed. Giorgio Riello and Prasannan Parthasarathi (New York: Oxford University Press, 2011), 161–80; Joseph E. Inikori, "English versus Indian Cotton Textiles: The Impact of Imports on Cotton Textile Production in West Africa," in *How India Clothed the World: The World of South Asian Textiles, 1500-1850*, ed. Giorgio Riello and Tirthankar Roy (Boston, MA: Brill, 2009), 85–114; Colleen E. Kriger, "'Guinea Cloth': Production and Consumption of Cotton Textiles in West Africa Before and During the Atlantic Slave Trade," in *The Spinning World: A Global History of Cotton Textiles, 1200-1850*, ed. Giorgio Riello and Prasannan Parthasarathi (Oxford University Press, 2011); Colleen E. Kriger, *Cloth in West African History*, African Archaeology Series (Lanham, MD: AltaMira Press, 2006).

For cowry shells see Marion Johnson and Jan S Hogendorn, *The Shell Money of the Slave Trade* (New York: Cambridge University Press, 1986); Alessandra Brivio, "Tales of Cowries, Money, and Slaves," in *African Voices on Slavery and the Slave Trade: Volume 1, The Sources*, ed. Alice Bellagamba, Sandra E. Greene, and Martin A. Klein (New York: Cambridge University Press, 2013), 47–54; and for the use of cowry shells in China see Wang Qing, "Changes in the Composition of Ryūkyū's Tribute to Qing Period China – Historical and Economic Aspects," in *The East Asian Mediterranean: Maritime Crossroads of Culture, Commerce and Human Migration*, ed. Angela Schottenhammer (Wiesbaden: Otto Harrassowitz Verlag, 2008), 219–34.

For sugar see Richard B. Sheridan, *Sugar and Slavery; an Economic History of the British West Indies, 1623-1775* (Baltimore, Johns Hopkins University Press 1974, 1974), 11; David Eltis, *The Rise of African Slavery in the Americas* (New York: Cambridge University Press, 2000), 39; Morgan, *Bristol and the Atlantic Trade in the Eighteenth Century*, 184. See also the excellent classic study Sidney W. Mintz, *Sweetness and Power: The Place of Sugar in Modern History* (New York: Viking Press, 1985).

[314] Patrick Wallis, "Exotic Drugs and English Medicine: England's Drug Trade, C. 1550–c. 1800," *Social History of*

of drugs in Britain came from outside Europe, mainly from India and the Middle East.[315] In the eighteenth century, increasing numbers of drugs from the Americas were added to the British pharmacopoeia, finding their way into apothecary shops and family medicine chests. Britons consumed rhubarb from India, Turkey, and Russia. Highly-prized medicaments from South America overflowed slave ship dispensaries as surgeons prescribed cinchona, ipecacuanha, jalap, and guaiacum to mariners and slaves. North Americans exported Virginia snake root to Britain while caraway seeds came from Germany. Imports of North African senna continued flowing into Britain alongside acquisitions of Russian castor oil, Jamaican pepper, and opium from Egypt, Persia, and India.

Drug imports not only fueled domestic consumption but also re-exportation, which was critical to the growth of Britain's pharmaceutical trade.[316] London became "the drug market of the world," and was a primary entrepôt for the continent.[317] Raw medicinal goods culled from around the globe were purchased at auction. At Garraway's Coffee House in London, apothecaries, chemists, and druggists engaged in time-consuming bidding contests for rhubarb and opium imported in East India Company vessels.[318] Through larger-scale mechanisms of drug production, plants, minerals, and animal products across the globe were transformed into consumable remedies and re-exported to overseas markets. Roy and Dorothy Porter write, "it

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Medicine 25, no. 1 (February 1, 2012): 21.

[315] R. S. Roberts, "The Early History of the Import of Drugs into Britain," in *The Evolution of Pharmacy in Britain*, ed. F. N. L. Poynter (Springfield, IL: Charles C. Thomas, 1965), 171.

[316] Zachary Dorner, "'No One Here Knows Half so Much of This Matter as Yourself': The Deployment of Expertise in Silvester Gardiner's Surgical, Druggist, and Land Speculation Networks, 1734–83," *The William and Mary Quarterly* 72, no. 2 (2015): 308.

[317] Michael Carteighe, "The President's Address to the British Pharmaceutical Conference," *The Pharmaceutical Journal and Transactions*, Third Series, 20 (1889-190): 215; Wallis, "Exotic Drugs and English Medicine," 21.

[318] Porter and Porter, "The Rise of the English Drugs Industry," 288.

would be difficult to exaggerate the significance of overseas markets...for the expansion of the pharmaceutical trade."[319] The roots of Britain's pharmaceutical industry were planted here, in the eighteenth century, in the midst of a thriving world market in medicines.[320]

Due to a lack of surviving records, scholars have identified only four large British pharmaceutical manufacturing companies that made major contributions to Britain's eighteenth-century drug manufacturing sector and functioned as "authentic progenitors of the pharmaceutical industry."[321] Two of the four, Plough Court and Thomas Corbyn & Company, specialized in exporting drugs to North America and the Caribbean, and slave plantations figure as critical sites of drug consumption.[322] Indeed, one of the most significant growth areas for British pharmaceutical firms was consumer demand in the Americas. The need for medicines throughout the British Americas was sizeable and British drug suppliers provided the majority of

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[319] Ibid., 293.

[320] Wallis, "Exotic Drugs and English Medicine," 21. See also Schmid, "London's Immortal Druggists," 134; N. G. Coley, "Origins of the British Chemical Industry," in *Chemistry, Society and Environment: A New History of the British Chemical Industry*, ed. Colin Archibald Russell (Cambridge, UK: Royal Society of Chemistry, 2000), 72. For the laboratory at the Society of Apothecaries as part of the emergence of the British pharmaceutical industry see Anna Simmons, "Stills, Status, Stocks and Science: The Laboratories at Apothecaries' Hall in the Nineteenth Century," *Ambix* 61, no. 2 (May 1, 2014): 141–61. Little attention has been given to the eighteenth-century roots of the pharmaceutical industry. It predates important nineteenth-century touchstones in the development of the industry. Of particular importance, the isolation of alkaloids from plant material, which began in 1817 with morphine, followed by "caffeine, nicotine, atropine, quinine, strychnine, and cocaine," led to the creation of drugs that were capable of a higher degree of purity. Alkaloids like morphine and quinine were submitted to large-scale industrial production which made eighteenth-century laboratories and apothecary workshops seem technologically backwards by comparison. The nineteenth-century pharmaceutical industry developed in response to the discovery of plant alkaloids, and the extraction of alkaloids from plant material was its initial focus. Companies like Merck came into existence during this time, which was established in Germany in 1827. See David O. Kennedy, *Plants and the Human Brain* (New York: Oxford University Press, 2014), 65; J. W. Gerritsen, *The Control of Fuddle and Flash: A Sociological History of the Regulation of Alcohol and Opiates* (Boston, MA: Brill, 2000), 47; Olivier Potterat and Matthias Hamburger, "Drug Discovery and Development with Plant-Derived Compounds," in *Natural Compounds as Drugs*, ed. Frank Petersen and René Amstutz, vol. 1 (Boston, MA: Springer Science & Business Media, 2007), 46.

[321] Porter and Porter, "The Rise of the English Drugs Industry," 282, 293; N. G. Coley, "Origins of the British Chemical Industry," in *Chemistry, Society and Environment: A New History of the British Chemical Industry*, ed. Colin Archibald Russell (Cambridge, UK: Royal Society of Chemistry, 2000), 72. The four are Plough Court Pharmacy, Corbyn & Company, John Bell & Company, and the Society of Apothecaries.

[322] Ibid., 282.

medicines to the region until the nineteenth century.[323] This included drug deliveries to slave plantations, which quietly threads its way through the literature.

Quaker Silvanus Bevan's Plough Court pharmacy was formed in 1715 and transatlantic markets were crucial to their business. The company's export trade in the eighteenth century relied on drug orders from Caribbean plantation owners and medical practitioners who serviced the enslaved.[324] Plough Court received large orders of medicines from the islands. Just one order dispatched to Jamaica in 1776 was valued at £1000.[325] Indeed, £4,762 of business was conducted that year, which was a considerable sum in the third quarter of the eighteenth century.[326] The drug manufacturing operation which Plough Court developed to service Caribbean plantations proved formative, earning the company a noteworthy reputation for producing high-quality pharmaceuticals during the eighteenth century.[327] Plough Court became an industry leader, eventually known as Allen and Hanburys before joining the Glaxo organization in 1958.[328]

Another eighteenth-century Quaker business, Thomas Corbyn & Company conducted a

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[323] Kremers, Sonnedecker, and Urdang, *Kremers and Urdang's History of Pharmacy*, 326. Large-scale drug manufacturing began in the American republic between 1820 and 1840. However, during the Revolutionary War, due to limited imports medicines were manufactured on a small scale by some of the better-equipped pharmacies, and medicines for the military were manufactured in a laboratory managed by Apothecary General Andrew Craigie. In the postwar years, Glauber's salt and muriate of ammonia were manufactured in Philadelphia by the druggists Christopher, Jr. and Charles Marshall who are credited as being among the first to manufacture large-scale chemical medicines in the United States. However, the pharmaceutical industry would not take shape in the United States until the nineteenth century.

[324] Tweedale, *At the Sign of the Plough*, 23; Anderson, "Pharmacy and Slavery," 14.

[325] Tweedale, *At the Sign of the Plough*, 26.

[326] Ibid., 27.

[327] Ibid, 34.

[328] Coley, "Origins of the British Chemical Industry," 72. See also Joanna Lumb, "Glaxosmithkline: A Pharmaceutical Giant of Many Familiar Parts," *Prescriber* 23, no. 1–2 (January 1, 2012): 40–41; R. P. T. Davenport-Hines and Judy Slinn, *Glaxo: A History to 1962* (New York: Cambridge University Press, 1992), 170-172-333.

major export trade with North America and the Caribbean plantations, which formed the key growth sector for the firm.[329] Corbyn's drug trade within Britain was also significant and studying the company's domestic business networks reveals participation in slave trade pharmacy. During the second half of the eighteenth century Corbyn produced medicines for at least three major slave trade drug suppliers – Alexander Johnston & Company, Devaynes & Company, and James Bogle French.[330] Corbyn, Stacey & Company remained in business until 1927.[331]

Though largely hidden, slave trade pharmacy constitutes a significant component in the genealogy of Britain's pharmaceutical industry and its global network of drugs. The slave trade is occluded in this history not only because of the paucity of surviving business records for pharmaceutical providers, but also because of the unique character of the medical, maritime context. In the latter regard, the pharmaceutical world of a slave ship was by its very nature mobile, transient, temporary, and cyclical. Slave trade merchants often formed temporary investment groups that differed from voyage to voyage.[332] Tracing the presence, let alone the impact, of slave trade pharmacy is challenging due to the commercial organization of the slave trade and the ephemeral presence of many of its participants. When viewed from the perspective of firms begun by Sylvanus Bevan and Thomas Corbyn, who specialized in land-based drug supplies to the Americas, slave trade pharmacy represents an ill-defined niche in larger-scale pharmaceutical manufacturing.

However, when pharmaceutical supplies are viewed within the maritime context,

[329] Porter and Porter, "The Rise of the English Drugs Industry," 291; Anderson, "Pharmacy and Slavery," 14.

[330] WL, MS 5439/12/2 – MS 5439/12/4, Thomas Corbyn & Company, Lists of Customers or Debtors.

[331] Porter and Porter, "The Rise of the English Drugs Industry," 286–93.

[332] Klein, *The Atlantic Slave Trade*, 83.

Britain's slave trade becomes the largest commercial market for privately manufactured maritime medicines in the British Isles. In fact, slave trade pharmacy was truly amphibious in nature; medicines were needed on ship and on shore, at sea and in West African settlements. Medicines were provided for the roughly 11,988 slaving voyages that flew the British flag between 1563 and 1807. Medicines were utilized on board store ships and sloops that traveled between Britain and West Africa. Drugs were shipped to West African forts and settlements in order to provision doctors' stores at slave factories and to be used on board company vessels during often treacherous coastal voyages.[333]

As described earlier, the Royal Navy and the East India Company had similarly large amphibious drug needs, but sourced their medicines through the Society of Apothecaries. In contrast, private businesses throughout British port cities galvanized to meet the high-demands of the slave trade. Constructing a massive mobile shipboard dispensary for each of the thousands of slave ships and store ships that departed British waters became a task of efficiency and production. In Liverpool, Joshua Dixon remarked that providing medicines for even twenty-four slaving voyages a year required the shop to produce a vast amount of medicines.[334] As with the slave ship *Pearl*, the drugs on board weighed nearly four hundred pounds for a single slaving voyage. Similarly, the drugs Markham and Matthews provided for just eight slave ships approximated 1,774 pounds of medicine. It would not be unreasonable to suggest that slave trade drug suppliers produced several million pounds of medicines to support Britain's commerce in African people and stimulated this sector of British manufacturing in significant ways.

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[333] See the Transatlantic Slave Trade Database for slave trading voyages that flew the British flag, query "Flag* = Great Britain."

[334] WL, MS 2196, Joshua Dixon Letterbook, Letter to Mother, October 30, 1764, f. 2-3

Eighteenth-century slave trading richly rewarded the firms of James Goodwin, James Morgan, and Edward Parr, who were adept at larger-scale drug manufacturing and mastered efficiency techniques to keep drug prices competitive. The lucrative nature of the trade created a vibrant and fiercely competitive marketplace, which spawned new legislation in 1724 in an unsuccessful attempt to control the wholesale druggists who were winning the efficiency wars in slave trade drug supply. Through chemical manufacture, wholesaling, and warehouse drug production, individuals like Goodwin, Morgan, and Parr operated sizeable and innovative firms. Goodwin is reported to have made "many Thousands a Year" in his business.[335] Both James Morgan and Edward Parr managed extensive wholesale drug exports to the Caribbean and North American colonies along with slave trade pharmacy. Parr's firm was substantial enough to command thirty-three percent of Liverpool's slave trade drug supply. His investment strategies are a sobering reminder of how slave trade pharmacy undergirded the market for medicines on slave plantations throughout the Americas, and the slave trade provided a steady stream of forced consumers on those plantations. Ultimately, slave trade drug suppliers contributed to the "surge of large-scale manufacturing and marketing which we call the Industrial Revolution."[336] The slave trade lefts its imprint on Britain's medical commerce on a global level, while this same medical commerce flowed through the captive bodies of millions of African people.

The bodies of enslaved children, women, and men connected global drugs with London, Africa, and overseas markets in the Americas. The enslaved consumed Russian castor oil and Turkish rhubarb. African children, women, and men experienced the effects of Indian opium, North African senna, and British lavender oil when they suffered from a variety of illnesses and

[335] Goodwin and Philanthropos, *Reasons, against the Bill, for Viewing, Searching, and Examining of All Drugs, Medicines, &c. Address'd to the Parliament of Great-Britain*, 15.

[336] Ibid., 282.

diseases. While chained on the decks of slave ships, their first experience with the 'new world' was from the cinchona, guaiacum, and ipecacuanha from South America that touched their tongues. Indeed, many of the drugs the enslaved consumed on British slaving vessels were laced with sugar from plantation regimes that would become their new home.[337] Sugar production had wrought destruction upon thousands of captive Africans, yet during their seaborne imprisonment sugar was intended to help keep them alive before its production in the Americas might lead to a premature death. During their waterborne captivity, the enslaved ingested the globe, so to speak, incorporating within them the world order in which they were forced to live and the pharmaceutical markets they helped sustain.[338]

While drug supply for the slave trade enriched the lives of apothecaries, chemists, and druggists, surgeons functioned as the medical infantry on the frontlines of forced drug consumption and human commodification.

[337] Sugar was in several medicines administered to the anonymous African woman who died of dysentery on the slave ship *Alice*. See WAS, ZMZ/2: Slave Ship Alice, Daniel Bushell Medical Journal.

[338] I borrow this idea from social epidemiologist Nancy Krieger and her theory of embodiment. Krieger writes that all living organisms "literally incorporate, biologically, the world in which we live, including our societal and ecological circumstances." See Nancy Krieger, "Embodiment: A Conceptual Glossary for Epidemiology," *Journal of Epidemiology and Community Health* 59, no. 5 (May 1, 2005): 351.

Chapter Two: Paid in Human Flesh

On March 3, 1791, the slave ship *Fame* was anchored off the coast of Sierra Leone in the rocky harbor at the Banana Islands.[339] The Portuguese named the largest of the islands *Isola Salvaza* (Island of Health) as it was renowned for being lush, temperate, and salubrious for European settlers and slave traders.[340] Sick and debilitated Europeans traveled to the Banana Islands from across the West African littoral for healing and restoration.[341] The islands were "a terrestrial Elysium" according to physician and naturalist Henry Smeathman.[342] Natural sea breezes and abundant fruits such as bananas, limes, watermelons, and pineapples made it an inviting retreat.[343]

In the 1790s, slave traders warehoused large numbers of African children in the slave factories on the Banana Islands.[344] These girls and boys likely endowed the geography with a

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[339] For more details on the *Fame* see David Eltis, et al., eds. *The Trans-Atlantic Slave Trade Database*, Voyage Identification #18069, <http://www.slavevoyages.org>, accessed 7 January 2016. For descriptions of the harbor around the Banana Islands see Nicholas Owen, *Journal of a Slave-Dealer: A View of Some Remarkable Axcedents in the Life of Nics. Owen on the Coast of Africa and America from the Year 1746 to the Year 1757*, ed. Eveline Martin, new edition (New York: Routledge, 2009), 29; Alexander Peter Kup, *A History of Sierra Leone: 1400-1787* (New York: Cambridge University Press, 1961), 8.

[340] Adam Afzelius, *Sierra Leone Journal 1795-1796*, ed. Alexander Peter Kup, Studia Ethnographica Upsaliensia 27 (Uppsala, Sweden: Alquist & Wiksells, 1967), 78; Kup, *A History of Sierra Leone*, 8; James Lind, *An Essay on Diseases Incidental to Europeans in Hot Climates with the Method of Preventing Their Fatal Consequences* (London: Printed for T. Becket and P. A. De Hondt, 1768), 225; United States Hydrographic Office, *West Coast of Africa, from Cape Spartel to Cape Agulhas: Including the Islands in the Bight of Biafra, Ascension, St. Helena, Tristan Da Cunha, and Gough Islands*, 2nd ed. (Washington, D.C.: U.S. Government Printing Office, 1893), 119; Curtin, ""The White Man's Grave," 99.

[341] British Library (hereafter, BL), Add MS 41262 A, Correspondence and Papers of Thomas and John Clarkson, Letter from Thomas Clarkson to John Clarkson, July 17, 1792, f. 148.

[342] Letter from Henry Smeathman to John Coakley Lettsom, October 19, 1782 in John Fothergill and John Coakley Lettsom, *The Works of John Fothergill*, vol. 3 (London: Printed for Charles Dilly, 1784), 187.

[343] Owen, *Journal of a Slave-Dealer*, 29; Sean M. Kelley, *The Voyage of the Slave Ship Hare: A Journey into Captivity from Sierra Leone to South Carolina* (Chapel Hill, NC: University of North Carolina Press, 2016), 88.

[344] In the 1790s, a higher percentage of children were captured for the British slave trade in the Sierra Leonean ports of embarkation than for all other West and West-Central African export regions. Herbert Klein and Stanley Engerman calculate that during the 1790s twenty percent of the individuals loaded onto British vessels in the Sierra Leone region were children, in contrast with thirteen percent in the other slave trading zones. See Herbert S. Klein

very different set of meanings. Rather than a therapeutic locale, the chained and captured children would have encountered Sierra Leone as a menacing landscape imbued with pain, confusion, and terror.[345] Kidnappers often preyed upon children when left alone at home by adults who went to labor in the fields.[346] At age eleven, Olaudah Equiano and his sister were seized this way. Equiano wrote, "One day, when all our people were gone out to their works as usual, and only I and my dear sister were left to mind the house, two men and a woman got over our walls, and in a moment seized us both; and, without giving us time to cry out, or make resistance, they stopped our mouths, tied our hands, and ran off with us into the nearest wood."[347]

After several days Equiano and his sister were separated "while we lay clasped in each other's arms; it was in vain that we besought them not to part us: she was torn from me, and immediately carried away, while I was left in a state of distraction not to be described. I cried

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and Stanley L. Engerman, "Slave Mortality on British Ships, 1791-1797," in *Liverpool, the African Slave Trade, and Abolition: Essays to Illustrate Current Knowledge and Research*, ed. Roger Anstey and P. E. H. Hair, Occasional Series - Historic Society of Lancashire and Cheshire (Liverpool: Historic Society of Lancashire and Cheshire, 1976), 119.

For more on children in the late eighteenth-century British slave trade see Audra A. Diptee, "African Children in the British Slave Trade During the Late Eighteenth Century," *Slavery & Abolition* 27, no. 2 (2006): 183–96. For studies that include children in the demographic patterns of the slave trade across national carriers and in relationship with other forms of transoceanic migration see David Eltis and Stanley L. Engerman, "Was the Slave Trade Dominated by Men?," *The Journal of Interdisciplinary History* 23, no. 2 (1992): 237–57; *idem*, "Fluctuations in Sex and Age Ratios in the Transatlantic Slave Trade, 1663-1864," *The Economic History Review* 46, no. 2 (1993): 308–23. For children in the French slave trade see David Geggus, "Sex Ratio, Age and Ethnicity in the Atlantic Slave Trade: Data from French Shipping and Plantation Records," *The Journal of African History* 30, no. 1 (1989): 23–44. For children in the nineteenth-century slave trade in the Bight of Benin see Paul Lovejoy, "The Children of Slavery – the Transatlantic Phase," *Slavery & Abolition* 27, no. 2 (2006): 197–217.

[345] For an anthropological study of the way the Sierra Leonean landscape was transformed during the slave trade and how the slave trade became embedded in the present-day memoryscape of individuals and communities see Rosalind Shaw, *Memories of the Slave Trade: Ritual and the Historical Imagination in Sierra Leone* (Chicago: University of Chicago Press, 2002), 9–12, 68 and in particular see Chapter Three, "Roads to Life, Roads to Death."

[346] Olaudah Equiano, *The Interesting Narrative of the Life of Olaudah Equiano, or Gustavus Vassa, the African*, 9th ed. (London: Printed for the Author, 1794), 31.

[347] Ibid., 32.

and grieved continually; and for several days did not eat any thing but what they forced into my mouth."[348] When Equiano screamed for help slave raiders gagged his mouth to muffle his piercing cries. When he fought against his captors, the men bound his arms and legs and tossed his small body into a large sack, which they carried him in during the first leg of the journey. When exposed to the light of day, Equiano restlessly searched for any chance to escape and return home.[349] By the age of eight one Makua boy enslaved in Mozambique had been sold and resold so many times that he refused to eat and recalled, "I was very, very sad indeed; and, besides, I had no one to play with."[350] The anonymous girls and boys dwelled in a shattered

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[348] Ibid., 33.

[349] Ibid., 31–36. Much debate surrounds the birthplace of Equiano in regard to whether he was born in South Carolina instead of Africa, which, some argue, challenges the authenticity of his narrative. Ethnographic data on Igboland did not exist at that time of Equiano's writing. Some scholars contend that his descriptions and understanding of Igboland and enslavement in the region either came from first-hand knowledge or by interviewing slave trade survivors from the region, which despite his birthplace does not diminish the value and legitimacy of his observations even if the account is not derived from first-hand experience. Vincent Brown writes "whether it represented his personal experience or a composite of life histories gleaned from other formerly enslaved Africans with whom he shared his London milieu, Equiano was accountable for the truth of collective experiences." James Sweet also makes a valuable intervention into the issue writing that categories like "Igbo" and "Carolina" are more helpfully understood as "fluid, socially determined signifiers, rather than as fixed categories." The point being for Sweet that these two aspects of Equiano's self-identity and self-understanding do not necessarily need to be reconciled. See Brown, *The Reaper's Garden*, 278, n. 34; James H. Sweet, "Mistaken Identities? Olaudah Equiano, Domingos Álvares, and the Methodological Challenges of Studying the African Diaspora," *The American Historical Review* 114, no. 2 (2009): 281. See also Gregory E. O'Malley, *Final Passages: The Intercolonial Slave Trade of British America, 1619-1807* (Chapel Hill, NC: University of North Carolina Press, 2014), 32–34.

For Vincent Carretta's study of evidence concerning Equiano's possible South Carolinian heritage see Vincent Carretta, *Equiano, the African: Biography of a Self-Made Man* (Athens, GA: University of Georgia Press, 2005), xiv–xvi; "Questioning the Identity of Olaudah Equiano, or Gustavus Vassa, the African," in *The Global Eighteenth Century*, ed. Felicity Nussbaum (Baltimore, MD: Johns Hopkins University Press, 2003), 226–38. For responses to Carretta that argue in favor of Equiano's Igbo heritage see for example Paul E. Lovejoy, "Autobiography and Memory: Gustavus Vassa, Alias Olaudah Equiano, the African," *Slavery & Abolition* 27, no. 3 (December 1, 2006): 317–47; "Issues of Motivation – Vassa/Equiano and Carretta's Critique of the Evidence," *Slavery & Abolition* 28, no. 1 (April 2007): 121–25; Alexander X. Byrd, "Eboe, Country, Nation, and Gustavus Vassa's 'Interesting Narrative,'" *The William and Mary Quarterly*, Third Series, 63, no. 1 (January 1, 2006): 123–48. For Carretta's overview of the debate and his 2013 response see Vincent Carretta, "Methodology in the Making and Reception of *Equiano*," in *Biography and the Black Atlantic*, ed. Lisa A. Lindsay and John Wood Sweet (Philadelphia, PA: University of Pennsylvania Press, 2013), 172–91.

[350] Arthur Cornwallis Madan, trans. and ed., *Kiungani: Or Story and History from Central Africa: Written by Boys in the Schools of the Universities' Mission to Central Africa* (London: George Bell and Sons, 1887), 41 quoted in Edward A. Alpers, "The Other Middle Passage: The African Slave Trade in the Indian Ocean," in *Many Middle Passages: Forced Migration and the Making of the Modern World*, ed. Emma Christopher, Cassandra Pybus, and

world.

While in captivity, ill health afflicted the girls and boys. Their lives were not only dismembered but also their flesh. The "seared, divided, ripped-apartness" of the children's bodies through being branded, beaten, muzzled, and crumpled up into sacks was also marked by internal physiological distress.[351] One enslaved boy on the slave ship *Fame* suffered from an eighteen-foot-long tapeworm, and his young body was slowly being ravaged by the intestinal parasite.[352] Described during the eighteenth century as "monstrous vermin" with fangs, the tapeworm has a flat, segmented body with a scolex, or attachment organ, which the worm uses to attach itself to the mucous membrane of the intestine.[353] With a distended stomach, abdominal pain, and an irregular pulse, the child would have been in a wretched state of discomfort.[354] The young boy's condition shifted between painful constipation and slimy stools. His frequent vomiting, perpetual thirst, and deep dry coughs kept him fitfully awake.

We do not know how the child came to be on board the "floating dungeon" and separated from home, family, and kin.[355] The boy may have reached the Banana Islands by way of Fula

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Marcus Rediker (Berkeley: University of California Press, 2007), 27.

[351] Hortense J. Spillers, "Mama's Baby, Papa's Maybe: An American Grammar Book," *Diacritics* 17, no. 2 (1987): 67.

[352] TNA, James Rogers' Papers, C 107/5, Letter from William Dineley to James Rogers, March 3, 1791. "Worm sickness" was a common ailment for children in the Sierra Leone region. See Thomas Masterman Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone: To Which Is Added an Account of the Present State of Medicine Among Them*, vol. 2 (London: Printed by C. Whittingham, 1803), 26.

[353] Charles Bisset, *Medical Essays and Observations* (Newcastle upon Tyne: Printed by I. Thompson, 1766), 188; Alvan Edmond Small, *A Systematic Treatise on the Practice of Medicine* (Chicago, IL: Duncan Brothers, 1886), 212; Sumeeta Khurana and Kapil Goyal, "Human Intestinal Cestodes," in *Infections of the Gastrointestinal System*, ed. Chetana Vaishnavi (Philadelphia, PA: Jaypee Brothers Medical Publishers, 2013), 408.

[354] Michael Underwood, *A Treatise on the Diseases of Children, with Directions for the Management of Infants from the Birth, Especially Such as Are Brought up by Hand* (London: Printed for J. Mathews, 1784), 147–148.

[355] Slave ship mariner, writer, actor, and abolitionist James Field Stanfield described the slave ship as a floating dungeon in James Field Stanfield, *The Guinea Voyage: A Poem in Three Books* (London: Printed and sold by James Phillips, 1789), 26. See also chapter 5, "James Field Stanfield and the Floating Dungeon," in Marcus Rediker, *The*

traffickers.[356] Writing from Sierra Leone, physician Thomas Winterbottom observed that the captives sold by Fula slave raiders were frequently infested with tapeworms because of the long trek to the coast, the labor they were forced to perform during the journey, and their "scanty and wretched diet."[357] Our only knowledge of the child comes from William Dineley, the Scottish surgeon of the slave ship *Fame* who was the young boy's doctor and captor. In a letter from the Banana Islands, Dineley wrote his employer James Rogers of having successfully cured the boy of "a tape Worm 18 feet in length."[358] Dineley administered tartar emetic, a chemical salt compound to the child, possibly along with other drugs. In the end, "the boy quited [quitted]" the worm, likely through vomit and defecation. The surgeon added, "no person wou'd [would] have given 5s [shillings] for him, now he is worth 40£."[359]

It might seem as if William Dineley was an old hand in the slaving business. The surgeon nimbly translated his therapeutic success into the lexicon of human commodification. He displayed knowledge of the prices paid for the imprisoned human bodies he surveilled, preserved, and restored on board ship. As such, the surgeon was able to ascribe monetary value to the boy down to the shilling and the pound in anticipation of the child's sale in the Jamaican market economy where the *Fame* would deposit her human cargo. Dineley enabled the boy's recovery and simultaneously maximized his saleable potential. He expelled the invasive,

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Slave Ship: A Human History (New York: Viking, 2007), 132–156.

[356] For more on the Fula (also referred to as Fulani or Fulbe) see Suzanne Schwarz, "Commerce, Civilization and Christianity: The Development of the Sierra Leone Company," in *Liverpool and Transatlantic Slavery*, ed. David Richardson, Anthony Tibbles, and Suzanne Schwarz (Liverpool, U.K.: Liverpool University Press, 2007), 261–66; Bruce Mouser, "Rebellion, Marronage and Jihad: Strategies of Resistance to Slavery on the Sierra Leone Coast, c. 1783-1796," *Journal of African History* 48, no. 1 (2007): 27–44; Walter Hawthorne, *From Africa to Brazil: Culture, Identity, and an Atlantic Slave Trade, 1600-1830* (New York: Cambridge University Press, 2010), 62–72.

[357] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:27.

[358] TNA, James Rogers' Papers, C 107/5, Letter from William Dineley to James Rogers, March 3, 1791.

[359] Ibid.

intestinal parasite from the youngster's body so that it no longer fed upon him. At the same time, the surgeon subjected the child to other forms of parasitic economic relations, which would feed off the boy's increased capacity to labor and his value as a liquid asset.[360]

One might imagine that a surgeon, a medical man, a healer who could so readily transpose sick individuals into saleable objects would be experienced in the dehumanizing social relations that structured the slave trade. After all, this was not your typical "patient care." However, serving on board the *Fame* was William Dineley's first voyage and the young boy was his first patient.[361] The surgeon had worked in private practice prior to slave trade employment.[362] He was a husband and father. William Dineley, his wife Jane, and their seven children lived in Dumfries, a flourishing market town in southwest Scotland.[363] Yet, Dineley rapidly adapted to slave trade medical practice and transformed the sick, frightened child into a vendible good. The surgeon communicated the scope and function of his medical practice quite clearly to his new employer writing, "nothing in my Power shall be wanting to contribute to your Interest during this Voyage."[364] Dineley's clinical success increased the value of his employer's property and put money in his own pocket. The surgeon was proud of having attended so

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[360] For examples of the kinds of labor performed by children in the eighteenth-century British Caribbean see Jerome Teelucksingh, "The 'Invisible Child' in British West Indian Slavery," *Slavery & Abolition* 27, no. 2 (August 1, 2006): 242–244. For the use of slaves as liquid assets, including the financial role they played in alleviating debt-ridden plantations see Vincent Brown, *The Reaper's Garden: Death and Power in the World of Atlantic Slavery* (Cambridge, MA: Harvard University Press, 2008), 106. For the literary use of the metaphor of parasites in reimagining the slave trade in West African literature see Laura Murphy, *Metaphor and the Slave Trade in West African Literature* (Athens, Ohio: Ohio University Press, 2012), 28.

[361] TNA, James Rogers' Papers, C 107/9, Letter from William Dineley to James Rogers, November 7, 1790; and, C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, June 28, 1791.

[362] Ibid., C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, June 28, 1791.

[363] Ibid., C 107/9, Letter from William Dineley to James Rogers, November 7, 1790. For a description of the town of Dumfries as it was in the late eighteenth century see Robert Heron, *Scotland Described: Or, a Topographical Description of All the Counties of Scotland, with the Northern and Western Isles Belonging to It* (Edinburgh: Printed by John Moir, 1797), 51.

[364] TNA, James Rogers' Papers, C 107/5, Letter from William Dineley to James Rogers, March 3, 1791.

profitably to the human cargo incarcerated on board the *Fame*.

Surgeon William Dineley, father of seven and husband to Jane, is our narrative route into a discussion of how medical labor was mobilized to meet the needs of slave trade merchants. Over the course of the eighteenth century, Britain's expanding seaborne commerce with the African continent impacted tens of thousands of medical practitioners. English merchants established a long tradition of hiring surgeons and surgeons' mates to serve on board vessels bound for Africa. From the earliest English voyages to Africa in the 1550s, surgeons along with surgeons' mates worked on behalf of trade with Guinea.[365] In 1768, after having made ten slaving voyages first as ship's surgeon and later as captain, Walter Robe testified that "he always apprehended the Custom and usage to be for the owners of Ships in the Affrican Trade to find a Surgeon or Doctor for the use of the Ships Company."[366] The cadre of medical laborers on board the roughly 11,988 slaving voyages that flew the British flag between 1563 and 1807, and the thousands of others who practiced medicine in British forts and settlements in West Africa represent a sizeable population of whom we know relatively little.[367] From Douglass in the Isle of Man, to Glasgow, Dumfries, London, Bristol, and Liverpool the medical personnel of the

[365] For nearly 250 years, surgeons were a consistent feature of England's, and later Britain's, trade with West Africa. From the time of the Tudors in the 1550s, sea surgeons and surgeons' mates were among the personnel hired to serve on board the nation's earliest trading ventures to the African coast. J. D. Alsop discovered evidence of sea surgeons engaged in the Guinea trade as early as 1553, which was the first documented English sea voyage solely to equatorial Africa. Earlier voyages from the 1530s made calls to West African ports on their way to Brazil. J. D. Alsop, "Sea Surgeons, Health and England's Maritime Expansion: The West African Trade 1553-1660," *The Mariner's Mirror* 76, no. 3 (1990): 215–21; J. D. Alsop and P. E. H. Hair, *English Seamen and Traders in Guinea, 1553-1565: The New Evidence of Their Wills*, Studies in British History ; v. 31 (Lewiston, NY: E. Mellen Press, 1992); and, J. D. Alsop, "Tudor Merchant Seafarers in the Early Guinea Trade," in *The Social History of English Seamen, 1485-1649*, ed. Cheryl A. Fury (Rochester, NY: Boydell & Brewer, 2012), 75–116.

[366] TNA, E 134/8Geo3/East9, Exchequer: King's Remembrancer: Depositions taken by Commission; Interrogatories, Depositions Taken at Bristol 18 April, 8 Geo 3, 1768, John Lean v. Edward Nicholas, William Tombs, Thomas Longden, John Fowler, John Vaughan the Young, Thomas Eastern the Young.

[367] See the Transatlantic Slave Trade Database for slave trading voyages that flew the British flag, query "Flag* = Great Britain."

slave trade emerged from port cities, market towns, and villages across the British Isles.

While the *presence* of slave ship surgeons has been established in the historiography, other than a broad understanding of their general tasks and salaries we have little knowledge of how individuals like Jane and William Dineley came to orient their lives, livelihoods, and household economies around Britain's commerce in African people.[368] The absence is striking given that health was a vital commodity in the commercial exigencies of slave trading. Indeed, health was one of the pillars upon which the slave trade relied, and the daily labor of slave trade surgeons functioned at the vertiginous intersection between biology and economics that undergirded the Atlantic slave trade.

Scattered across over a hundred years of slave trade merchants' records, a body of correspondence survives which reveals that slave trade medicine was carried out by surgeons who often existed on the perilous edges of the medical profession and were struggling to survive. Unlike practitioners of slave trade pharmacy who were among the politically and socially connected and basked in the heady atmosphere of pharmaceutical profiteering driven by a culture ensconced in the virtues of drug consumption, slave trade surgeons used their employment to cobble together a medical living. Often trying to save their families from financial distress, the medical management of the slave trade thrived, in part, upon their desperation. Slave traders offered lucrative compensation to surgeons willing to practice a form of medicine that was

[368] The classic text on slave trade surgeons is the chapter, "Guinea Surgeons," in Richard Sheridan's 1985 *Doctors and Slaves A Medical and Demographic History of Slavery in the British West Indies, 1680-1834* (New York, NY: Cambridge University Press, 1985), 98-126. See also Sheridan's essay on which the chapter is based in Richard B. Sheridan, "The Guinea Surgeons on the Middle Passage: The Provision of Medical Services in the British Slave Trade," *The International Journal of African Historical Studies* 14, no. 4 (January 1981): 601–25. Sheridan built upon two brief articles by William N. Boog Watson written in 1969 and 1970. See Watson, "Four Monopolies and the Surgeons of London and Edinburgh"; Watson, "The Guinea Trade and Some of Its Surgeons, with Special Reference to the Royal College of Surgeons of Edinburgh." Stephen Behrendt has produced the most recent new knowledge about slave ship surgeons within the context of other forms of paid slave trade labor. See Behrendt, "Human Capital in the British Slave Trade." Behrendt's 1993 dissertation remains an invaluable study of slave ship surgeons' backgrounds and education in the late eighteenth century. See Behrendt, "The British Slave Trade, 1785-1807."

entrenched in violence, laced with medical brutality, and incentivized the utter dehumanization of the human beings under their care.

Slave trade surgeons provide an opportunity to consider the nature of economic self-interest and the culture of money in eighteenth-century medical practice more broadly and in the slave trade in particular. In a profession that has long struggled to balance disinterested altruism and the financial realities of life, the eighteenth century represented a new moment in the ethical dimensions of British medicine as professional medical ethics began to take root towards the end of the century. Scottish physician John Gregory wrote in 1770, in one of the earliest British texts concerning professional medical ethics, "Medicine may be considered either as an art the most beneficial and important to mankind, or as a trade by which a considerable body of men gain their subsistence."[369] Gregory believed that medicine's beneficence and a doctor's financial survival need not exist in opposition but could dwell harmoniously in the lives of medical practitioners. However, in the context of the slave trade, at least a few slave trade surgeons challenged such as view after having been paid in human flesh.

Jane and William Dineley: A Medical Family in Distress

When slave trade merchant James Rogers & Company of Bristol went bankrupt in 1793, his financial ruin left behind fifteen boxes of uncatalogued manuscript papers which contain over 35,000 original items.[370] Scattered across the multiple boxes and hidden amongst thousands of records, Jane Dineley and her husband William surreptitiously enter the historical record. The dusty, chaotic boxes contain seven letters written by Jane. The orthography amplifies her

[369] John Gregory, *Observations on the Duties and Offices of a Physician, and on the Method of Prosecuting Enquiries in Philosophy* (London: Printed for W. Strahan and T. Cadell, 1770), 9.

[370] For more on James Rogers' bankruptcy see Rawley and Behrendt, *The Transatlantic Slave Trade*; Morgan, "James Rogers and the Bristol Slave Trade."

Scottish brogue as "yow" and "yew" carefully grace the pages. William authored five letters that crisscrossed the Atlantic from port cities, slave ships, and coastal locales on three continents – an amphibious territory fused together by the iron chains that encircled the limbs and necks of the captive Africans he doctored for sale.[371] The existence of the Dineleys' correspondence offers a unique glimpse into a medical family who pinned their fragile hopes for survival upon the slave trade.

The Dineleys lived in Dumfries, which was a royal burgh and served as capital of the county of Dumfriesshire.[372] Located on the left bank of the River Nith, over seven thousand inhabitants resided in the market town in the late eighteenth century making it the seventh largest town in Scotland.[373] Jane and William were raising their seven children in a thriving commercial center with a bustling shipping port. The provincial metropolis enjoyed increasing wealth and population over the course of the century.[374] A circulating library, popular theatre, and bookshops gave the town the air of a well-to-do, seaport city.[375] The Dineleys likely spent time

[371] There are also four letters written on behalf of the Dineleys. See in chronological order TNA, James Rogers' Papers, C 107/9, Letter from William Dineley to James Rogers, October 11, 1790; C 107/9, Letter from William Dineley to James Rogers, November 7, 1790; C 107/5, Letter from Jane Dineley to James Rogers, December 19, 1790; C 107/10, Letter from Jane Dineley to James Rogers, January 15, 1791; C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, February 5, 1791; C 107/5, Letter from William Dineley, March 3, 1791; C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, April 4, 1791; C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, June 28, 1791; C 107/10, Letter from Jane Dineley to James Rogers, July 9, 1791; C 107/5, Letter from William Dineley, July 18, 1791; C 107/5, Letter from William Dineley to James Rogers, September 10, 1791; C 107/7, pt. 1, Letter from Jane Dineley to James Rogers, October 7, 1791; C 107/7, pt. 1, Letter from George Duncan to James Rogers, October 28, 1791; C 107/5, Letter from William Dineley to James Rogers, November 6, 1791; C 107/7, pt. 1, Letter from Samuel Clark, Jr. to James Rogers, November 28, 1791; C 107/10, Letter from Thomas Moses to James Rogers, January 21, 1792; C 107/7, pt. 1, Letter from Alexander Kemp to James Rogers, April 16, 1763.

[372] Robert Chambers and William Chambers, *The Gazetteer of Scotland* (Edinburgh: Printed by Balfour and Jack, 1836), 215. Today, Dumfries is part of the council area of Dumfries and Galloway.

[373] David Webster, *A Topographical Dictionary of Scotland* (Edinburgh: Peter Hill and Company, 1819), 192–93; Chambers and Chambers, *The Gazetteer of Scotland*, 217.

[374] Webster, *A Topographical Dictionary of Scotland*, 192; Chambers and Chambers, *The Gazetteer of Scotland*, 215, 217.

[375] Chambers and Chambers, *The Gazetteer of Scotland*, 217–18.

with the children strolling along the winding, tree-lined banks of the River Nith, observing the swans,taking in the fishermen catching salmon and trout, and traversing High Street with its brick and sandstone buildings and well-appointed shops.[376] Jane would have frequented the weekly markets on Wednesdays and Saturdays when she needed to purchase fresh meat, fish, eggs, potatoes, or other household items like coal.[377]

Energies toward self-improvement and an overall increase in population health occurred throughout Scotland during this period due to better clothing, housing, sanitation, and access to less expensive foods like the potato.[378] Dumfries appears to have reflected some of these developments. Although an open sewer was liable to flooding and consumption and rheumatism were frequent complaints, one contemporary observer described the town as having a "more elevated and polished tone to the manners and general character of the inhabitants" than in other parts of Scotland.[379] Poet Robert Burns resided in the town during the end of his life, from 1791 to 1796, which added a tinge of literary celebrity to Dumfries.[380] Increased well-being and a rising middle class of merchants and professionals expanded the potential clientele available for surgeons, surgeon-apothecaries, and physicians.[381]

William established a private practice in Dumfries and Jane wrote that his circumstances,

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[376] Robert Forsyth, *The Beauties of Scotland*, vol. II (Edinburgh: Printed for Thomson Bonar and John Brown, 1805), 263; Robert Crawford, *The Bard: Robert Burns, a Biography* (Princeton, NJ: Princeton University Press, 2009), 338.

[377] Forsyth, *The Beauties of Scotland*, II:265.

[378] David Hamilton, *The Healers: A History of Medicine in Scotland* (Edinburgh: Canongate Publishing, 1999), 91, 94.

[379] Chambers and Chambers, *The Gazetteer of Scotland*, 215; Webster, *A Topographical Dictionary of Scotland*, 193; Crawford, *The Bard*, 337.

[380] Chambers and Chambers, *The Gazetteer of Scotland*, 217; Crawford, *The Bard*, 337.

[381] Hamilton, *The Healers*, 97.

"tho' not affluent, were yet sufficient to support his family in a genteel and creditable manner."[382] Dumfries was something of an ideal locale for private practice in Scotland. During the eighteenth century Scotland had far fewer affluent patients to support medical practitioners than further south in England.[383] It was notoriously difficulty for Scottish medical men to make a living in the domestic medical marketplace, which in part led to their over-representation in the Royal Navy.[384] Although only ten percent of the British population lived in Scotland according to the 1811 census, Scots represented nearly forty percent of naval surgeons during the French wars.[385] However, Dumfries was known for having monied and titled residents. It also boasted a relatively well-educated populace who might be more inclined to seek professional medical assistance rather than rely on kitchen physic or the services of a local herb women or clergyman. Significant numbers of students were regular attendees at the University of Edinburgh and Glasgow.[386] Over three hundred adults and children attend a free school in the town. [387] In addition to serving paying patients, William would have dedicated some of his time visiting the sick in the Poor House, which was established in 1753, and making rounds at the voluntary hospital in Dumfries – the only such institution south of Edinburgh at this time.[388]

Something, however, went wrong with William's practice. He somehow lost his

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[382] TNA, C107/7, pt. 2, Letter from Jane Dineley to James Rogers, 28 June 1791.

[383] M. John Cardwell, "Royal Naval Surgeons, 1793-1815: A Collective Biography," in *Health and Medicine at Sea, 1700-1900*, ed. David Boyd Haycock and Sally Archer (Rochester, NY: Boydell Press, 2009), 54; Laurence W. B. Brockliss, John Stewart Cardwell, and Michael Moss, *Nelson's Surgeon: William Beatty, Naval Medicine, and the Battle of Trafalgar* (New York: Oxford University Press, 2005), 23.

[384] Brockliss, Cardwell, and Moss, *Nelson's Surgeon*, 23.

[385] Cardwell, "Royal Naval Surgeons," 40, 54.

[386] Chambers and Chambers, *The Gazetteer of Scotland*, 218.

[387] Ibid., 219.

[388] Ibid.; Hamilton, *The Healers*, 105–6.

livelihood and had no way to support Jane and their seven children. What transpired in his professional life is unknown. His reputation may have been damaged through a medical error or a social *faux pas*, or he may have been driven out of business due to competition. The domestic medical marketplace in Britain was "an economic free-for-all."[389] There was fierce competition for patients.[390] Breaking into local entrenched medical establishments, garnering a good reputation, attracting patrons, and keeping a steady supply of paying patients entering your doors took a great deal of time, economic and social resources, "marketing flair," and ingenuity.[391] James Mundell and Samuel Shortridge were both practicing surgeons in Dumfries during this period.[392] Perhaps there was conflict among the men. It may have been the case that William did not have enough social capital and influence to withstand serious competitors who had stronger connections within the local medical establishment than he and Jane.[393] What is clear is that in autumn of 1790, William Dineley had lost his ability to make a medical living in Dumfries and traveled to Liverpool to seek work as a surgeon on a slave ship.[394]

Slave trade surgeons often moved specifically to Liverpool because of the availability of Guineamen setting sail for the African coast. Liverpool was the bustling mercantile center of Britain's late eighteenth century slave trade.[395] Gun makers, carpenters, sugar bakers,

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[389] Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol*, 10.

[390] Digby, *Making a Medical Living,* 7, 19.

[391] Penelope J. Corfield, *Power and the Professions in Britain, 1700-1850* (New York: Routledge, 2002), 143; Digby, *Making a Medical Living*, 41.

[392] Cardwell, "Royal Naval Surgeons," 46.

[393] Ibid., 54.

[394] TNA, James Rogers' Papers, C 107/9, Letter from William Dineley to James Rogers, October 11, 1790.

[395] For Liverpool's dominance in the late eighteenth-century slave trade see Morgan, "Liverpool's Dominance in the British Slave Trade, 1740-1807"; Behrendt, "Human Capital in the British Slave Trade"; D. P. Lamb, "Volume and Tonnage of the Liverpool Slave Trade, 1772-1807," in *Liverpool, the African Slave Trade, and Abolition: Essays to*

sailmakers, coopers, and apothecaries like Edward Parr, discussed in the previous chapter, were among the slave trade workers who permeated the bustling metropolis.[396] Jane Longmore estimates that by 1790, one in eight individuals and their families in Liverpool made their living from the slave trade.[397] Slave trade merchants knew that fitting out their vessels in Liverpool, would better enable them to assemble their crews, find experienced captains and surgeons, and have the best assortments of trade goods necessary to barter for African lives.[398] William's efforts to find employment in Liverpool were successful. On October 12, 1790, William traveled from Liverpool to Bristol to embark on the slave ship *Fame*.[399] The following month he departed for Africa.

A significant number of Dumfries surgeons were active in the Liverpool slave trade during the later eighteenth century, and several consequential Liverpool merchants hailed from Dumfriesshire.[400] The slave trade was not unfamiliar to Scottish surgeons. Approximately two in five slave ship surgeons were Scotsmen.[401] However it wasn't easy for Jane or William to make the decision to enter into slave trade employment. William wrote, it is "a hardship leaving

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Illustrate Current Knowledge and Research, ed. Roger Anstey and P. E. H. Hair, Occasional Series - Historic Society of Lancashire and Cheshire (Liverpool: Historic Society of Lancashire and Cheshire, 1976), 91–113. For a useful reappraisal of London's relationship to the slave trade in the late eighteenth century see Rawley, *London, Metropolis of the Slave Trade*, 18–38.

[396] Longmore, "'Cemented by the Blood of a Negro'? The Impact of the Slave Trade on Eighteenth-Century Liverpool," 242–45. Edward Parr is discussed in Chapter One.

[397] Ibid., 243.

[398] Behrendt, "Human Capital in the British Slave Trade," 66–67.

[399] TNA, James Rogers' Papers, Letter from William Dineley to James Rogers, October 11, 1790.

[400] Schwarz, *Slave Captain*, 11; F. E. Sanderson, "The Liverpool Abolitionists," in *Liverpool, the African Slave Trade, and Abolition: Essays to Illustrate Current Knowledge and Research*, ed. Roger Anstey and P. E. H. Hair, Occasional Series - Historic Society of Lancashire and Cheshire (Liverpool: Historic Society of Lancashire and Cheshire, 1976), 203. The Dumfries merchants Sanderson identified are James Currie, George Dunbar, Edgar Corrie, and William Ewart.

[401] Behrendt, "The British Slave Trade, 1785-1807," 177.

such a family, but for many reasons its a Duty incumbent upon me to hazard myself for them."[402] The *Dumfries Weekly Magazine* published accounts of shipboard slave insurrections narrated by doctors engaged in armed and bloody combat with the enslaved. Vivid descriptions of African war cries, gun fire, and in one instance an account of how mariners sodomized an enslaved rebel with a hot poker in days'-long acts of brutality entered the Scottish imagination.[403] Some Dumfries surgeons like John Wright, hid his slave trade employment from his parents because of the hazardous nature of the employment. "I only wrote my Father I was going to Sea, but did not mention Guinea as I thought it would give an alarm, nor do I want it possible that they should know but that Im gone to the West Indies," Wright explained.[404]

The Dineleys may even have had a sense of the high mortality rates visited upon slave trade surgeons when sons, brothers, and fathers failed to return home, and widows and other family members struggled to rebuild their lives. Out of all crewmen on board slave ships, surgeons had the highest level of mortality.[405] One in four perished during the voyage.[406] The Dineleys, however, were desperate and took the risk. Jane wrote, "various vicissitudes of fortune drove him to seek the means of livelihood which he now enjoys. From this he was induced to hope that he might yet do something for his distressed family entirely relying on his industry."[407]

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[402] Ibid., November 7, 1790.

[403] "An Account of an Insurrection of the Slaves on Board the *Lord Cassils*," *Dumfries Weekly Magazine*, July 5, 1773.

[404] Dumfries Archives Centre (hereafter, DAC), GGD 498/2/5, Reid Collection, Miscellaneous Items, Letter to John Ferguson from John Wright, May 8, 1771.

[405] Stephen D. Behrendt, "Crew Mortality in the Transatlantic Slave Trade in the Eighteenth Century," *Slavery & Abolition* 18 (April 1997): 60.

[406] Ibid. See also slave ship surgeon Elliot Arthy who remarked similarly that in his experience nearly half the surgeons who worked on board slave ships died. Elliot Arthy, *The Seaman's Medical Advocate* (London: Printed for Messrs. Richardson and Mr. Egerton, 1798), 113.

[407] TNA, C107/7, pt. 2, Letter from Jane Dineley to James Rogers, 28 June 1791.

The Dineleys present an interpretative puzzle. As historian Margaret Pelling observed, "the economic importance of medicine is still often underplayed in historical reconstructions, as are its insecurities and its relationship with other areas of economic life."[408] Much of the literature on eighteenth-century British medical practice focuses on the profusion of profitable employment options that were available.[409] The historiography emphasizes increased demand for medical services and the emergence of new professional opportunities for apothecaries and surgeons who were the "medical infantry."[410] Upward mobility was newly attainable for those who chose to enter the practice of medicine. As discussed in the previous chapter, many apothecaries, chemists, and druggists were made flush by increasing medical and pharmaceutical consumption. While London's "surgeon-princes" had always prospered, provincial surgeons and surgeon-apothecaries were "one of the eighteenth century's most interesting examples of

[408] Margaret Pelling, "Scenes from Professional Life: Medicine, Moral Conduct, and Connectedness in *Middlemarch*," in *Politics and Culture in Victorian Britain : Essays in Memory of Colin Matthew: Essays in Memory of Colin Matthew*, ed. Peter Ghosh and Lawrence Goldman (New York: Oxford University Press, 2006), 222. For many decades, historians have called for deeper attention to the economic dimensions of medicine. In 1982, Pelling wrote that "few of the economic aspects of medicine have received the attention they deserve from historians," adding that "economic historians have conspired with historians of medicine to minimise the role played by medical practitioners in the wider social and economic context." In 1994, Anne Digby observed that "the economic history of medicine is a strangely neglected field." Steven King, in 2006, wrote that Anne Digby's research agenda has largely not been followed up and "the economics of doctoring" remains understudied. See Pelling, "Occupational Diversity," 486; Digby, *Making a Medical Living*, 1; King, "Accessing Drugs in the Eighteenth-Century Regions," 51. In addition to Anne Digby's seminal work, other studies of seventeenth- and eighteenth-century medical practitioners who existed in the artisanal middle or below, and which include discussions of their business practices and economic survival strategies are Loudon, *Medical Care and the General Practitioner, 1750-1850*; Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol*; Margaret Pelling, *The Common Lot : Sickness, Medical Occupations, and the Urban Poor in Early Modern England* (London: Longman, 1998).

[409] Although much of this scholarship focuses on the second half of the eighteenth century, historians who study the early modern period have noted changes in the provision of medical services and increased consumer activity from the time of the Restoration. See for example Earle, *The Making of the English Middle Class*, 70; Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," 17, 22; Curth, "Medical Advertising in the Popular Press."

[410] Earle, *The Making of the English Middle Class*, 70; Fissell, *Patients, Power and the Poor*, 48–50; Digby, *Making a Medical Living*, 27–30; Holmes and Szechi, *The Age of Oligarchy*, 154–56.

personal and professional upward social mobility and of steadily enhanced status."[411] Indeed, over the course of the eighteenth century prosperity has been defined as "the outstanding feature of ordinary medical practice."[412] Generalizations such as these, however, can occlude the diverse life experiences present within the medical profession and the wrenching struggles endured by those who defied the upward trend.[413] Despite the historiographical emphasis on prosperity, opportunity, and social mobility, historian Irvine Loudon writes that "one would not want to exaggerate the picture of relative wealth. Beneath the respectable carpet of medical prosperity one can speculate that there may have been an underfelt poor...about whom few records survive."[414]

The slave trade eliminates such speculation, as desparate men like William Dineley demonstrate. Little attention has been given to those for whom prosperity was momentarily, or perpetually, out of reach; those struggling to avoid being on the cusp of poverty; and those who could not afford to set up local shops and surgeries and enter the competitive arena. Their pay was quite literally bread in their mouths and moving past bare-knuckled subsistence was the goal. Slave trade surgeons only become visible and legible within eighteenth-century medicine when medical practice is viewed from the vantage point of poverty rather than prosperity and when consideration is given to a medical labor marketplace that offered little security for many

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[411] Joan Lane, "The Role of Apprenticeship in Eighteenth-Century Medical Education in England," in *William Hunter and the Eighteenth-Century Medical World*, ed. W. F. Bynum and Roy Porter (New York: Cambridge University Press, 1985), 58.

[412] Loudon, *Medical Care and the General Practitioner*, 71.

[413] Craig Muldrew, "Economic and Urban Development," in *A Companion to Stuart Britain*, ed. Barry Coward (Malden, MA: Blackwell Publishing, 2003), 163–64.

[414] Loudon, *Medical Care and the General Practitioner*, 102. See also Craig Muldrew who rightly suggests "most occupational groups contained wealthy as well as poor artisans." Although writing about brewers, mercers, and grocers, this would seem to be true for the learned occupations as well. Muldrew, "Economic and Urban Development," 160.

among the rank-and-file. Even in 1790, when many British medical practitioners were reaping the benefits of decades of income increases, the African Company noted that the assistant surgeons they hired for the slave factories in West Africa were in such "indigent Circumstances...they are unable to purchase such Cloths and Necessaries, as they ought to be provided with" before their departure.[415] Some surgeons entered slave trade medical service with barely more than the clothes on their backs. As Alexander Falconbridge explained, "surgeons employed in the Guinea trade, are generally driven to engage in so disagreeable an employ by the confined state of their finances."[416]

The Struggling Surgeon's Dilemma

In 1705, eighty-five years before William Dineley's voyage on the slave ship *Fame,* surgeon Lawrence Quyneo departed London for West Africa on a slave ship also christened *Fame*.[417] This voyage of the *Fame* was under the auspices of the Royal African Company who had hired the vessel to transport enslaved people from the Gold Coast and the Bight of Benin to Barbados.[418] Despite England being at war, diplomatic tensions with the King of Ouidah, and inadequate battleships protecting English slaving on the African coast, the *Fame* made a successful voyage.[419] The vessel arrived in Barbados on June 16, 1706, having trafficked nearly

[415] TNA, T70/146, Minutes Books, 1787-1792, Minutes, September 1, 170, f. 195-196.

[416] Alexander Falconbridge, *An Account of the Slave Trade on the Coast of Africa* (London: Printed by J. Phillips, 1788), 28. See also Watson, "Four Monopolies and the Surgeons of London and Edinburgh," 315; Sheridan, *Doctors and Slaves*, 109.

[417] For additional voyage data see David Eltis, et al., eds. *The Trans-Atlantic Slave Trade Database*, Voyage Identification #20340, <http://www.slavevoyages.org>, accessed 22 January 2016.

[418] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter from the Royal African Company to Dalby Thomas, February 5, 1705, f. 85.

[419] During this period, England (and later Britain after the 1707 Act of Union) was engaged in the War of the Spanish Succession (1702-1713). The war represents a signal moment in the development of Britain's status as a major power, and the war's resolution through the Treaty of Utrecht included winning Spain's coveted asiento

seven hundred enslaved people to the Americas.[420] Eighty-percent of the captured Africans were men in good health, and the company was satisfied with the assortment of human beings who would be sold.[421] When slave ship surgeon Lawrence Quyneo was discharged from the *Fame,* he made a bold move. With the *Fame's* success to his credit, the surgeon paid for his passage back to Africa, arrived at Cape Coast Castle, requested to be chief surgeon at the fort, and was hired.[422] Within two years, Quyneo had shifted between the slave trade's maritime medical labor

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contract to traffick enslaved Africans to the Spanish Americas. For a helpful discussion of how the war established a strategic model for Britain's future war making in the eighteenth century see Jamel Ostwald, "Creating the British Way of War: English Strategy in the War of the Spanish Succession," in *Successful Strategies: Triumphing in War and Peace from Antiquity to the Present*, ed. Williamson Murray and Richard Hart Sinnreich (New York: Cambridge University Press, 2014), 100–129. For an overview of the war from a maritime perspective that foregrounds its economic significance, including its relevance to the slave trade see chapter 2, "The Idea of Economic Advantages of Maritime War in Spanish America," in Shinsuke Satsuma, *Britain and Colonial Maritime War in the Early Eighteenth Century: Silver, Seapower and the Atlantic* (Rochester, NY: Boydell & Brewer Ltd, 2013); and, James A. Rawley and Stephen D. Behrendt, *The Transatlantic Slave Trade: A History* (Omaha: University of Nebraska Press, 2005), 59–61.

Ouidah was located on what the Europeans dubbed the 'Slave Coast,' and was one of the most significant ports of embarkation for slave trading during this period. By the 1690s, approximately ten thousands enslaved children, women, and men were annually shipped from the region. The *Fame's* voyage occurred during the port's peak years between 1700 and 1713, when roughly fifteen thousand enslaved people per year were being trafficked through Ouidah. This number represents approximately half of all slave exports during the period. The port could deliver a large volume of enslaved people within an acceptable time of delivery for lower prices than elsewhere on the coast except for the Bight of Biafra. As David Eltis notes, "by the end of the first decade of the eighteenth century it was not unusual to have over a dozen slave ships at one time waiting for dispatch at Whydah." In considering the entirety of the transatlantic slave trade, the volume of enslaved departures from Ouidah is second only to Luanda. The diplomatic tensions the English had with the King of Ouidah during the time of the *Fame's* voyage, concerned the King's permission to allow the French to re-establish their presence in the region despite all English efforts to thwart the encroachment of their "Grand Enemy." The King went so far as to give French slave trade merchants over four hundred workers to aid in the construction of their trading post. The *Fame* carried a large, fine chair from London as a gift for the King. See Robin Law, *Ouidah: The Social History of a West African Slaving "Port," 1727-1892* (Athens, Ohio: Ohio University Press, 2004), 2, 30–31; and David Eltis, *The Rise of African Slavery in the Americas* (New York: Cambridge University Press, 2000), 182. For the Royal African Company's correspondence regarding this event see for example the correspondence the *Fame* carried to Cape Coast Castle in TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter from the Royal African Company to Dalby Thomas, February 5, 1705, f. 83-85.

[420] See David Eltis, et al., eds. *TSTDB*, Voyage Identification #20340, <http://www.slavevoyages.org>, accessed 23 January 2016; and, TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, September 5, 1706, f. 151.

[421] TNA T70/52, Letters Sent to Africa, 1703-1715, Letter from the Royal African Company to Dalby Thomas, September 5, 1706, f. 151.

[422] Ibid.

on board the slave ship *Fame* to the trade's land-based medical labor on the African coast.

Guinea merchants hired surgeons to work in these two different locales. Slave ship surgeons and their mates were the seaborne medical personnel employed by ship owners for a single trading voyage. Slave factory surgeons and assistant surgeons were the medical personnel stationed in West African forts and settlements employed by the Royal African Company and later the Company of Merchants Trading to Africa.[423] Slave trade surgeons worked on ship and shore. They took up residence in West Africa and also crisscrossed the Atlantic with human beings in chains. The medical world of the slave trade was polygeographical, embedded in aquatic, coastal, and terrestrial locales. The medical management system of the slave trade existed in port cities of the British Isles, riverine waterways in the West African slave trading zones, precarious settlements on the West African coast, and on deep sea voyages across the Atlantic. Slave trade surgeons were circum-Atlantic laborers, embedded in these densely linked and dynamically interdependent spaces.

The manner in which Quyneo took advantage of ship and shore opportunities to secure his next surgical posting was unusual. In traveling back to the Guinea coast, the doctor hoped to be hired for the top medical spot in the African service, effectively circumventing the Royal African Company's entire examination and hiring process in London and perhaps contributing to the often contested lines of succession for advancement on the coast.[424] There was a certain

[423] Slave factory surgeons are discussed in greater detail in Chapter Five.

[424] At this point in the Royal African Company's history, if Quyneo expressed interest in serving as a slave ship or slave factory surgeon, he would have been referred to the Committee of Shipping to be examined regarding his medical qualifications and abilities. For the Committee of Shipping's hiring activity see for example, September 1, 1702, when a surgeon was recommended to the Court of Assistants and the Court of Assistants "referr'd the surgeon to the Committee of Shipping to examine & entertain him if they think fitt." See TNA, T70/87, Minutes Books, Court of Assistants, 1702-1705, Minutes, September 1, 1702, f. 28. The lines of succession at Gold Coast forts and factories which determined promotion when there were vacancies varied during the eighteenth century. In the late eighteenth century for example, the list of forts in descending order of prominence was Cape Coast Castle, Anomabu, Accra, Ouidah, Winnebah, Tantumkweri, Appolonia, Komenda, Sekondi, and Dixcove. See BRO,

level of risk involved in his improvisation. Quyneo's passage back to Africa drained some of the wages he had just earned. If he arrived at Cape Coast Castle and Dalby Thomas, the head of the settlement, found no satisfactory use for his labor at the castle or at any of the outforts, Quyneo would have been in a precarious situation. The medical practitioner would be faced with the necessity of subsisting in Africa while finding passage back to England, again at his own expense.

Quyneo's gamble was a success – that is, if he could survive the sweeps of mortality that consistently left the Royal African Company's settlements profoundly unsettled and chaotic. In the early eighteenth century, life expectancy for Royal African Company officers on the Gold Coast was between four and five years. [425] Quyneo's new post brought potentially fatal consequences. Making one's living as a surgeon during the eighteenth century was no easy matter. For rank-and-file medical practitioners with few job prospects, their best opportunities were often risky.

Healers and Profits

In Britain for much of the eighteenth-century there was no cohesive sense of an "intellectual and moral profession of medicine."[426] While "profession" in the modern sense implies a kind of "internal cohesion, a united front, a set of shared values," this was not the case for those in the medical occupations until later in the eighteenth century, and the medical labor

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SMV/7/2/1/6, Records of the Society of Merchant Venturers, 1493-2003, Annual Accounts of the Company Trading to Africa, 1785-1797, Accounts Received and Expended by the Company, f. 5.

[425] Simon P. Newman, *A New World of Labor the Development of Plantation Slavery in the British Atlantic* (Philadelphia: University of Pennsylvania Press, 2013), 114.

[426] Laurence B. McCullough, *John Gregory and the Invention of Professional Medical Ethics and the Profession of Medicine* (Dordrecht: Kluwer Academic Publishers, 1998), 121.

marketplace represented a largely unregulated jumble of healers.[427] Some medical practitioners drew teeth and dressed wigs while others were venereal disease specialists or midwives, for example. If a privileged few served as infirmary physicians thousands of others took their chances at sea. Occupational categories were largely arbitrary and practitioners could move between medical roles.[428] Fluidity rather than bounded medical spheres was the norm particularly in the provinces.[429] Appellations such as physician, surgeon, doctor, and apothecary were often used interchangeably — they were descriptive rather than definitional.[430] The fluidity and lack of differentiation among medical roles was a defining characteristic of British medical culture for most of the eighteenth century and contributed to medicine's status as a competitive, entrepreneurial, market-oriented business.[431] Healing ability rather than titles was what mattered to patients, and experience proved that efficacious cures could occur by way of a midwife,

[427] Fissell, *Patients, Power and the Poor*, 50. There has been a debate among scholars about whether the medical occupations in eighteenth-century Britain should be rightly called "professions." See for example Margaret Pelling, "Medical Practice in the Early Modern Period: Trade or Profession?," in *The Professions in Early Modern England*, ed. Wilfrid Prest (New York: Routledge Kegan & Paul, 1987).

[428] Fissell, *Patients, Power and the Poor*, 51; Loudon, *Medical Care and the General Practitioner*, 28.

[429] Burnby, *A Study of the English Apothecary*, 12; Digby, *Making a Medical Living*, 30.

[430] Burnby, *A Study of the English Apothecary*, 30. There was indifference and inexactitude in official documentation and popular parlance in occupational titles. The same individual might be referred to in different ways in various records. After 1730, surgeon and apothecary were used so interchangeably that they could "scarcely be differentiated in the provinces. The increasingly blurred role between surgeons and apothecaries is exemplified by the rising popularity of the appellation "surgeon-apothecary." It had become so popular that in 1815, Robert Masters Kerrison noted that as medical practitioners, surgeon-apothecaries were the "most numerous part of the profession in town and country." See Robert Masters Kerrison, "Observations and Reflections on the Bill Now in Progress Through the House of Commons, for 'Better Regulating the Medical Profession as Far as Regards Apothecaries,'" in *The Pamphleteer*, ed. Abraham John Valpy, vol. VI (London: Abraham John Valpy, 1815), 315. See also King, "Accessing Drugs in the Eighteenth-Century Regions," 49; Corfield, *Power and the Professions in Britain, 1700-1850*, 6, 14; Loudon, *Medical Care and the General Practitioner*, 24. David Harley adds that even the term physician "should be applied, with due qualification, to a much wider range of early modern medical men than has been customary." David Harley, "'Bred up in the Study of That Faculty': Licensed Physicians in North-West England, 1660–1760," *Medical History* 38, no. 04 (October 1994): 419.

[431] Laurence B. McCullough, "John Gregory's Medical Ethics and the Reform of Medical Practice in Eighteenth-Century Edinburgh," *The Journal of the Royal College of Physicians of Edinburgh* 36, no. 1 (2006): 86.

hangman, bonesetter, herb woman, or Edinburgh-trained physician.[432]

Practitioners had to fervently market their abilities to attract and keep paying patients in such a crowded marketplace. Most healers understood that medical practice was a business as well as a profession, and both terms frequently appeared in contemporary writings.[433] For example, in T. Waller's 1747's *A General Description of All Trades*, which was a trade guide for parents, he described how young doctors often gained their footing upon entering the business. For the young doctor "when he sets up for Business, the first Object of his Care is a Chariot, the next an Apothecary, both with the same View, that of introducing him to Business."[434] The chariot served as an advertisement, a marketing ploy that showcased a practitioner's appearance of wealth and success in order to attract patients.[435] Moreover, a well-established apothecary introduced the young doctor to new patients and in return doctors over-prescribed medicines to increase the apothecary's gain. Waller writes, "the Doctor's Gratitude will lead him to multiply his Prescriptions, and pour in Drug upon Drug upon the Patient. This costs the Doctor nothing; and he is sure to have the Apothecary his Friend as long as he continues this Practice, so beneficial to him, but so ruinous, nay poisonous, to the Patient."[436] The accusation that drugs were being prescribed in excess solely for the sake of profit was a common critique of the medical occupations and satirists pilloried medical practitioners for greed, heartlessness,

[432] Fissell, *Patients, Power and the Poor*, 9–10, 37.

[433] Loudon, *Medical Care and the General Practitioner*, 7, 28. See for example, Waller, *A General Description of All Trades*, xxx.

[434] Waller, *A General Description of All Trades*, xxx.

[435] Thomas Beddoes et al., *A Letter to the Right Honourable Sir Joseph Banks on the Causes and Removal of the Prevailing Discontents, Imperfections, and Abuses in Medicine* (London: Printed for Richard Phillips, 1808), 105–6.

[436] Waller, *A General Description of All Trades*, xxx.

ignorance, and chicanery.[437]

During the eighteenth century, the accumulation of money and material abundance was no longer considered a hazard to one's soul.[438] Money became increasingly detoxified within the broader culture, and individuals understood money to have virtue both as a source of personal satisfaction as well as a vehicle for philanthropic endeavors.[439] In the context of medicine, if material abundance could function as a social and personal good, patients often had misgivings that their practitioners were not primarily concerned with, or motivated by, what was ultimately good for the sick. Patients distrusted the intellectual and moral standing of medical practitioners because making a profit often seemed more important than patient well-being.[440] Prior to the 1770s, there was no medical ethical norm that governed medical practitioners, which would have engendered a certain baseline level of trust between patients and practitioners.[441] The Hippocratic Oath did not serve as an ethical guidepost for the practice of medicine in eighteenth-century Britain.[442] Ideally, manners, courtesy, etiquette, and social relations modeled after client/patron and master/servant relationships were meant to direct practitioners' conduct, alongside personal conscience, rather than specific medical codes.[443] Thus, "behind a veneer of

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[437] Corfield, *Power and the Professions in Britain, 1700-1850*, 57–59.

[438] Deborah Valenze, *The Social Life of Money in the English Past* (New York: Cambridge University Press, 2006), 118.

[439] Ibid., 117–18.

[440] Digby, *Making a Medical Living*, 36; McCullough, "John Gregory's Medical Ethics," 87.

[441] Mary E. Fissell, "Innocent and Honorable Bribes: Medical Manners in Eighteenth-Century Britain," in *The Codification of Medical Morality: Historical and Philosophical Studies of the Formalization of Western Medical Morality in the Eighteenth and Nineteenth Centuries*, ed. Robert Baker, Dorothy Porter, and Roy Porter, vol. I (Dordrecht: Kluwer Academic Publishers, 1993), 20.

[442] Ibid., 26–28.

[443] Ibid., 21–24; Schiebinger, *Secret Cures of Slaves*, 67.

gentility," the quest for profits could be comfortably and ardently pursued.[444]

Young physicians were encouraged to hold dinners during the year which allowed the practitioner's wife "the scheme of recruiting for patients...Invitations fly in all directions; and when the guests are assembled, it is a pleasure to see how cordially the good lady crams them with her dainties, in sure and certain hopes, that the turn of her doctor will come to cram them equally with his drugs."[445] Making a living in the healing arts represented a cut-throat pursuit and if one failed to protect and promote one's interest and compete successfully, serious economic consequences and even financial ruin was the result.[446] Practicing medicine was fraught with insecurity for many but the most well-connected and established doctors.

This was the economic and cultural context of making a medical living in eighteenth-century Britain. Practicing medicine was unabashedly a business operation in a crowded marketplace and high value was placed upon protecting and advancing one's self-interest. Medical practitioners were "deeply concerned with money, judging, correctly, that their status in society as well as their personal comfort was closely attached to their income."[447] Although no specific medical code of ethics governed the profession, proper etiquette, manners, and courtesy were required. However, their patients did not blindly trust their morals or their skills. Those who could attract paying patients and successfully cure them would survive the competitive arena. As a result, this fiercely competitive, domestic medical labor marketplace left many

[444] Roy Porter, "Plutus or Hygeia? Thomas Beddoes and the Crisis of Medical Ethics in Britain at the Turn of the Nineteenth Century," in *The Codification of Medical Morality: Historical and Philosophical Studies of the Formalization of Western Medical Morality in the Eighteenth and Nineteenth Centuries*, ed. Robert Baker, Dorothy Porter, and Roy Porter, vol. I (Dordrecht: Kluwer Academic Publishers, 1993), 75.

[445] Beddoes et al., *A Letter to the Right Honourable Sir Joseph Banks on the Causes and Removal of the Prevailing Discontents, Imperfections, and Abuses in Medicine*, 106–7.

[446] McCullough, "John Gregory's Medical Ethics," 86–87; McCullough, *John Gregory and the Invention of Professional Medical Ethics and the Profession of Medicine*, 59–60.

[447] Loudon, *Medical Care and the General Practitioner*, 7.

medical men adrift and unable to compete. The British rank-and-file, those in the vaguely middling orders who had fewer resources – be they economic, social, professional, or some combination – sought alternative forms of medical employment in the Atlantic and Indian Ocean worlds where they attended to the imperial medical needs of empire in military, mercantile, and civilian contexts.

Slave trade surgeons were among this cadre of practitioners. Physician Thomas Winterbottom characterized the typical slave ship surgeon as a young man who had "no immediate prospect of settling in his profession."[448] Struggling to find their place in the occupation and searching for a mode of subsistence, these unsettled medical practitioners contended with an array of transient, hand-to-mouth possibilities for medical employment, on land and at sea. Although the literature on maritime and terrestrial medical practice exists largely in isolation from one another, slave trade surgeons bring the land and sea together through the exigencies of trying to make a living.[449] The options courted by these medical men

[448] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone,* vol. 2: 43.

[449] The separation in the historiography between maritime and terrestrial medicine occurs most strikingly in the context of naval medicine and how "deeply unfashionable" it was among academics even twenty years ago to study naval history. The topic existed "on the bare margins of professional acceptability." See N. A. M. Rodger, "Recent Work in British Naval History, 1750–1815," *The Historical Journal* 51, no. 03 (2008): 741. As a result, naval medicine, one of the most prominent forms of maritime medicine in the eighteenth century, has been largely separate from studies of land-based medical practice. In regard to naval medicine, Geoffrey Hudson wrote in 2007 that although some official histories have been written which focus on "the pioneers of military and naval medicine and surgery, the development of career and administrative structures, as well as institutions," few synthetic texts exist which integrate military and naval medicine into the social history of British medicine. Geoffrey L. Hudson, "Introduction," in *British Military and Naval Medicine, 1600-1830* (New York: Rodopi, 2007), 8. See also Mark Harrison, "The Medicalization of War—The Militarization of Medicine," *Social History of Medicine* 9, no. 2 (1996): 269; Philip R. Mills, "Privates on Parade: Soldiers, Medicine and the Treatment of Inguinal Hernias in Georgian England," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 151. Significant interventions in this regard include Mark Harrison, *Medicine in an Age of Commerce and Empire: Britain and Its Tropical Colonies, 1660-1830* (New York: Oxford University Press, 2010); James Lowry and John Millyard, *Fiddlers and Whores: The Candid Memoirs of a Surgeon in Nelson's Fleet* (London: Chatham Publishing, 2006); Geoffrey L. Hudson, ed., *British Military and Naval Medicine, 1600-1830* (New York: Rodopi, 2007); Vale and Edwards, *Physician to the Fleet*; Margarette Lincoln, *Representing the Royal Navy: British Sea Power, 1750-1815* (Burlington, VT: Ashgate Publishing, Ltd., 2002); Pratik Chakrabarti, *Medicine and Empire: 1600-1960* (New York: Palgrave Macmillan, 2013); Charters, *Disease, War, and the Imperial State*.

ranged from civilian medicine in the domestic context, to army and navy deployments, as well as stints in the merchant marine, serving on board Greenland whalers, West India merchant vessels, East India Company ships of war, and the transatlantic slave trade. Some individuals moved between several of these options as they cobbled together a medical living.

The Slave Trade as Career Advancement

When abolitionist Thomas Clarkson traveled to Bristol to gather evidence about the slave trade, he interviewed several surgeons who took slave trade medical employment in order to raise enough money to put up a shingle, set up shop, and build a medical business at home. One surgeon, named Gardiner told Clarkson his story. Gardiner's relations were poor and after finishing his medical education, they were unable to help him establish a business. Clarkson writes, "He had saved a little money in his last voyage and hoped to save a little more [on this voyage]. With the profits of both voyages together, he expected he should be able to furnish a shop in the line of his profession, when he would wipe his hands of this detestable trade."[450] Clarkson's interview of surgeon James Arnold was similar. After his first slave trading voyage, Arnold returned to Bristol "quite pennyless" and embarked on another Guineaman "entirely for the sake of bread."[451] The surgeon was about to embark on his third voyage in the slave trade, hoping it would finally allow him to establish a private practice. The surgeon declared "if he survived this voyage he would never go another." [452]

At mid-century, setting up the most basic surgery required a minimum of approximately

[450] Thomas Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade by the British Parliament*, vol. 1 (London: Printed by R. Taylor and Co., 1808), 334. See also Clarkson's interview of James Arnold in 1: 343, 339-42.

[451] Ibid., 1:343.

[452] Ibid., 1:339–42.

£100, but a "smart shop" required £200, which was modest in comparison with other shopkeepers.[453] Establishing a grocery or bookshop at mid-century required at least £500.[454] For medical practitioners, the £100 start-up cost could be an extraordinary burden, even though there were relatively few initial costs, a low debt burden and the promise of high returns.[455] The average nominal income for families in England and Wales in 1759 was just over £46.[456] The funds needed to set up shop were more than double this approximate average. As Gardiner and Arnold could attest, without external financial support, accumulating this amount of money could take years.

For surgeons like William Dineley, establishing oneself in private practice was no guarantee of long-term stability. As described earlier, one of the greatest challenges faced on the domestic front was fierce competition among practitioners for paying patients.[457] One's professional survival was a constant preoccupation. Healers were engaged in an ongoing battle to ensure their dominance over a region. Practitioners typically carved out a home territory and went to great lengths to prevent other medical providers from setting up shop, even monopolizing local public offices to make it more difficult for newcomers to insert themselves into the community.[458] Surgeon-apothecary Matthew Flinders ran a successful medical practice

[453] Waller, *A General Description of All Trades*, 3.

[454] Ibid., 114. For an excellent study of the grocer's trade in eighteenth-century England see Jon Stobart, *Sugar and Spice: Grocers and Groceries in Provincial England, 1650-1830* (New York: Oxford University Press, 2012).

[455] Digby, *Making a Medical Living*, 41; Holmes and Szechi, *The Age of Oligarchy*, 155.

[456] Peter H. Lindert and Jeffrey G. Williamson, "Reinterpreting Britain's Social Tables, 1688–1913," *Explorations in Economic History* 20, no. 1 (January 1, 1983): 102.

[457] Peter Stanley, *For Fear of Pain, British Surgery, 1790-1850* (New York: Rodopi, 2003), 24.

[458] Digby, *Making a Medical Living*, 109.

in Donington during the last quarter of the eighteenth century.[459] When Flinders was faced with competition he considered buying out his opponent.

For those who could not settle into domestic practice or desired overseas service, the eastern edges of Britain's empire offered highly sought after employment opportunities. The East India Company's medical needs were extensive, and the number of posts available for surgeons expanded dramatically over the course of the eighteenth century.[460] The company had a large military presence, with armies based in Bengal, Madras, and Bombay, which required medical practitioners.[461] Although the majority of company's surgeons served on board merchant vessels that traveled between London and India, the surgeon's seaborne existence on an East Indiaman was a far cry from the wooden world of the slave ship.[462] Rather than living on board a floating prison forcibly transporting hundreds of captive Africans across the Atlantic, and contending with suicide attempts, armed revolts, gruesome violence, and epidemic levels of death, the typical East Indiaman was "the passenger liner of the day."[463] Large numbers of officials, families, civil servants, Indian leaders, and others regularly traveled between London and India on board these ships so living conditions were much higher than for other commercial vessels.[464]

Ship surgeons on East India Company vessels could often remain in medical practice in

[459] Ibid., 110.

[460] Mark Harrison, "Disease and Medicine in the Armies of British India, 1750-1830: The Treatment of Fevers and the Emergence of Tropical Therapeutics," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (Amsterdam: Rodopi, 2007), 88.

[461] Ibid., 87; Pratik Chakrabarti, *Medicine and Empire: 1600-1960* (New York: Palgrave Macmillan, 2013), 4.

[462] Wayne N. Boog Watson, "Four Monopolies and the Surgeons of London and Edinburgh," *Journal of the History of Medicine and Allied Sciences* 25, no. 3 (1970): 314.

[463] Ibid.

[464] Ibid., 314–15.

India, serving at company factories and in settlement hospitals upon completion of their nautical employ.[465] Mark Harrison writes that the East India Company was more alluring to young surgeons than either the army or navy because ample financial rewards were possible.[466] Over and above one's nominal salary, significant emoluments could come from private trade, allowances for medicines and supplies, and perquisites upon the completion of military campaigns.[467] It was not unheard of for even assistant surgeons at mid-century to earn an extra £200.[468]

Some slave trade surgeons like William Mutter worked on board East India Company ships prior to gaining employment in the slave trade.[469] Others had hopes that the East India Company would provide a way out of slave trade medicine. In 1752, Scottish surgeon Richard Holden had hopes of entering the East India Company's medical service.[470] He had failed to accrue the profits he hoped for when he enthusiastically entered the slave trade.[471] Holden had

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[465] Erica Charters, *Disease, War, and the Imperial State: The Welfare of the British Armed Forces During the Seven Years' War* (Chicago, IL: University of Chicago Press, 2014), 143; Wayne N. Boog Watson, "Four Monopolies and the Surgeons of London and Edinburgh," *Journal of the History of Medicine and Allied Sciences* 25, no. 3 (1970): 314.

[466] Harrison, "Disease and Medicine in the Armies of British India, 1750-1830," 88.

[467] Dirom Grey Crawford, *A History of the Indian Medical Service: 1600-1913*, vol. 1 (London: W. Thacker & Company, 1914), xii, 353-355; Harrison, "Disease and Medicine in the Armies of British India, 1750-1830," 88.

[468] Crawford, *A History of the Indian Medical Service*, 1:354.

[469] TNA, T70/1520, Detached Papers 1753, Letter from William Mutter to the Committee of the Company of Merchants Trading to Africa, August 22, 1755.

[470] National Library of Scotland (hereafter, NLS) Acc. 11272/4, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, October 22, 1752. Richard Holden is described in the National Library of Scotland's catalogue as a Bristol merchant, but he was in fact an active slave ship surgeon based out of Bristol. See for example, Holden's will which describes him as, "I Richard Holden now Residing in the City of Bristoll Surgeon..." in ibid.

[471] NLS, Acc. 11272, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, October 22, 1752. See also NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, September 19, 1752; Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, July 13, 1754; and, Acc. 11272/4, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, July 28, 1755.

served on board the slave ship *Levant* as well as two successive voyages on board the *Black Prince*, but desired to leave the Guinea trade.[472] However, his aspirations to join the East India Company were initially thwarted upon the death of a well-connected acquaintance who had promised to help him acquire a medical position.[473] The company was known for its patronage appointments and without a proper advocate, entry into the service seemed beyond the surgeon's reach.[474] In a letter to his brother in 1752, Holden wrote, "Dear Abram as to my leaving ye Guinea Trade I must now lay that aside, for the Earl of Verney, who wou'd have stood my friend, Died a few days agoe, and there is no other person of my acquaintance whom I Can rely on."[475] Five years later, another opportunity materialized. Holden received an offer from Captain Wilson "who told me he would be ready to Sail for the East Indias the latter end of the Summer, in a fine large three Decker, and if I had a mind to goe Surgeon to the East Indias, I might get the place."[476] Holden never joined Captain Wilson's fine ship and never began his

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[472] For additional voyage information for the *Levant* see David Eltis, et al., eds. *The Trans-Atlantic Slave Trade Database*, Voyage Identification #17208, <http://www.slavevoyages.org>, accessed 1 February 2016; and Bristol Record Office (herefter, BRO), SMV/9/3/1/1, Records of the Society of Merchant Venturers 1493-2003, Ships' Muster Rolls, 1748-1751, Muster Roll #138. For Holden's first voyage on the *Black Prince* see *TSTDB*, Voyage ID# 17258; and BRO, SMV/9/3/1/1, Muster Roll #126. For Holden's second voyage on the *Black Prince* see *TSTDB,* Voyage ID #17280.

[473] NLS, Acc. 11272/4, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, October 22, 1752.

[474] H. V. Bowen, *The Business of Empire: The East India Company and Imperial Britain, 1756–1833* (New York: Cambridge University Press, 2005), 120–121.

[475] NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, October 15, 1752. Transitioning out of the slave trade into the East India Company's service held appeal not only for surgeons but also for mariners. After serving as chief mate on several slaving voyages Scottish sailor William Colhoun wrote his sisters in Glasgow in 1769 that he was going to see "if I can get a good place on Board of one of the Eastindimen, I shall try." Colhoun had someone to advocate on his behalf. He wrote, "Mr. Johnson his [is] so well beloved her [here] he can Make Intrest for me for he his [is] very willing to do for me if posible he can and I shall see him to morrow." See Glasgow City Archives, TD 301/6/1/4, Colhoun Family Papers, Letter from William Colhoun to Janet and Betty Colhoun, November 5, 1769.

[476] NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, November 12, 1757; see also Letter from Richard Holden to Abram Holden, November 29, 1757.

medical service on the eastern edges of the empire. In 1757, his wife, sisters, and brothers were informed that Dick died on the African coast serving as surgeon to one of the African Company's store ships. He never returned home.[477]

While army service was yet another path into slave trade employment, the majority of evidence suggests that the most frequent journey into slave trade medicine was by way of the Royal Navy.[478] It was common for naval men like Thomas Trotter and Isaac Wilson to take work on board slave ships during peacetime before re-enlisting in His Majesty's service.[479] Trotter recounted that upon the conclusion of American War of Independence he and twenty other surgeons were "obliged, from necessity, to seek employment in the African trade, because

[477] NLS, Acc. 11272/4, Richard Holden Papers, 1748-1759, Letter from Phill Atwood, January 16, 1759.

[478] For army service see Charles Bell: TNA, T70/1518, Detached Papers, 1752, Letter from James Napier Surgeon to His Majesty's Hospital, May 6, 1752, and Letter from R. Handasyd, May 11, 1752. See also Manx National Heritage Library & Archives (hereafter, MNHLA), MS 09381/8/5, Charles Christian Journal, f. 18-21. For an excellent study of army surgeons in the late eighteenth and nineteenth centuries in regard to the development of the medical profession and opportunities for social mobility see Marcus Ackroyd, *Advancing with the Army: Medicine, the Professions and Social Mobility in the British Isles 1790-1850* (New York: Oxford University Press, 2006).

For examples of naval surgeons in the African Company's West African forts and settlements see for example Charles Alexander: TNA, T70/146, Minute Books, Company of Merchants Trading to Africa, 1787-1792, Minutes January 27, 1789, f. 163-164; and, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, April 30, 1790, f. 240. Matthew Mackaile: BRO, SMV/7/2/1/2, Accounts of the Company of Merchants Trading to Africa, 1750-1759, "Anno 1750, An Account of the Expenditure of Goods, Stores, and Charges"; TNA, T70/1516, Detached Papers, 1750-1751, Letter from Matthew Mackaile to the Committee of the Company of Merchants Trading to Africa, undated; T70/143, Minute Books, Company of Merchants Trading to Africa, 1750-1755, Minutes February 6, 1750, f. 40 and December 4, 1751; T70/1518, Detached Papers 1752, List of Officers &c at Cape Coast Castle Ending 30 June 1752. Robert Lenox: TNA, T70/1517, Detached Papers 1751, "An Account of Mony Advanced"; T70/143, Minute Books, Company of Merchants Trading to Africa, 1750-1755, Minutes February 27, 1750, f. 49; BRO, SMV/7/2/1/2, Accounts of the Company of Merchants Trading to Africa, 1750-1759, "Anno 1750, An Account of the Expenditure of Goods, Stores, and Charges." William Harvey: TNA, T70/1517, Detached Papers 1751, Letter from William Harvey to the Committee of the Company of Merchants Trading to Africa, December 31, 1751; T70/1519, Detached Papers, 1752-1753, Bond for William Harvey from William Alexander, January 16, 1752; T70/1525, Detached Papers 1755-1756, Letter from William Harvey, January 9, 1756. Leonard Stapleton: T70/1520, Detached Papers 1753, Letter from Leonard Stapleton to the Committee of the Company of Merchants Trading to Africa, undated. See also James Arnold, HCPP, Report of the Lords of the Committee of Council, February 11, 1788, Testimony of James Arnold, 50.

[479] Vale and Edwards, *Physician to the Fleet*, 54. Isaac Wilson and Thomas Trotter are discussed in Chapter Five.

the Navy Board refused us ships, and we had no half-pay."[480] Upon discharge naval surgeons were granted no wages unless they were among the two hundred most senior naval surgeons who were eligible for half pay beginning in 1729.[481] Back on dry ground, naval surgeons had few employment options. The difficulty of entering civilian practice was compounded by how poorly their medical skills were regarded on shore. One late eighteenth century commentator described naval surgeons as "an ignorant, untutored banditti of mohawk surgeons [who] have been let loose to mangle and mutilate our brave tars."[482] For naval surgeons like Thomas Trotter, therefore, a temporary expedient was desired until they returned to active service.[483]

Other navy men, in contrast, actively sought out the slave trade, believing it would be more promising and lucrative, while also holding greater possibilities for advancement than what they had experienced in the Royal Navy. Slave ship surgeon Elliot Arthy and slave factory surgeons Thomas Westgate and Archibald Dalzel left the navy and entered the slave trade for these reasons.[484] After being discharged from the Royal Navy, Archibald Dalzel determined that

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[480] Trotter, *Medicina Nautica*, 1797, 1:327. Thomas Trotter and Isaac Wilson are discussed at length in Chapter Five.

[481] Patricia Kathleen Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 191.

[482] John Ring, *Reflections on the Surgeons' Bill: In Answer to Three Pamphlets in Defence of That Bill* (London: Hookham & Carpenter, 1798), 42–43.

[483] Margarette Lincoln, "The Medical Profession and Representations of the Navy, 1750-1815," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 202; Ring, *Reflections on the Surgeons' Bill*, 42–43.

[484] Elliot Arthy began his medical career in the navy where he was served as surgeon's mate in the West Indies for three years during the American War of Independence. For Arthy's exam record from the Royal College of Surgeons see Royal College of Surgeons (hereafter, RCS), COS 2/2, Company of Surgeons Court of Examiners, 1745-1800, July 2, 1789. After his naval service, Arthy spent eight years in the slave trade, serving on board four different slaving voyages between 1789 and 1795. For Arthy's voyage on board James Rogers' *Jupiter* (Voyage ID: 18074) see TNA, C 107/11, James Rogers' Papers, Letter from Elliot Arthy to James Rogers, May 26, 1791; Certificate of Mr. Dowland's Behavior from John Smith, Elliot Arthy, and William Jarman to James Rogers, December 26, 1791; and TNA, C 107/12, James Rogers' Papers, Letter from Elliot Arthy to James Rogers, April 16, 1791. See also Arthy, *The Seaman's Medical Advocate*, ii–iii; Stephen D. Behrendt, "The British Slave Trade, 1785-1807: Volume, Profitability, and Mortality" (Ph.D., The University of Wisconsin - Madison, 1993), 181.

travelling to Africa to serve as a slave factory surgeon was the only possible means available to save his family from penury.[485] On February 2, 1751, Thomas Westgate petitioned the Committee of the African Company for employment at one of their slave factories in West Africa hoping to build a better life. He wrote, "I Beg leave to Inform you that I have been better three years Surgs [Surgeon's] Mate in the Navy, and having now no hopes of Preferment, Am upon the Encouragement of a friend very desirous of going out in your Employment for I am Certain there is a greater probability of gaining an independence there, than Continuing in my present situation. I hope the Company is not allready provided with Gentlemen of my Calling, and that this will be favourably receiv'd."[486] Naval medical service was often considered dangerous, demeaning, and poorly paid.

Throughout most of the eighteenth century, becoming a naval surgeon was "the refuge of the relatively disadvantaged."[487] In 1740, poverty drove famous author Tobias Smollett to join the navy as second surgeon's mate, and used the harrowing experience as the subject matter for his well-known satirical novel *The Adventures of Roderick Random*.[488] Writing in 1806, surgeon William Turnbull wrote that medical service in the navy "was in general only resorted to as a matter of unavoidable necessity, by those young men who could not procure any other

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[485] I. A. Akinjogbin, "Archibald Dalzel: Slave Trader and Historian of Dahomey," *The Journal of African History* 7, no. 01 (1966): 68. In 1793, Archibald Dalzel (also spelled Dalziel) wrote a history of Dahomey, which has generated some scholarship. See Archibald Dalzel, *The History of Dahomy: An Inland Kingdom of Africa* (London: Printed by T. Spilsbury and Son, 1793); Loren K. Waldman, "An Unnoticed Aspect of Archibald Dalzel's the History of Dahomey," *The Journal of African History* 6, no. 2 (January 1, 1965): 185–92; C. Duncan Rice, "Archibald Dalzel, the Scottish Intelligentsia, and the Problem of Slavery," *The Scottish Historical Review* 62, no. 174 (October 1, 1983): 121–36; James A. Rawley, "Further Light on Archibald Dalzel," *The International Journal of African Historical Studies* 17, no. 2 (January 1, 1984): 317–23.

[486] TNA, T70/1517, Detached Papers, 1751, Letter from Thomas Westgate to the Committee of the Company of Merchants Trading to Africa, February 2, 1750/1.

[487] Cardwell, "Royal Naval Surgeons," 54.

[488] Roy Porter, *Bodies Politic: Disease, Death and Doctors in Britain, 1650-1900* (London: Reaktion Books, 2001), 174.

employment; and it was accordingly abandoned so soon as any other opening, however, indifferent, permitted them to retire."[489] Despite the intended polemics of Trumbull's text, there was no denying the fact that the navy was sometimes entered into out of dire necessity. For some, naval doctoring may have been among the least desirable options for the medical rank-and-file.

In contrast with army surgeons, eighteenth-century naval surgeons were non-commissioned officers who existed at a lower rank than their military counterparts.[490] Commissioned officers held the King's commission "which conferred gentility" – a factor of deep significance in the hierarchical structure of naval society.[491] Instead of a commission, naval surgeons were warranted officers and classed with pursers, masters, gunners, boatswains, and carpenters.[492] For most of the eighteenth century, these non-medical personnel were typically paid larger sums and considered more essential to the ship's well-being than surgeons and their mates.[493] Naval surgeons had no uniform, were often treated with disrespect, and because of their low status, could not walk the quarter deck with officers and gentlemen.[494] Surgeons'

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[489] William Turnbull, *The Naval Surgeon, Comprising the Entire Duties of Professional Men at Sea to Which Are Subjoined, a System of Naval Surgery and a Compendious Pharmacopoeia* (London: Printed for Richard Phillips, 1806), viii.

[490] J.J. Keevil, *Medicine and the Navy, 1200-1900: Volume II, 1649-1714* (Edinburgh: Livingstone, 1958), 8; Patricia Kathleen Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 191.

[491] J.J. Keevil, *Medicine and the Navy, 1200-1900: Volume II, 1649-1714* (Edinburgh: Livingstone, 1958), 8; Patricia Kathleen Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 191.

[492] Brockliss, Cardwell, and Moss, *Nelson's Surgeon*, 15–16; Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," 191.

[493] Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," 191.

[494] Surgeons would not be accorded officer status and a uniform until 1805. See Margarette Lincoln, "The Medical Profession and Representations of the Navy, 1750-1815," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 202; Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," 191.

wages were £5 per month, and their pay could be years in arrears.[495] To further aggravate the situation, naval surgeons were required to pay for their own medicines and surgical instruments, largely out-of-pocket, because the allowances were inadequate to pay for even one medicine chest at the Society of Apothecaries.[496] Unless prize money could be won, naval surgeons' pay was meager.[497]

These were among the reasons why manning the navy with sufficient medical personnel was difficult. When war broke out, there were never enough surgeons available to carry out the "menial" employment for the ships that needed them.[498] In 1743, the Royal Navy was in such need for medical practitioners that they briefly considered impressing civilian surgeons for war-time sea service, but the scheme was never enacted.[499] Naval surgeons were in such demand that

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[495] Keevil, *Medicine and the Navy*, 151; Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," 191; Brockliss, Cardwell, and Moss, *Nelson's Surgeon*, 15.

[496] Surgeons were required to purchase their medicines from the Society of Apothecaries. Penelope Hunting's study of the society's records show that during the eighteenth century naval surgeons were charged between £80 and £90 for one medical chest. The allowances surgeons received for medicines and instruments were £33.9 up until 1779, after which it was increased to £50.3.6, followed by another increase in 1781, which brought the allowance to £62. Along with having to pay for surgical instruments and charges for cleaning and sharpening instruments they already owned, the costs for medicines was greatly resented and contested during the eighteenth century. In 1796, some medicines were provided solely at the government's expense. See Penelope Hunting, *A History of the Society of Apothecaries* (London: The Society of Apothecaries, 1998), 164–174; Keevil, *Medicine and the Navy*, 150; Jack Coulter and Christopher Lloyd, *Medicine and the Navy, 1200-1900: Volume III, 1714-1815*, vol. 3 (Edinburgh: E & S Livingstone Ltd., 1961), 15; Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," 191; Michael Crumplin, "Surgery in the Royal Navy during the Republican and Napoleonic Wars, 1793-1815," in *Health and Medicine at Sea, 1700-1900*, ed. David Boyd Haycock and Sally Archer (Rochester, NY: Boydell Press, 2009), 73.

[497] M. John Cardwell's prosopography of surgeons serving in the Republican and Napoleonic wars shows that prize money was a major incentive for joining the service and that "many surgeons' incomes were steadily augmented by the capture of prizes, yielding money which could be spent upon further professional education, or invested and later used to purchase a civilian practice." See Cardwell, "Royal Naval Surgeons, 1793-1815: A Collective Biography," 55.

[498] Ibid., 8; Patricia Kathleen Crimmin, "British Naval Health, 1700-1800: Improvement over Time?," in *British Military and Naval Medicine, 1600-1830*, ed. Geoffrey L. Hudson (New York: Rodopi, 2007), 191–192.

[499] Coulter and Lloyd, *Medicine and the Navy*, 3:19. Naval surgeons were pressed in the seventeenth century. See Laurence W. B. Brockliss, John Stewart Cardwell, and Michael Moss, *Nelson's Surgeon: William Beatty, Naval Medicine, and the Battle of Trafalgar* (New York: Oxford University Press, 2005), 13.William Turnbull writes that for surgeons, appointment to naval service "was considered as being something of the menial kind." See Turnbull, *The Naval Surgeon*, vii–viii.

in 1747, R. Campbell advised parents, "if a young Student drops from the Clouds, let him but go through his Examination, and he is sure of a Ship the first Vacancy, which is rarely wanting; and obtains it as soon as if he had the Interest of all the House of Peers."[500] In 1805, the Sick and Hurt Board made some improvements because the navy "suffered materially in the present war from want of surgeons and surgeons' mates."[501] By 1840, despite temporary improvements to the medical service during the Republican and Napoleonic wars, this unattractive and poorly paid form of medical labor was so undesirable that not one candidate presented themselves for consideration as a naval surgeon.[502] Slave traders benefited from surgeons who believed medical labor in Britain's commerce in African people was preferable to serving on board His Majesty's ships of war. For many, slave trade medical labor was a path to a better funded future.

As discussed earlier, the competitive nature of the medical labor marketplace thrust financial gain into the forefront of doctor's working lives as occupational and economic survival were pre-eminent concerns. Slave trade surgeons brought pressing economic needs into the slave trade, and as their correspondence reveals, these concerns were critical factors in determining their entry into the slave trade. It is worth considering, however, that economic need took a variety of different forms in the complicated lives of these medical men. Charles Christian exemplifies how economic distress among slave trade surgeons could be deeply embedded in a complex array of chaotic and dysfunctional personal circumstances.

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[500] Campbell, *The London Tradesman*, 54.

[501] Brockliss, Cardwell, and Moss, *Nelson's Surgeon*, 17; Susan C. Lawrence, *Charitable Knowledge: Hospital Pupils and Practitioners in Eighteenth-Century London* (New York: Cambridge University Press, 2002), 101.

[502] David Boyd Haycock, "Introduction: Health, Medicine, and the Maritime World: A History of Two Centuries," in *Health and Medicine at Sea, 1700-1900*, ed. David Boyd Haycock and Sally Archer (Rochester, NY: Boydell Press, 2009), 10. For improvements to the medical service of the Royal Navy during the Republican and Napoleonic Wars see Michael Crumplin, "Surgery in the Royal Navy during the Republican and Napoleonic Wars, 1793-1815," in *Health and Medicine at Sea, 1700-1900*, 72–73.

Slave ship surgeon Charles Christian wrote that he entered into slave trade employment believing it would be "pleasing by its Novelty, and would afford an extensive Scope for the Gratification of Curiosity, and the Attainment of Information."[503] It is true that during the course of their employment, some slave trade surgeons made us of their sea voyages to Africa to explore the natural world, develop new botanical and zoological knowledge, and contribute to scientific inquiry.[504] However, more is operative in Charles Christian's path into slave trade employment. His professional and personal life was continually fraught with strife.

Charles Christian was the brother of Fletcher Christian of the infamous mutiny on the *Bounty*. Charles Christian was an East India Company ship's surgeon and served on board the *Middlesex*. On September 5, 1787, Charles engaged in his own shipboard mutiny prior to his younger brother's well-known episode, and as a result he was suspended from the East India Company's employ for two years.[505] Charles struggled with bouts of depression, suicidal desire, and in response over-indulged in alcohol. In his memoir the Manx surgeon reflected, "I had long felt a peculiar affection at the superior part of my Chest, which impressed me with the Idea that I could not survive each successive Year." I "was not exempt from Danger" of suicide, he revealed.[506] Alcohol became a necessary drug but only exacerbated his feelings of depression.

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[503] MNHLA, MS 09381/8/5, Charles Christian Journal, f. 34.

[504] Kathleen S. Murphy, "Collecting Slave Traders: James Petiver, Natural History, and the British Slave Trade," *The William and Mary Quarterly* 70, no. 4 (October 1, 2013): 637–70.

[505] For Charles Christian's East India Company service see MNHLA, MS 09381/8/5, Charles Christian Journal, f. 7-8, 17; BL, IOR/L/MAR/B/450 E, India Office Records, Departmental Records, Marine Records 1600-1879, Journal of the Middlesex, Received August 18, 1785; IOR/L/MAR/B/450 F, Journal of the Middlesex, Received September 28, 1787. See also IOR/E/4/873, India Office Record, General Correspondence 1602-1856, Madras Dispatches, December 22, 1786 to September 7, 1787, f. 700-701; IOR/E/1/22, Letter from East India House to Captain John Rogers, September 26, 1787, f. 122; IOR/B/107, East India Company, Minutes of the Court of Directors and Court of Proprietors 1599-1858, f. 205, 404, 459; IOR/B/106, Petition of George Aitken, f. 835. See also Greg Dening, *Mr. Bligh's Bad Language: Passion, Power, and Theatre on the Bounty* (New York: Cambridge University Press, 1992), 312.

[506] MNHLA, MS 09381/8/5, Charles Christian Journal, f. 11-12, 23.

Charles wrote, his "Melancholy, aggravated by drinking too much," covered the world with gloom. The surgeon was overwhelmed with an "unhappy Train of Thought [that] dissolved all attachment to the World's best Interests."[507] During one particularly low point, he simply walked away from his life. Charles gave away his books and his private medical practice to a former classmate from his medical school days at Edinburgh. "The Situation deserved a premium of £300 and I disregardlessly let him come in for Nothing," he recalled.[508] Penniless and in despair, Charles did not want to return home to the Isle of Man and live with his mother. He wrote that his "Pride was so deeply wounded at having deserted a proud Independency."[509] Instead, the surgeon traveled to Liverpool to seek medical employment on a slave ship, and soon set sail for Africa.[510] Rather than representing an outlier because of his personal and professional challenges, Charles Christian's experience serves as a potent reminder of the circuitous route by which financial need and personal circumstances likely converged in the lives of many slave trade surgeons.

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[507] Ibid., f. 12-13.

[508] Ibid., f. 13.

[509] Ibid., f. 33.

[510] Ibid., f. 34. The Isle of Man was deeply embedded in the Atlantic slave trade. The island was a supply station for slave trade laborers such as well-known slave ship captain Hugh Crow, surgeon Charles Christian, and many slave ship mariners; however, it was also a supply station for commodities. As a free port until 1765, British customs laws did not apply. Manx merchants imported and warehoused high duty trade goods, including smuggled goods, duty free on the island. These would later be collected by Liverpool slave traders on their way to the African coast. Similarly, goods brought to Britain on the return voyage were also landed on the island to circumvent duty. See Morgan, *Slavery, Atlantic Trade and the British Economy, 1660-1800*, 89; Alexandra Robinson, "'Citizens of the World': The Earle Family's Leghorn and Venetian Business, 1751-1808," in *Slavery Hinterland: Transatlantic Slavery and Continental Europe, 1680-1850*, ed. Felix Brahm and Eve Rosenhaft (Rochester, NY: Boydell & Brewer, 2016), 51; Nigel Tattersfield, *The Forgotten Trade: Comprising the Log of the Daniel and Henry of 1700 and Accounts of the Slave Trade from the Minor Ports of England, 1698-1725* (London: Jonathan Cape, 1991), 344; Thomas, *The Slave Trade*, 247. The only full-length study of the Isle of Man in the context of the Atlantic slave trade is Frances Wilkins, *Manx Slave Traders: A Social History of the Isle of Man's Role in the Atlantic Slave Trade* (Kidderminster, UK: Wyre Forest Press, 1999). Little extended study has been given to this history, and archivist Wendy Thirkettle at the Manx National Heritage Library has done extraordinary work in studying the relevant archival materials in order to bring this history to a broader public.

Although the slave trade was a violent system that wrought unimaginable terror and destruction upon the lives of millions of African children, women, and men, it offered financial rewards that could help transform the lives of British medical men and their families. A temporary jaunt in the trade in human flesh could return surgeons to the domestic medical marketplace with money in hand, new professional connections in the mercantile class, and exotic tales of African adventure. They could possibly develop their medical skills and become more successful healers. All their hopes revolved around the compensation they would receive for their medical labor. Unlike slave factory surgeons, the financial rewards slave ship surgeons fought to accumulate were in the form of people. The quest for profits so earnestly sought by medical practitioners during the eighteenth century took on a remarkably new form in the context of a slave ship. In the intercontinental medical management of the slave trade, the compensation structure for medical labor initiated surgeons into the world of human commodities before even setting foot on board a slave ship.

Paid in Human Flesh

After captains, medical practitioners and chief mates represented the principal officers and highest paid laborers on slaving vessels.[511] During the late eighteenth century surgeons' total voyage earnings were between £100 and £150 pounds, which was four times the median annual income in England.[512] The remunerative possibilities for slave ship surgeons were significant; however, it was not through wages alone. The ability for the slave trade to bolster one's economic security was the monthly wage in combination with a system of bonuses.

[511] Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730-1807*, 33–35; Behrendt, "Human Capital in the British Slave Trade," 72.

[512] Behrendt, "Human Capital in the British Slave Trade," 74.

Monthly wages for slave ship surgeons remained largely consistent at an average of £4 per month over the course of the eighteenth century.[513] William Dineley negotiated to earn £4.4 per month for his voyage.[514] The sum was to be sent directly to Jane in Scotland and she wanted to ensure timely payment. In a letter to William's employer she emphasized, "Upon this his family are entirely dependant for their support. I therefore beg to know in course of post in what manner I am to receive the Salary now due."[515] Jane oriented her household economy around the wage and had to provide for herself and her seven children with the much needed four pounds and four shillings each month.[516]

The system of bonuses, however, was the means by which slaving doctors could gain financial resources beyond bare-knuckled subsistence. Head money was the least lucrative emolument and amounted to one shilling for every enslaved person sold. This was a standard practice that can be traced back to at least the 1670s.[517] The bulk of additional monies that could be earned were through privilege slaves and after 1788, Dolben's Act premiums. Dolben's Act premiums were determined by mortality rates. If a slave ship ended its voyage with mortality rates below two percent, surgeons earned an extra £50, and if rates were below three percent,

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[513] Ibid., 73. Between the late seventeenth and early eighteenth century there is evidence that monthly wages were between £3 and £3.10 per month. See for example TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, September 30, 1674, f. 19v; T70/132, Minute Books, Committee of Shipping, 1702-175, October 15, 1702, f. 1.

[514] Initially, William was set to receive £4 per month but it was raised to £4.4. See TNA, James Rogers' Papers, C 107/5, Letter from James Williams to James Rogers, November 5, 1790; Letter from Jane Dineley to James Rogers, December 19, 1790.

[515] Ibid., Letter from Jane Dineley to James Rogers, December 19, 1790.

[516] In contrast with surgeons, slave ship mariners and seamen across the maritime trades were typically not paid their wages until the end of the voyage, and in the case of the slave trade, wages were frequently paid in West Indian currency which was worth significantly less than British sterling. As a result, mariners' wives and children often had to depend on charity and many were found in town workhouses while they awaited their spouses' return. See Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730-1807*, 43–45.

[517] See for example, TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, September 30, 1674, f. 4v.

surgeons earned an extra £25.[518] Whereas Dolben's Act premiums were determined at the end of a voyage and elicited few comments by slave trade surgeons, "privilege slaves" were part of surgeon's employment negotiations and appear frequently in their correspondence.

"Privilege slaves" refers to the enslaved human beings surgeons received as part of their remuneration. The number of slaves given depended on vessel size, and surgeons were typically allowed between one and three slaves. Medical men were paid in people in two different ways. In the first, the surgeon was able to choose enslaved people from among the cargo to sell when the ship landed in the Americas. Surgeon Richard Holden explained, you have "the liberty to pick them out of ye Whole Cargoe on ye passage which Slaves, sell allways ye best of any."[519] This was obviously an insecure financial arrangement. As Richard Holden discovered, when your pay was tied to individual slaves, if your slaves got sick and died, your hefty bonus died along with them.

Despite attempts to keep his privilege slaves in tiptop vendible shape, Holden was unable to stave off their illnesses and diseases, which consistently wrecked his monetary gain. Apologizing to his brother for not making as much money as he had anticipated, Holden wrote in 1752, "One of my Slaves had been Sick five Months, and he had hardly any flesh on him when he was Sold which Caus'd me to take verry Little for him."[520] In 1754, Holden had a similar experience. "My priveledge Slaves Stood in upwards of fourteen pound Str [Sterling] Each all

[518] Vale and Edwards, *Physician to the Fleet*, 54–55.

[519] NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to John Holden, February 17, 1750.

[520] NLS, Acc. 11272, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, October 22, 1752. See also NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, September 19, 1752.

which threw me Terribly behind," he wrote.[521] And again in 1755, "my three Slaves were much out of order when I sold them, so that they did not bring me prime Cost."[522] Even "a fine little Boy I intended to send down to you died on ye middle passage."[523] The fragile lives of the enslaved under Holden's care were dreadfully unhealthy despite his all-consuming self-interest, chilling financial calculations, and whimsical desire to send a lavish gift home in the form of an African child. Although Holden was responsible for their physical preservation, the enslaved individuals who were meant to be his bonus pay were vulnerable, sick, weak, debilitated, and sold as refuse. By the end of the Middle Passage, these children, women, and men, were worth almost nothing from the surgeon's perspective.

What became more common during the eighteenth century was for slaving doctors to receive the monetary value of their privilege slaves based upon the average per-slave-price of all the human cargo sold from the voyage. In the final decades of the eighteenth century, £59 was the average price of a male slave of prime laboring age in Jamaica.[524] Even a sickly ship could still provide surgeons with lucrative compensation. Surgeon James McLeland was surgeon on the slave ship *Jupiter* which sold her human cargo in Jamaica in 1793.[525] The merchants sold 342 enslaved children, women, and men. One hundred of these individuals were considered refuse (e.g. sickly, too old, too young, or maimed) and sold at £42 each. However, the remaining

[521] NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter from Richard Holden to Abram Holden, July 13, 1754.

[522] NLS, Acc. 11272/4, Richard Holden Papers, 1748-1759, Letter from Richard Holden to John Holden, July 28, 1755.

[523] NLS, Acc. 10765, Richard Holden Papers, 1747-1761, Letter to Abram, 19 Sept 1752.

[524] David Eltis and David Richardson, "Prices of African Slaves Newly Arrived in the Americas, 1673-1865: New Evidence of Long-Run Trends and Regional Differentials," *Slavery in the Development of the Americas*, ed. David Eltis, Frank D. Lewis, and Kenneth L. Sokoloff (New York: Cambridge University Press, 2004), 198.

[525] For more details on the *Jupiter* see David Eltis, et al., eds. *The Trans-Atlantic Slave Trade Database*, Voyage Identification #18146.

242 were reasonably healthy. The overall average price for the human beings came to £58.3.9, and the doctor earned £116.7.6 for his bonus of two privilege slaves.[526] With McLeland's one shilling head money included, the remuneration he received after monthly wages came to £133.9.6. If the surgeon wanted to return home and set up shop, he could now afford the £100 needed for a basic surgery. Even a voyage that would be considered a financial disaster from the merchant's perspective, with a ship full of refuse human beings averaging £30 or £40 per life, a surgeon who was contracted to receive two or three privilege slaves, could still return home with £60 to £120 in his pocket from privilege alone.

For this reason, during the hiring process, medical men actively negotiated to acquire more privilege slaves under this system. Surgeons who had never worked on board a slaving vessel pushed for as high a number of slaves as possible. Walter Haynes wrote to James Rogers, "I received your obliging favor mentioning the terms for a Person to act as a Surgeon on board of a Vessel on the African Trade. I understood there were two, sometimes three Slaves allowed to a person of the Faculty in that situation...Will you be kind enough to say if two Slaves can be allowed."[527] Smaller vessels struggled to find surgeons since fewer privilege slaves would be allowed. Sailmaker John Robinson actively recruited surgeons for James Rogers' slaving vessels but in the 1790s his efforts were thwarted. Robinson wrote, "We are short of Surgeons here & those upon the Spot and unengaged, are trying for the larger vessels where two Slaves Privilege is given, and are almost certain to be engaged; So that I have good reason to believe there is not one to be had in this port, for your purpose. Indeed I know that several Surgeons have been

[526] TNA, James Rogers' Papers, C 107/59, Sales of 342 Slaves Imported in the Ship Jupiter John Goodrich, July 3, 1793.

[527] Ibid., C 107/9, Letter from Walter Haynes to James Rogers, November 17, 1790. See also C 107/9, Letter from John Walker to James Rogers, September 25, 1790.

fetched from London."[528]

Slave trade surgeons went to extraordinary lengths to protect these emoluments. On board the slave ship *Little Pearl*, surgeon James Arnold recounted that he was a silent accomplice in the murder of a sick and emaciated African boy who was intentionally starved to death. Arnold and the other officers decided not to throw the child overboard.[529] Instead, when the ship disembarked her human cargo in St. Vincent, the officers hid the child on board and refused to give him food. Nine days later the little boy was dead.[530] If kept alive, the boy's poor purchase price would have lowered the overall average paid for the human cargo brought to market by the *Little Pearl* – an average that determined the officers' bonus pay. Killing the child ensured that Arnold and the other officers would receive the highest remuneration possible.[531] The financial possibilities, the economic boon that surgeons risked their lives for, largely revolved around "privilege slaves."

Thus, William Dineley embarked on the slave ship *Fame* with his eyes wide open. Before even setting foot on a slaving vessel, slave trade surgeons had already encountered the enslaved as currency in a negotiation, as property to be bartered. Surgeons knew quite clearly that the enslaved bodies under their care were commodities to be sold, human beings whose monetized lives represented the most lucrative financial perquisite surgeons received for their labor. By making captive Africans into a form of payment for doctors, the abject status of the slave was not only legitimized and reinforced, but institutionalized within the system of

[528] Ibid., Letter from John Robinson to James Rogers, April 13, 1790.

[529] Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade*, 1:342.

[530] Ibid., 1:341–42.

[531] Ibid., 1:342.

eighteenth-century slave trading. Economically embedding doctors' medical practice within the market logic of the slave trade, helped enable small-town Scottish surgeons like William Dineley to make the cognitive shift required to encounter African patients as vendible goods.

A few surgeons, however, struggled between their desire for money and the inhumanity of the slave trade. While professional medical ethics was still in its infancy in the late eighteenth century and was generally geared toward the gentlemanly class of domestic physicians, the slave trade broadened the scope of the medical ethical vantage point during the movement to abolish the slave trade. After returning from his first and only slaving voyage, surgeon Thomas Trotter told famed abolitionist William Wilberforce, "had I engaged fully in the trade, the love of money might have entrapped my judgment, as I possess frailties like all mankind."[532] He saw men "of great medical abilities, and general science, ranged on the side of a traffic in human beings."[533] Trotter wrote that he felt afflicted when "a Physician, the prerogatives of whose profession are to alleviate pain, and prevent the evils of human nature," could rail against slave-trade abolitionism as "fanatic enthusiasm."[534] The social and economic basis of slave trade medicine, however, incentivized dehumanization, and likely coalesced in the minds of many practitioners with other long-standing cultural and political discourses that rendered African people as inferior beings. For many doctors, in the exigencies of daily life, transforming African lives into human merchandise was a choice they accepted in order to ensure their own and their family's survival.

In the case of Jane and William Dineley and their seven children, the family daily relied upon the slave trade. Five months into William's employment, the family had already received

[532] Trotter, *Medicina Nautica*, 1797, 1:326.

[533] Ibid., 1:327.

[534] Ibid., 1:326.

advances on William's monthly wage totaling more than the entirety of wages he would earn from his medical labor on board the slave ship *Fame*.[535] As a result, Jane began borrowing against the lucrative perquisite William would receive for his privilege slaves upon the completion of the voyage. She was desperate and struggling, heavily in debt, and in fear of falling into complete and utter ruin. In a letter to William's employer James Rogers, dated April 4, 1791, Jane wrote, "It may seem strange that I should so very often have occasion for your assistance; but from the debts which I had contracted to my friends here previous to your first remittance, and a severe illness I have labored under during this last Winter, I am necessitated...with the greatest repugnance, to encroach upon your goodness."[536] Two and a half months later, Jane's health continued to fail, which "has very much increased my expences and added to the unhappiness of my mind."[537] The medical expenses she accrued due to her extended illness compounded with an already debt-ridden balance sheet, required Jane to continue borrowing against William's future earnings. She had no other options available writing, "I have no prospect but ruin to myself and my helpless children…Your compliance with this will be the happy means of saving a family from destruction."[538] To make ends meet, Jane folded the lives of captive Africans into her household economy.

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[535] William Dineley was advanced £10.10 on October 21, 1790 and £14.14 on October 30,1790. Jane received ten guineas (£10.10) on January 15, 1791, and another ten guineas on February 5, 1791. William made sure she received an additional £10 on March 3, 1791. These advances come to £56.4, and Dineley was due to receive monthly wages at £4.4 per month for thirteen months. See TNA, James Rogers' Papers, C 107/5, Cash Advance to William Dineley, October 21, 1790 and October 30 ,1790; C 107/10, Letter from Jane Dineley to James Rogers, January 15, 1791; C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, February 5, 1791; C 107/5, Letter from William Dineley to James Rogers, March 3, 1791.

[536] TNA, James Rogers' Papers, C 107/7, pt. 2, Letter from Jane Dineley to James Rogers, April 4, 1791.

[537] Ibid., Letter from Jane Dineley to James Rogers, June 28, 1791.

[538] Ibid., C 107/10, Letter from Jane Dineley to James Rogers, July 9, 1791.

Jane waited anxiously for William to return that summer. In a letter dated July 18, 1791, she received the happy news that William was in Jamaica and hoped to set sail for England on the 1st of August.[539] By the end of October he had still not returned. William died in Jamaica. He never returned home, and Jane never saw her husband again.

And what of the African children, women, and men on board the *Fame* whose vendible lives held such hope for the Dineleys? Their bruised and branded bodies were deposited in Jamaica where they were auctioned off as human chattel. These African captives helped temporarily feed a family in Scotland, and others would continue to feed off their labor and monetize their existence. At the same time, the enslaved worked tirelessly to reconfigure the meaning of life in a slave society shaped by death.[540]

Despite the hazards, the slave trade continued to beckon to medical men across the eighteenth century because of its remunerative possibilities. However, the structure of doctors' compensation within a medical system shapes the nature of medical practice that occurs within it. The generous pay offered by slave trade merchants required healers to violateAfrican bodies and wieldviolence against children, women, and men in order to keep them alive, preserve them for sale, and win their lucrative pay.

[539] Ibid., C 107/7, pt. 1, Letter from George Duncan to James Rogers, October 28, 1791.

[540] See Vincent Brown's excellent treatment of the subject of death in eighteenth-century Jamaica in Brown, *The Reaper's Garden.*

Chapter Three: Medicine and Captivity

Writing while perched on his knees on board the slave ship *Alice* as it bobbed upon the waves in the harbor at Old Calabar (present-day Nigeria), surgeon Joseph Degraves was agitated.[541] Two days into the voyage he felt like he was in prison "in Newgate that hell is broke loose."[542] Now on the African coast, the voyage had deteriorated further. One hundred and thirteen enslaved people had already perished, the bread was moldy, the sailors were starving, twenty-two mariners were dead, and the Africans all had dysentery because of the bad yams they had been fed, he wrote.[543] "Our first and second mate beat the crew in a most cruel manner & one would think that they are all a parcel of brainless fellows, who care for no body," he related.[544] More than this however, cruelty beyond words had occurred on board the slave ship that he simply could not and would not commit to paper, he wrote. Luckily, this was one of the days when Degraves actually had full vision; his eyesight was failing and every two days or so he was blind. "I hope I shall have the pleasure of seeing Bristol again," he mused, "tho' a ray of despair often comes to obtruck my hopes." Slave trade surgeons knew that they might never return home.

Slave trading required surgeons to practice medicine in this "hell," and they, too were active contributors to its scenes of horror. As Thomas Clarkson reflected, those who participated in the slave trade had to become accustomed to "carry away men and women by force, to keep

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[541] TNA, C107/12, James Rogers' Papers, Letter from J. P. Degraves, M.D. to James Rogers, October 10, 1790. Note that "Degraves" and "Degravers" are used interchangeably in referring to the doctor in the surviving correspondence.

[542] Ibid., Letter from Joseph Degravers to James Rogers, January, 18, 1790.

[543] Ibid., Letter from J. P. Degraves, M.D. to James Rogers, October 10, 1790.

[544] Ibid.

them in chains, to see their tears, to hear their mournful lamentations, to behold the dead and the dying, to be obliged to keep up a system of severity amidst all this affliction."[545] Rather than making home visits to the sick on horseback, mending gunshot wounds in the theatre of war, serving in workhouse infirmaries with pauper patients, or offering part-time medical service in British prisons, slave trade medicine presented a new set of challenges for eighteenth-century medical practitioners.[546] On board thousands of slave ships, doctors beat African captives who refused to eat, restrained enslaved women and men who attempted suicide, engaged in armed battle against their human cargo during shipboard insurrections, and forced medicines down

[545] Thomas Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade by the British Parliament*, vol. 1 (London: Printed by R. Taylor and Co., 1808), 395–396.

[546] Parish workhouses became an increasingly important source of institutional medical care among the British poor. Physicians often donated their time; whereas surgeons and apothecaries typically arranged some form of remuneration. For more on workhouse medicine see for example Kevin Siena, "Hospitals for the Excluded or Convalescent Homes?: Workhouses, Medicalization and the Poor Law in Long Eighteenth-Century London and Pre-Confederation Toronto," *Canadian Bulletin of Medical History/Bulletin Canadien d'histoire de La Médecine* 27, no. 1 (2010): 5–25; Kevin Patrick Siena, *Venereal Disease, Hospitals, and the Urban Poor: London's "Foul Wards," 1600-1800* (Rochester, NY: University Rochester Press, 2004), 135–80; J. Boulton and L. Schwarz, "The Medicalisation of a Parish Workhouse in Georgian Westminster: St Martin in the Fields, 1725–1824," *Family & Community History* 17, no. 2 (October 2014): 122–40; Jonathan Reinarz and Leonard Schwarz, eds., *Medicine and the Workhouse* (Rochester, NY: University of Rochester Press, 2013).

In regard to prison medicine, there was no formal provision of medical care prior to the 1770s when prison reform began in England. Prisoners provided medicine at their own expense or authorities brought in practitioners when there was a major disease outbreak. For those who provided medical service it was therefore part-time, but practitioners were also responsible for paying for all the medicines they administered out of their salary. Medical service was provided on a full-time basis for the first time when Millbank National Penitentiary opened in 1816. There is evidence, however, of medical experimentation being conducted on prisoners held at Newgate in 1721. Smallpox inoculation experiments were conducted on six prisoners by Charles Maitland who used the prisoners to perfect his inoculation technique. See Peter McRorie Higgins, "Genitourinary Medicine and Surgery in Prisons during the Period of Reform," *BJU International* 95, no. 9 (2005): 1192–1195; Joe Sim, *Medical Power in Prisons: The Prison Medical Service in England 1774-1989* (Philadelphia, PA: Open University Press, 1990); Angeline Brasier, "Prisoners' Bodies: Methods and Advances in Convict Medicine in the Transportation Era," *Health and History* 12, no. 2 (January 1, 2010): 21.

For surgeons who served on board convict transportation ships, which again was a very different shipboard world and operated on a different scale than the slave trade see Kenneth Morgan, "The Organization of the Convict Trade to Maryland: Stevenson, Randolph and Cheston, 1768-1775," *The William and Mary Quarterly*, Third Series, 42, no. 2 (April 1, 1985): 213–15; John White, *Journal of a Voyage to New South Wales*, reprint (New York: Routledge, 2004); Derek J. Oddy, "A Surgeon-Superintendent's Experiences on a Convict Transport: The Voyage of the Emperor Alexander to Van Diemen's Land in 1833," *The Mariner's Mirror* 96, no. 3 (2010): 303–316; John Pearn, "Surgeon-Superintendents on Convict Ships," *Australian and New Zealand Journal of Surgery* 66, no. 4 (April 1, 1996): 253–56. See also David Richards, "Transported to New South Wales: Medical Convicts 1788-1850," *British Medical Journal (Clinical Research Ed.)* 295, no. 6613 (December 19, 1987): 1609–12.

captives' throats and into their anuses as they longed for death. There was little precedent for this form of medical practice in the eighteenth-century British Isles.

This is not to insinuate that doctors committed no harm in other contexts in which medicine was practiced during the eighteenth century because they surely did. At Bath's General Hospital, Scottish physician Archibald Cleland was investigated for having performed excessively violent vaginal examinations on two women patients, which caused them to bleed, and in a third case Cleland bolted the examination door and brutally raped a female patient.[547] Servicemen in the British army and seamen in the Royal Navy might be forced to endure painful medical experiments, and surgeons at times meted out undue suffering upon sick soldiers and sailors who had become guinea pigs for the benefit of the state.[548] There was plenty of medical abuse to go around, and the question here is not about comparing various forms of medical brutality that occurred in eighteenth-century British medicine. What is of interest is how the slave trade, as a commercial institution, created a form of medicine to support its unique needs. While individual doctors in Britain may have wielded harm against the vulnerable, and naval doctors may have inflicted cruelty upon impressed seamen or upon enemies in the heat of war, the intercontinental medical management system of the slave trade brought doctoring and human commodification into a bold new relationship – one that required doctors to function as medical captors. This chapter explores the education and training which slave trade surgeons brought with them to the African coast, which provided medical men with intellectual resources that allowed slave trade medicine to thrive.

Although the decision surgeons made to enter the trade was largely driven by economic

[547] Fissell, "Innocent and Honorable Bribes," 26–27.

[548] Kopperman, "The British Army in North America and the West Indies, 1755-83: A Medical Perspective," 74; Mills, "Privates on Parade."

need, profit motive alone is an inadequate explanatory framework for examining how this form of eighteenth-century medicine was put into practice in the daily social world of the slave trade. Determining the ways in which surgeons' education and training influenced their labor, however, is a highly speculative line of inquiry. These medical men committed very little to paper about how they personally understood and made sense of their medical practice in the slave trade. Much of doctors' daily practice and life on board ship could not be communicated in everyday correspondence, as surgeon Joseph Degraves expressed above. Letters home to wives and children, mothers and fathers, are understandably silent about the experience of resuscitating eighteen enslaved women who jumped overboard, attempting to commit suicide en masse in order to escape their brutal enslavement.[549] During a Parliamentary hearing, surgeon Ecroyde Claxton testified that the extreme methods used to force the enslaved to eat were "too nauseous to mention."[550] Sailor James Field Stanfield wrote similarly that many acts were "too atrocious and bloody" to describe without unduly wounding his readers. As a result, "numerous hidden and unrevealed enormities, the offspring of barbarity and despotism, that are committed daily in the prosecution of this execrable trade," remain hidden from view.[551]

Indeed, few slave ship surgeons testified during the Parliamentary inquiry that occurred in the 1780s and 1790s, and only five gave evidence on behalf of abolition.[552] Given the labor involved in protecting and maintaining one's gains in the domestic medical marketplace, some

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[549] Alexander Falconbridge, *An Account of the Slave Trade on the Coast of Africa* (London: Printed by J. Phillips, 1788), 31.

[550] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of the Evidence Taking Report a Committee of the House of Commons, Vol. 82, March 1, 1791 – May 14, 1792, Testimony of Ecroyde Claxton, February 10, 1791, 34.

[551] James Field Stanfield, *Observations on a Guinea Voyage* (London: Printed by James Phillips, 1788), 33.

[552] The five slave ship surgeons who testified during the Parliamentary hearings on behalf of abolition were James Arnold, Ecroyde Claxton, Alexander Falconbridge, Thomas Trotter, and Isaac Wilson.

slave trade surgeons feared that becoming involved in the highly-charged political debate would negatively impact their businesses. Thomas Clarkson interviewed a former slave ship surgeon who described "scenes of misery which he had witnessed, and on the relation of which he himself almost wept."[553] However, the surgeon explained that he would not go on the record and would give no evidence publicly. "'I am a surgeon,' says he: 'through that window you see a spacious house. It is occupied by a West Indian. The medical attendance upon his family is of considerable importance to the temporal interests of mine. If I give you my evidence I lose his patronage. At the house above him lives an East Indian. The two families are connected: I fear, if I lose the support of one, I shall lose that of the other also."[554]

There is much that cannot be known about how doctors' medical training helped prepare them to function as medical captors whose ultimate goal was to produce a vendible human labor specimen for sale. During the second half of the eighteenth century, there is evidence that some slave trade surgeons abandoned the medical profession entirely and became slave ship captains, fully embracing the trade in human flesh.[555] Given the silences in the surviving evidence and the omissions that slave trade surgeons felt compelled to enforce, it may appear infeasible to penetrate this species of eighteenth-century medicine any further. However, the slave trade did not exist in a vacuum, abstracted from the wider world of eighteenth-century British medicine. In fact, as the slave trade accelerated, surgical education and the profession as a whole underwent major advances, and slave trade surgeons were deeply embedded in these new developments. Thomas Bonner writes, "the whole transatlantic world was in the grip of

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[553] Thomas Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade by the British Parliament*, vol. 2 (London: Printed by R. Taylor and Co., 1808), 25.

[554] Ibid.

[555] Behrendt, "The Captains in the British Slave Trade from 1785 to 1807," 97–100.

profound social and political movement...and inevitably the practice of healing was also affected."[556] Their training allowed them to become more adept at practicing medicine upon the objectified bodies of the living and upon the commodified bodies of the dead. Medicine was becoming modern and the bodies of enslaved African children, women, and men were subjected to its dehumanizing contours. Although from an economic standpoint, slave trade surgeons existed on the perilous edges of their profession, the evidence suggests that they were active participants in, and contributors to, the modernizing forces of medicine at work in the latter half of the eighteenth century.

Violent Medicine

Doctors in the slave trade were critical figures in an extensive intercontinental supply chain where the products were people. The enslaved represented "a very valuable, but a very precarious property" stated West Indian slavery advocate Dr. Adair in 1788.[557] As such, doctors were an important component of the risk-reduction strategies that slave trade merchants used to protect their investments. During the Atlantic crossing, surgeon Alexander Horsburgh explained

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[556] Thomas Neville Bonner, *Becoming a Physician: Medical Education in Britain, France, Germany, and the United States, 1750-1945* (Baltimore, MD: Johns Hopkins University Press, 2000), 12.

[557] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Report of the Lords of the Committee of Council 1789, Part 1, Vol. 69, April 25, 1789, 332; Sheryllynne Haggerty, *Merely for Money?: Business Culture in the British Atlantic, 1750-1815* (Liverpool: Liverpool University Press, 2012), 45. Much has been written about the commodified status of the enslaved, particularly in the context of nineteenth-century U.S. slavery and the rise of capitalism. Rich debates exist concerning the nature of commodification, how totalizing it was in terms of master-slave relations in the plantation South, and includes discussions of the flexible and at times contradictory nature of the commodified status as well as how the enslaved resisted. See for example Walter Johnson, *Soul by Soul: Life Inside the Antebellum Slave Market* (Cambridge, MA: Harvard University Press, 1999); Edward E. Baptist, "'Cuffy,' 'Fancy Maids,' and 'One-Eyed Men': Rape, Commodification, and the Domestic Slave Trade in the United States," *The American Historical Review* 106, no. 5 (2001): 1619–50; Baptist, *The Half Has Never Been Told*; Nicholas T. Rinehart, "The Man That Was a Thing: Reconsidering Human Commodification in Slavery," *Journal of Social History* 50, no. 1 (January 25, 2016): 28–50. For the related concept of soundness and its relationship to commodifying slaves with disabilities see Dea H. Boster, *African American Slavery and Disability: Bodies, Property, and Power in the Antebellum South, 1800-1860* (New York: Routledge, 2013). See also the excellent edited volume Jeff Forret and Christine E. Sears, eds., *New Directions in Slavery Studies: Commodification, Community, and Comparison* (Baton Rouge, LA: Louisiana State University Press, 2015).

that "Some slaves are always Supposed to Dye in the voyage."[558] However, surgeons were expected to expend every effort to keep as many of the human cargo alive as possible. While treating outbreaks of scurvy, smallpox, ophthalmia, dysentery, yellow fever, malaria, and melancholia tested surgeons' medical abilities, what was unique about slave trade medicine was the context within which medicine was practiced. Keeping hundreds of chained, beaten, and incarcerated human beings alive on these floating prisons went beyond managing infectious disease.[559] Enslaved children, women, and men had recalcitrant spirits that required whips, chains, and terror to quell their attempts to fight back, kill their captors, escape, or commit suicide. Indeed, captive Africans were a precarious form of property because of their "irrepressible humanity."[560]

Slave ships functioned as war zones in which African captives rose against their captors.[561] "Africans fought back and fought hard, refusing to go quietly into bondage," Eric Robert Taylor explained.[562] The majority of shipboard insurrections went unreported making numerical assessments challenging.[563] Evidence suggests that approximately one slave ship in ten experienced an armed revolt, while uprisings of varying degrees of magnitude likely occurred

[558] National Archives of Scotland (hereafter, NAS), AC9/1042, Petition of Alexander Horseburgh Chirurgion in Glasgow Unto the Right Honourable Judge of the High Court of Admiralty, December 28, 1725.

[559] Marcus Rediker famously described slave ships as a war machine, mobile prison, and factory. See Rediker, *The Slave Ship*, 9–10, 44–45, 60–61.

[560] Smallwood, *Saltwater Slavery*, 34.

[561] Rediker, *The Slave Ship*, 32–35; Richardson, "Shipboard Revolts, African Authority, and the Atlantic Slave Trade"; Snyder, *The Power to Die*, 23–45; Mustakeem, *Slavery at Sea*, 94–99.

[562] Taylor, *If We Must Die*, 177.

[563] Ibid., 3, 7.

on average of once per month during the eighteenth century.[564] Surgeons engaged in bloody combat with the enslaved to quell shipboard uprisings. On board the slave ship *Lord Cassils*, the surgeon's mate described how a group of enslaved men broke free from the hold and came on board deck armed with knives and cutlasses.[565] The surgeon, surgeon's mate, and other crewmen rushed to the arms chest, but the keys had been stolen by one of the young captives. "After we had broke it open, and got to the arms, we fired briskly upon them," recounted the surgeon's mate. In the midst of the battle, "our chief mate, carpenter, and three others were lying blooding at our feet."[566]

As surgeon on board the *Little Pearl*, James Arnold witnessed a violent slave insurrection which resulted in fractured skulls and gunshot wounds.[567] The crew poured boiling water and fat repeatedly upon one of the perpetrators and stabbed him with their cutlasses.[568] Upon viewing the state of the man, Arnold related "he was One of the most miserable Objects that he ever saw in his Life, and he has seen many during the late War."[569] Even a hardened naval surgeon accustomed to medical practice in the theatre of war was shocked by battles waged on board British slaving vessels. However, the horror of the event had not yet ended. Arnold recounted

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[564] Richardson, "Shipboard Revolts, African Authority, and the Atlantic Slave Trade," 73–74; Taylor, *If We Must Die*, 3. See also Greene, "Mutiny on the Slave Ships"; Wax, "Negro Resistance to the Early American Slave Trade"; Smallwood, *Saltwater Slavery*, 33–34, 42–43, 104; Taylor, *If We Must Die*. For crew resistance and mutinies on slave ships see Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730-1807*, 91–124.

[565] "An Account of an Insurrection of the Slaves on Board the *Lord Cassils*," *Dumfries Weekly Magazine*, July 5, 1773.

[566] Ibid.

[567] Clarkson, *The History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-Trade*, 1:339–42.

[568] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Vol. 69, Report of the Lords of the Committee of Council Appointed for the Consideration of All Matters Relating to Trade and Foreign Plantations, February 11, 1799, Testimony of James Arnold, 133-134.

[569] Ibid., 134.

that mariners shot, killed, and decapitated one of the other leaders of the rebellion in view of the enslaved. Upon the captain's orders, the "Head was successively handed to the Slaves, who were obliged to kiss the Lips of it; some who refused to comply with the brutal Ceremony, were most unmercifully flogged by the Captain, and had the bloody Part of it rubbed against their Faces."[570] Slave trade surgeons were embedded in such spectacles of terror, which reinforced the notion that the enslaved were valuable property who needed to be controlled and preserved at any cost and by any means necessary.

Doctors were critical in trying to prevent captives from carrying out their frequent suicide attempts and tending to the wide array of bodily ailments that resulted from self-harming behaviors. A widespread belief among captive Africans was that through death they would return home to Africa.[571] As spiritual entities, they would be joyfully reunited with their kin and ancestral communities and they would also be able to participate in the affairs of the living because the earthly and spirit realms were in constant communication.[572] Thus, death offered a "conduit for ancestral reunion"; a path toward renewed wholeness; and, a way to remain connected with loved ones they had been forced to leave behind.[573] Slave trade surgeons were

[570] Ibid. The decapitation was meant to further terrorize the enslaved who believed that through death they would spiritually return to Africa. Authorities hoped to impress upon captive Africans that mutilating their bodies would shame the dead and prohibit their ability to live fully in the afterlife. As Vincent Brown's research has shown, such practices of dismemberment and mutilation were used throughout various slave societies in the Americas in an attempt to "give governing authority a sacred, even supernatural dimension." However, several West African belief systems governing the afterlife did not preclude one from entry because of decapitation or dismemberment. See Vincent Brown, "Spiritual Terror and Sacred Authority in Jamaican Slave Society," *Slavery & Abolition* 24, no. 1 (April 2003): 27. See also Rediker, *The Slave Ship*, 40; Taylor, *If We Must Die*, 38.

[571] Piersen, "White Cannibals, Black Martyrs"; Brown, "Spiritual Terror and Sacred Authority," 25; Michael Angelo Gomez, *Exchanging Our Country Marks: The Transformation of African Identities in the Colonial and Antebellum South* (Chapel Hill, NC: University of North Carolina Press, 1998), 116–20; Randy M. Browne and John Wood Sweet, "Florence Hall's 'Memoirs': Finding African Women in the Transatlantic Slave Trade," *Slavery & Abolition* 37, no. 1 (January 2, 2016): 214.

[572] Brown, "Spiritual Terror and Sacred Authority," 25. The relationship between the earthly and spirit realms in precolonial West Africa is discussed at length in the next chapter.

[573] Snyder, *The Power to Die*, 29.

aware of this compelling desire among the enslaved to die and return to Africa. "The utter aversion that they had of leaving their native places, and going with us made them use those means of depriving themselves of life, thinking that they should get back to their own country," described surgeon Ecroyde Claxton.[574] The surgeons' primary duty to keep captives alive was in direct conflict with many enslaved Africans who pursued death with passionate determination.

Despite being chained, confined, and surveilled with brutal vigor, captive Africans regularly devised methods to attempt suicide, which was an ordinary feature of daily life in the slave trade.[575] During just one voyage in 1693, Captain Thomas Phillips recounted that on board the *Hannibal* they had "about 12 negroes did willfully drown themselves, and others starv'd themselves to death."[576] Surgeon Isaac Wilson recounted that two women on board the *Elizabeth* found rope and hung themselves in the night. One of the women had very little room to carry out the self-asphyxiation. After stealing a bit of rope, the only suitable object she could find to attach the rope to was an armourer's vice. In full view of the other women, she fastened one end of the rope around the heavy metal tool, and created a noose with the other end, which she put around her neck. Rather than being suspended off the floor, the armourer's vice was located just above her head which meant that she would have had to jerk her body back and forth with violent effort for many minutes in order to die. When surgeon Isaac Wilson found the woman the next morning with her head lying against her shoulder, he examined her and

[574] *HCPP*, Testimony of Ecryode Claxton, 35.

[575] Suicide and suicide attempts on slave ships have been widely acknowledged in the historiography, and appear frequently in documentary evidence such as in the many volumes of Parliamentary testimony concerning the slave trade. However, quantifying suicide in the slave trade has been challenging for scholars due to the nature of the evidence and the lack of consistent recordkeeping. Moreover, suicide *attempts* are even more difficult to trace because by staying alive, these individuals would not have been entered onto mortality lists. See Steckel and Jensen, "New Evidence on the Causes of Slave and Crew Mortality in the Atlantic Slave Trade," 60–63; Snyder, *The Power to Die*, 20.

[576] Thomas Phillips, *A Journal of a Voyage Made in the Hannibal of London, Ann. 1693, 1694* (London: J. Walthoe, 1732), 219.

concluded "it plainly appeared that she must have made use of very great exertions to have accomplished her design" because her head was so near the top of the vice.[577]

While serving on board the slave ship *Brookes*, surgeon Thomas Trotter was called to examine one of the newly captured enslaved men and "found he had made an attempt to cut his throat" by puncturing the jugular vein. The enslaved man had lost a pint of blood and Trotter sutured the wounds. That night, the man tore out the sutures and attempted to cut his throat from the other side of his neck. Trotter initiated an extensive search throughout all the rooms to find the instrument the captive had used in his suicide attempt, but nothing was found. The surgeon returned to the enslaved man and upon further examination realized "from the ragged edges of the wound, and the blood upon his finger ends," the captive had slowly and deliberately dug his fingers through layers of skin and flesh to reach the jugular vein. To prevent another episode, Trotter secured the man's hands behind his back. Unable to reach his neck, within one week the man ended up starving himself to death, proclaiming that he would never go with the white men.[578]

Refusing to eat was such a common occurrence that historian Marcus Rediker wrote that the Atlantic slave trade was in several respects "a 400-year hunger strike."[579] When surgeon Alexander Falconbridge served on board the *Alexander* a woman who was sick with dysentery refused all food and medicines. Falconbridge recounted, "I often tried to make her swallow wine, but never could. I desired the interpreter to ask her what she wanted, or what I should get

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[577] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Part 2, Vol. 72, Minutes Reported to the House March 19, 1790, Testimony of Isaac Wilson, March 6, 1790, 279.

[578] HCPP, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Volume 73, Minutes of the Evidence of the Slave Trade, April 23, 1790, Testimony of Thomas Trotter, March 5, 1790, 83.

[579] Rediker, *The Slave Ship*, 285. See also Mustakeem, *Slavery at Sea*, 125.

for her; she replied, she wanted nothing but to die – and she did die."[580] Slave ship doctors were often given the task of beating captive children, women, and men with a cat-o'-nine tails when they refused to eat, lacerating their flesh in order to preserve them for sale. Surgeon Isaac Wilson frequently had to inflict this kind of violence and terror upon the enslaved and recounted how "even in the act of chastisement or flagellation, I have seen the Slaves look up at me with a smile on their countenance, and in their own language say, 'Presently we shall be no more.'"[581] The naked beatings, sharp pain, pickled backs, and debilitating sorrow would only usher African children, women, and men more quickly into the afterlife. They smiled perhaps knowing that the end might be near and they could finally return home.

In addition to whips, doctors were equipped with surgical instruments to make human cargo comply with their medical directives. Doctors were provided with the *speculum oris*, which was a familiar instrument that they ordinarily used to treat lockjaw and to keep patients' mouths open when medicine needed to be applied to the throat and uvula.[582] However, the surgical device was repurposed for the slave trade. The scissors-shaped instrument, whose serrated blades were opened and closed by vigorously twisting a thumb screw, could help derail suicide by starvation.[583] When captives refused to eat and beatings failed, the enslaved were pinned down by mariners while the surgeon hammered the device between the captives' teeth, and by aggressively turning the thumb screw, the serrated blades compelled their mouths to open

[580] *HCPP*, *Minutes, &c. Reported to the House, Veneris 19° die Martii 1790*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade, Part 2, Vol. 72, 1790, Testimony of Alexander Falconbridge, 300.

[581] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Part 2, Vol. 72, Minutes Reported to the House March 19, 1790, Testimony of Isaac Wilson, March 6, 1790, 283.

[582] William Salmon, *Synopsis Medicinæ*, 2nd ed. (London: Printed for Thomas Dawks, 1681), 410; Patricia Fara, "Thomas Clarkson: A Curious Collector," *Endeavour* 34, no. 2 (June 2010): 44.

[583] Tattersfield, *The Forgotten Trade*, 142.

so they could be force fed.[584]

Slave trader Jean Barbot remarked that the violence involved in forcing captive Africans to eat often broke off their teeth. "I must say I am naturally compassionate, yet have I been necessitated sometimes to cause the teeth of those wretches to be broken, because they would not open their mouths, or be prevailed upon by any intreaties to feed themselves; and thus have forced some sustenance into their throats."[585] In 1792, James Rogers paid Bristol surgical instrument maker Joseph Horler one shilling for supplying a turn screw for the slave ship *Fame*, which was put to similar use, along with two bolus knives which cost only two pence each.[586] Such meager financial expenditures were required for instruments which symbolized "the mortal struggle to prevent enslaved people from dispossessing their tormentors."[587]

Doctors were equipped with a pharmaceutical arsenal, drove medicines down the throats of captive Africans, drained their blood, and plunged metal pipes into their rectums to administer enemas. Mariners hovered nearby with whips in hand to ensure they complied, as naturalist Henry Smeathman observed.[588] During the course of an illness, some medical providers whipped, punched, kicked, and cursed the enslaved, even when they were on the brink of death. James Morley, who had served on board six slave ships as a gunner, told a Parliamentary committee in 1790, "I have seen the surgeon's mates on giving them medicines, force the

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[584] Testimony of Isaac Wilson, March 6, 1790, 277; Taylor, *If We Must Die*, 37; Snyder, *The Power to Die*, 38.

[585] Jean Barbot, "A Description of the Coasts of North and South-Guinea, and of Ethiopia Inferior, Vulgarly Angola," in *A Collection of Voyages and Travels*, ed. Awnsham Churchill and John Churchill, John, vol. V (London: Printed by John Walthoe, et al., 1732), 272.

[586] TNA, C 107/6, James Rogers' Papers, Invoice, March 30, 1792, Surgical Instruments from Joseph Horler for the Fame. For the use of bolus knives to pry open the mouths of the enslaved see *HCPP*, Testimony of Isaac Wilson, 280, 292.

[587] Richard Bell, *We Shall Be No More* (Cambridge, MA: Harvard University Press, 2012), 39.

[588] Henry Smeathman, "Extracts from Smeathman's Letters to Mr. Drury," July 10, 1773, 26-27, quoted in Deirdre Coleman, *Romantic Colonization and British Anti-Slavery* (New York: Cambridge University Press, 2005), 50.

pannikein between their teeth, and throw it over them, in a manner that not one half of it has gone into the mouth; this was done when the poor wretches have been wallowing or sitting in their blood or excrements, hardly having life; and this with blows with the cat; damning them for being sulky Black b—: I do declare, that I have known the doctor's mate report a Slave dead, and have him thrown over-board, when there has been life in him, and he has struggled in the water after being thrown over-board."[589] Indeed, Thomas Aubrey recounted that sick slaves were kicked, punched, and beaten so often during their illnesses that some would cry out and "creep under one of the Platforms and hide themselves, and dye [die] there."[590]

Surgeon James Arnold summed up the situation quite aptly explaining that the slave trade "was conducted on the Principal of Force" and surgeons were enmeshed in, and at times contributors to, its terrifying contours.[591] The medical management of life on slave ships required violence and terror in its operations. Surely there were surgeons who sought to offer relief to captives when the opportunity arose and desired to ameliorate their misery when they could. Slave ship surgeon Thomas Aubrey encouraged surgeons to render good medical care to captive African children, women, and men not only for one's economic self-interest and professional standing, but also because it was a matter of conscience. He wrote, "the more you preserve of them for the Plantations, the more Profit you will have, and also the greater Reputation and Wages another Voyage; besides it's a Case of Conscience to be as carefull to them, as the white Men; for altho' they are Heathens, yet have they a rational Soul, as well as

[589] HCPP, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Volume 73, Minutes of the Evidence of the Slave Trade, April 23, 1790, Testimony of James Morley, 160.

[590] T. Aubrey, *The Sea-Surgeon, or the Guinea Man's Vade Mecum* (London: Printed for John Clarke, 1729), 129–30.

[591] *HCPP*, Testimony of James Arnold, February 11, 1788, f. 53.

us."[592] Surgeons like Aubrey intervened when other personnel on board abused the enslaved. Aubrey recounted that when he saw captives being physically attacked, "I must needs say my Heart hath been ready to bleed for those poor Wretches, when they have been so treated; and I have also saved many a Hundred (by God's Assistance) both from Abuse and Death."[593] While surgeons may have been able to intervene when egregious acts of violence were committed against enslaved children, women, and men, the reality was that there was no way for doctors to avoid carrying out medical tasks that were laced with brutality. They could not avoid armed combat, forced feedings, restraining the suicidal, forcibly administering medicines while mariners pinned down non-compliant slaves, beating captives when they refused to eat, and tending to the resulting injuries that they themselves had caused. The slave ship was like Newgate prison, Bedlam's madhouse, a hospital ship, a war zone, and a floating tomb all at once, and doctors were hired to keep the enslaved alive in such a setting. Their medical knowledge was mobilized to maximize the violent, forced flow of human goods.

When surgeon Isaac Wilson was asked by a Member of Parliament why he was no longer practicing medicine in the slave trade, Wilson's initial responses were vague, and his language shrouded that which he did not want to put into words. Wilson answered, "I did not like to continue in a trade that did not perfectly coincide with my ideas, and that was not to my satisfaction."[594] When pushed to explain his response, Wilson divulged a bit more explaining that he was "obliged to make use of means for the preservation of the cargo, contrary to my feelings and sense of humanity." These answers were insufficient and the Parliamentary

[592] Aubrey, *The Sea-Surgeon*, 121.

[593] Ibid., 130.

[594] HCPP, Testimony of Isaac Wilson, 282.

committee demanded further detail. Wilson explained that in order to preserve the cargo he was often forced to inflict violent pain through "the application of the cat [cat-o'-nine tails], to which I have had frequent recourse," all while the enslaved smiled at him, encouraging him to send them closer to their much desired death.[595] For the surgeon, the lines had blurred between the preservation of life and its destruction, between being a doctor and a murderer. Wilson did not want to articulate his participation in such events, and most slave ship surgeons, as discussed above, refused to divulge these kinds of details concerning their shipboard medical labor.

Upon first glance, slave trade medicine appears beyond the bounds of anything resembling the healing arts. In certain respects, some aspects of slave trade medicine little resembled *human* medicine as it was understood in eighteenth-century Britain. Observers could not help but note that the enslaved prior to purchase on the African coast were examined more like laboring beasts than human beings. During the Parliamentary inquiry into the slave trade, one Member of Parliament asked a slave trader, "Are they not examined as a horse is in this country?" The merchant responded, "I certainly should look to a Negro's eyes, to see whether he was blind, as I should to a horse in this country, if I was about to purchase him, and also to his limbs."[596] Decades earlier, surgeon John Atkins made a similar observation writing, "they are sold in open Market on shore, and examined by us in like manner, as our Brother Trade do Beasts in Smithfield."[597] In the early eighteenth century, in a lecture to his medical students at the University of Leiden, internationally renowned Dutch physician Herman Boerhaave wrote that both cattle dealers and slave purchasers knew the importance of examining the tongues, lips,

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[595] Ibid., 283.

[596] *HCPP*, Testimony of John Fountain, June 16, 1789, 274.

[597] John Atkins, *A Voyage to Guinea, Brasil, and the West-Indies* (London: Printed for Caesar Ward and Richard Chandler, 1735), 179.

and eyes to determine if oxen, sheep, and slaves were "sound or healthy, and fit for their designed Labour."[598] The encounter between doctors and slaves was so debased and so dehumanized, it little resembled contemporary understandings of human medical interactions. For some, the only appropriate comparison was with the animal world. However, slave trade medicine was not a form of veterinary medicine despite such parallels. British doctors practiced a new form of human medicine in the context of the slave trade.

During the second half of the eighteenth-century medicine was in the midst of a major transition and surgeons were important participants in these changes. As their education and training took new forms, surgeons acquired new intellectual resources that supported their slave trade medical labor. Medicine was in the process of becoming modern and "anyone writing on the history of Western medicine between 1750 and 1850 deals, in one way or another, with the initial transition from early modern to modern medicine. It is unavoidable," writes Susan Lawrence.[599] Slave trade medicine was embedded within these movements. Everything pivoted around living patients and their lifeless bodies in hospital wards and dissecting theatres across the British Isles.

Patients as Clinical Objects

The medical world slave trade surgeons came from was in flux. Not only was pharmaceutical production and drug consumption increasing apace as discussed in Chapter One, the surgeons who entered the slave trade over the course of the eighteenth century were being trained in new ways. Medical education is deeply significant in shaping professional attitudes,

[598] Herman Boerhaave, *Dr. Boerhaave's Academical Lectures on the Theory of Physic*, vol. VI (London: J. Rivington, et al., 1757), 110.

[599] Lawrence, *Charitable Knowledge*, 12.

directing behavioral norms between patients and clinicians, as well as conveying knowledge. For centuries, medical training for surgeons and apothecaries occurred within the apprenticeship system where students learned skills piecemeal under a local master.[600] Typically beginning around the age of fourteen, aspiring youth were indentured to serve five- to seven-year apprenticeships after having completed a solid early education.[601] Apprenticeship relied on individual skill transmission from master to servant. As such, the level and quality of training varied based upon the master's expertise and commitment to their pupil.[602]

Often working ten to twelve hours per day, the surgeon's apprentice ran errands and cleaned the shop. The teenager was instructed in making and compounding medicines, applying

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[600] Johanna Geyer-Kordesch and Fiona Macdonald, *Physicians and Surgeons in Glasgow: The History of the Royal College of Physicians and Surgeons of Glasgow, 1599-1858*, vol. 1 (Rio Grande, OH: Hambledon Press, 1999), 215.

[601] Cardwell, "Royal Naval Surgeons," 46; Lane, "The Role of Apprenticeship," 49; Fissell, *Patients, Power and the Poor*, 49. See also Schwarz, *Slave Captain*, 33.

[602] Cardwell, "Royal Naval Surgeons," 46. See also Fissell, *Patients, Power and the Poor*, 48; Cormac Ó Gráda, "Did Science Cause the Industrial Revolution?," Working Paper Series (Center for Competitive Advantage in the Global Economy: University College Dublin and CAGE, University of Warwick, 2014), 16; Thomas R. Forbes, "Apprentices in Trouble: Some Problems in the Training of Surgeons and Apothecaries in Seventeenth Century London," *The Yale Journal of Biology and Medicine* 52, no. 2 (April 1979): 227–37.

Apprenticeship was a regulated institution and apprenticeship indentures were legal instruments that had to be registered with a guild or city, and in some cases with both. There were certain expectations governing the apprenticeship-master relationship, and apprenticeship was the primary institution responsible for vocational training outside of the agricultural sector prior to 1800. See C. Minns and P. Wallis, "Rules and Reality: Quantifying the Practice of Apprenticeship in Early Modern England," *Economic History Review* 65, no. 2 (2012): 335–36, 556; Ó Gráda, "Did Science Cause the Industrial Revolution?," 16.C. Minns and P. Wallis, "Rules and Reality: Quantifying the Practice of Apprenticeship in Early Modern England," *Economic History Review* 65, no. 2 (2012): 556.

For a precedent setting Scottish legal case concerning a surgical apprenticeship involving slave ship surgeon Alexander Horsburgh see *Horsburgh v. Hyslop*. The case determined that when an apprentice paid sums to a master's wife, these were to be considered part of the master's premium and as such had to be legally included in the apprenticeship indenture. See Thomas Baird, *Treatise on the Law of Scotland Relative to Master and Servant and Master and Apprentice* (Edinburgh: Thomas Clark, 1841), 197; Patrick Fraser and William Campbell, *Treatise on Master and Servant, Employer and Workman, and Master and Apprentice, According to the Law of Scotland*, 3rd ed. (Edinburgh: T. & T. Clark, 1882), 347; Hugh Barclay, *A Digest of the Law of Scotland: With Special Reference to the Office and Duties of a Justice of the Peace* (Edinburgh: T. & T. Clark, 1855), 26; Allan Menzies, *Conveyancing According to the Law of Scotland: Being the Lectures of Allen Menzies* (Edinburgh: James Skinner & Company, 1900), 319. For Alexander Horsburgh's activities in the slave trade see NAS, AC9/1042, High Court of Admiralty of Scotland, Horsburgh v. Bogle.

surgical dressings, and wound care. As skills developed, a capable master offered more advanced training which allowed the apprentice to administer drugs as directed, make home visits to the sick, and perform routine surgical procedures such as letting blood and pulling teeth.[603] Towards the end of the indenture, properly educated apprentices could typically manage the surgical practice largely unsupervised, which made them a valuable source of labor for their masters.[604] A surgeon's daily practice included bloodletting, setting fractured bones, shaving, pulling teeth, and treating wounds, hernias, ulcers, tumors, and skin conditions. Less frequently performed were the more invasive procedures such as lithotomies (stone removal), amputations, cataract removal, and autopsies.[605]

Over the course of the eighteenth century apprenticeship was increasingly supplemented with more formal, systematic, and institutionalized forms of training. This marked a sharp distinction from apprenticeships, in which the range of disorders to which budding practitioners were exposed was limited and there was no established curriculum.[606] Older traditions, like apprenticeships, began to mix with new initiatives. In Britain the result was a murky jumble of apprenticeships, university education, hospital training, private course instruction, and licensing from medical corporations, which, according to historian Thomas Bonner, reflected the tumult and disorder of the late eighteenth-century transatlantic world.[607] Slave trade doctors were immersed in new educational and training patterns.

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[603] Cardwell, "Royal Naval Surgeons," 45–46; Fissell, *Patients, Power and the Poor*, 49, 53.

[604] Lane, "The Role of Apprenticeship," 72.

[605] Digby, *Making a Medical Living*, 53; Fissell, *Patients, Power and the Poor*, 52–53.

[606] Kenneth Charles Calman, *Medical Education: Past, Present, and Future: Handing on Learning* (New York: Elsevier Health Sciences, 2007), 144.

[607] Bonner, *Becoming a Physician*, 15–16.

Upon finishing their apprenticeships future slave trade surgeons began flocking to London, Bristol, Liverpool, Edinburgh, and Glasgow to receive clinical education in hospitals, take university courses, and attend private courses particularly in anatomy and surgery. Slave ship surgeon Isaac Wilson made the rounds to Dublin, Glasgow, and Edinburgh to receive additional medical training.[608] Slave trade surgeon Christopher Murray had been "bred to Physick and Surgery at the College at Edinburgh," along with Thomas Trotter and Charles Christian.[609] Desiring a surgical post in West Africa, Robert Lenox wrote that he "diligently attended the Hospitals in town for both physick and surgery, and now humbly conceiving my self

[608] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Part 2, Vol. 72, Minutes Reported to the House March 19, 1790, Testimony of Isaac Wilson, March 5, 1790, 285.

[609] For Christopher Murray see TNA, T70/1517, Detached Papers, 1751, Letter from Christopher Murray to the Committee of the Company Merchants Trading to Africa, undated. See also Letter from John Armstrong to Mr. Hollier, December 307, 1751. For Thomas Trotter see Vale and Edwards, *Physician to the Fleet*, 4, 9–16. For Charles Christian see Manx National Heritage Library & Archives (hereafter, MNHLA), MS 09381/8/5, Charles Christian Journal, f. 13.

The University of Edinburgh became the dominant medical school in Britain in the eighteenth century, and by mid-century many argue that it was the leading university in Europe. London had no university medical school until the nineteenth century. Edinburgh boasted an international student population, including aspiring physicians from early America, and Edinburgh graduates served as professors in the first medical schools founded in North America. Edinburgh's influence upon the form and content of medical education, the philosophy of medicine, and medical and scientific innovations was extensive. These include advances in neuroanatomy and neurophysiology as Edinburgh was home to the great nerve doctors of the eighteenth century; the integration of botany and chemistry into medical practice; and innovations in medical education. Because of the importance of Edinburgh as a medical center during the eighteenth century, a large body of scholarship exists concerning many aspects of its influence.

For clinical education at Edinburgh see for example Guenter B. Risse, "Clinical Instruction in Hospitals: The Boerhaavian Tradition in Leyden, Edinburgh, Vienna and Pavia," *Clio Medica (Amsterdam, Netherlands)* 21, no. 1–4 (1988 1987): 1–19; Bonner, *Becoming a Physician*, 40–42; A. C. Chitnis, "Medical Education in Edinburgh, 1790-1826, and Some Victorian Social Consequences.," *Medical History* 17, no. 2 (April 1973): 173–85; Lisa M Rosner, *Medical Education in the Age of Improvement : Edinburgh Students and Apprentices, 1760-1826.* (Edinburgh: Edinburgh University Press, 1991); Matthew H. Kaufman, *Medical Teaching in Edinburgh during the 18th and 19th Centuries* (Edinburgh: Royal College of Surgeons of Edinburgh, 2003); Mordechai Feingold and Victor Navarro-Brotons, eds., "Candide in Caledonia: The Culture of Science in the Scottish Universities, 1690-1805," in *Universities and Science in the Early Modern Period* (Dordrecht, Netherlands: Springer Science & Business Media, 2006); Johanna Geyer-Kordesch, "Comparative Difficulties: Scottish Medical Education in the European Context (c. 1690-1830)," in *The History of Medical Education in Britain*, ed. Vivian Nutton and Roy Porter (Atlanta, GA: Rodopi, 1995), 94–115; Lisa Rosner, *The Most Beautiful Man in Existence: The Scandalous Life of Alexander Lesassier* (Philadelphia, PA: University of Pennsylvania Press, 2013), 27–28.

qualifyed to serve as Such."[610] Lawson Shan trained at Chelsea Hospital under Alexander Reid, a former pupil of the great anatomist and surgeon William Cheselden.[611] Elliot Arthy carved out time between slaving voyages to study at London Hospital under the very popular William Blizard.[612] Alexander Falconbridge pursued twelve months of additional medical education at Bristol Infirmary.[613] Joshua Dixon, who was discussed in Chapter One, pleaded with his employer, slave trader and apothecary Edward Parr, to be allowed time to study at Liverpool Infirmary in order to expand his medical and surgical knowledge.[614] London hospitals such as St. Thomas's and Guy's Hospital, as well as the Liverpool Infirmary were also frequented by slave trade surgeons during the second half of the eighteenth century.[615] Two of the most critical spaces in which training occurred were the hospital bedside and the anatomy theatre.

Hospital-based bedside teaching was one of the most significant developments in eighteenth-century medical education.[616] Over the course of the eighteenth century medical

[610] TNA, T70/1516, Detached Papers, 1750, 1751, Letter from Robert Lenox, undated.

[611] TNA, T70/1524, Detached Papers, 1755, 1756, Letter from Alex Reid, Chelsea Hospital, August 6, 1755. Alexander Reid served as assistant surgeon to Chelsea Hospital for forty-eight years, authored several surgical texts, and also opened up two smallpox inoculation houses in Chelsea in 1764. See Thomas Faulkner, *An Historical and Topographical Description of Chelsea, and Its Environs* (London: Printed by J. Tilling, 1810), 192; Samuel Mihles and Alexander Reid, *The Elements of Surgery*, 2nd ed. (London: Printed for Robert Horsfield, 1764).

[612] Behrendt, "The British Slave Trade, 1785-1807," 179–81. Stephen Behrendt has done the most extensive demographic research on slave ship surgeons. He has traced many slave trade surgeons' hospital training and certification during the late eighteenth century.

[613] BRO 35893.36/6, Biographical Memoirs, Vol. 4, 1780-1784, f. 240, 244.

[614] Wellcome Library (hereafter, WL), MS. 2196, Joshua Dixon Letterbook, Letter to Mother, February 26, 1765, f. 109.

[615] Behrendt, "The British Slave Trade, 1785-1807," 179–81.

[616] Risse, "Clinical Instruction in Hospitals," 1; Laurence W. B. Brockliss, "Medical Education and Centres of Excellence in Eighteenth-Century Europe: Towards an Identification," in *Centres of Medical Excellence?: Medical Travel and Education in Europe, 1500-1789*, ed. Andrew Cunningham, Ole Peter Grell, and Jon Arrizabalaga, Reprint (New York: Routledge, 2016), 20–22.

training became centered within hospitals, and teaching was a crucial part of their mission.[617] English and Scottish hospitals were charitable institutions for the "deserving poor," and these institutions offered surgery students the opportunity to "walk the wards" for one or two years upon the completion of their apprenticeships.[618] In London alone, over eleven thousand aspiring practitioners registered to walk the wards of the city's hospitals between 1725 and 1815, which was not an insignificant number.[619] Aspiring doctors purchased tickets that allowed them to

[617] Risse, "Clinical Instruction in Hospitals," 1; Loudon, *Medical Care and the General Practitioner*, 53; Cardwell, "Royal Naval Surgeons," 46, 48; Lawrence, *Charitable Knowledge*, 13; Fissell, *Patients, Power and the Poor*, 128; Bonner, *Becoming a Physician*, 52.

There were few hospitals in Britain at the start of the eighteenth century. In the case of London, three hospitals – St. Thomas's, St. Bartholomew's, and Bethlem – existed which were founded during the medieval period. The number of hospitals increased during the eighteenth century due to the rise of associational charities, urbanization, and reform initiatives that sought to manage problems of poverty and illness as well as surveil the poor. During the first half of the eighteenth century five hospitals were founded in London – Westminster in 1720, Guy's in 1724, St. George's in 1733, London Hospital in 1740, and the Middlesex in 1745. Specialty hospitals also cropped up in the capital to treat fevers, venereal disease, and to serve as lying-in hospitals for expectant mothers. In Scotland, the Royal Infirmary of Edinburgh was founded in 1729. Moreover, hospitals began to proliferate in provincial towns after 1730 such as Bristol Infirmary in 1737, Liverpool Infirmary in 1743, Newcastle Infirmary in 1751, Radcliffe Infirmary in Oxford in 1770, and Whitehaven Dispensary in 1783, which was opened by Joshua Dixon, who had earlier managed Edward Parr's Castle Street apothecary shop in Liverpool, as discussed in Chapter One.

Although there is much focus on the rise of hospital training during the eighteenth century when it gradually became the norm, aspiring practitioners had trained in hospitals much earlier. St. Bartholomew's was one of the earliest medical institutions to train doctors in England and had an informal structure in place during the seventeenth century. See Keir Waddington, *Medical Education at St. Bartholomew's Hospital, 1123-1995* (Rochester, NY: Boydell & Brewer, 2003), 19–20. For the history of Bethlem see Patricia Allderidge, "Management and Mismanagement at Bedlam, 1547-1633," in *Health, Medicine and Mortality in the Sixteenth Century*, ed. Charles Webster (New York: Cambridge University Press, 1979), 141–64; Jonathan Andrews et al., *The History of Bethlem* (New York: Routledge, 1997). For an overview of the development of modern hospitals in Britain see for example Lindsay Granshaw, "The Rise of the Modern Hospital," in *Medicine in Society: Historical Essays*, ed. Andrew Wear (New York: Cambridge University Press, 1992), 197–218; John V. Pickstone, *Medicine and Industrial Society: A History of Hospital Development in Manchester and Its Region, 1752-1946* (Manchester, UK: Manchester University Press, 1985); Leonard Smith, *Lunatic Hospitals in Georgian England, 1750–1830* (New York: Routledge, 2013).

[618] Lawrence, *Charitable Knowledge*, 108. For studies of how charity functioned in voluntary hospitals see for example Guenter B. Risse, "For God and Country: Duties and Rewards of Charity at the Edinburgh Infirmary," *Clio Medica: Perspectives in Medical Humanities* 78, no. 1 (September 1, 2005): 19–65; Fissell, *Patients, Power and the Poor*, 74–93; Kathleen Wilson, *The Sense of the People: Politics, Culture and Imperialism in England, 1715-1785* (New York: Cambridge University Press, 1995), 73–83; Granshaw, "The Rise of the Modern Hospital," 200–202; Fiona Hutton, *The Study of Anatomy in Britain, 1700–1900* (New York: Routledge, 2015), 21.

[619] Lawrence, *Charitable Knowledge*, 108.

shadow practitioners as they made their rounds.[620] Students pushed, jostled, and crowded around patients' bedsides to observe diagnostic practices, drug interventions, hygienic medicine, and surgical procedures.[621] When patients died, pupils eagerly viewed postmortem examinations.[622] At times, students were allowed to visit and study patients on their own and assist practitioners in minor procedures.[623] At the Edinburgh Infirmary after 1743, ward walkers were allowed access to patients' case histories.[624] Clinical lectures often accompanied ward walking which allowed pupils more detailed knowledge concerning the cases they observed on the infirmary floor with attending professors.[625]

Records are sparse for slave trade surgeons' training during the first half of the eighteenth century; however, evidence suggests that at least some practitioners in the early decades of the century may have been recruited to perform slave trade medical labor upon finishing a course of hospital study. In 1705, decades before hospital training became widespread in the British Isles, merchant Dalby Thomas wrote from West Africa that slave trade surgeons should be culled from the few hospitals that existed at the time.[626] Dalby craved more professional and better trained surgeons on the African coast because "they are Generally Such wretches that a Ship had better

[620] For more on the diverse kinds of tasks performed and access granted to different categories of pupils in London hospitals see Ibid., 109.

[621] Risse, "Clinical Instruction in Hospitals," 5; Lawrence, *Charitable Knowledge*, 140; Ulrich Tröhler, "The Doctor as Naturalist: The Idea and Practice of Clinical Teaching and Research in British Policlinics, 1770-1850," *Clio Medica* 21, no. 1 (January 1987): 21; Behrendt, "The British Slave Trade, 1785-1807," 179; Crumplin, "Surgery in the Royal Navy during the Republican and Napoleonic Wars, 1793-1815," 66. For pushing and jostling see Lawrence, *Charitable Knowledge*, 150.

[622] Lawrence, *Charitable Knowledge*, 109; Hutton, *The Study of Anatomy in Britain*, 17.

[623] Behrendt, "The British Slave Trade, 1785-1807," 179.

[624] Risse, "Clinical Instruction in Hospitals," 6.

[625] Ibid.; Lawrence, *Charitable Knowledge*, 155–59; Fissell, *Patients, Power and the Poor*, 129–30.

[626] TNA, T70/21, Abstracts of Letters Received from Africa and the Indies by the Committee of Goods, 1697, 1702-1714, Letter from Dalby Thomas, April, 22, 1705, f. 46.

be without them than wth [with] them."[627] For Dalby, hospitals were ideally suited to produce more able practitioners, foreshadowing what would become the norm in the profession.

In 1720, the Royal African Company attempted to implement such a plan by employing physicians and surgeons at St. Bartholomew's Hospital to recruit potential surgeons. St. Bartholomew's medical students walked the wards, received instruction in anatomy and dissection, and observed post-mortem examinations.[628] In 1720, the secretary of the Royal African Company wrote a letter to St. Bartholomew's addressed to physician Henry Levett and his two colleagues, surgeons Samuel Palmer and Robert Kelway.[629] The gentlemen were informed that the company was "in want of good Surgeons and mates to send abroad in their service on ye Coast of Guinea," and they asked the doctors to identify individuals who were "fittly qualified."[630] The practitioners examined potential candidates and provided written certificates attesting to their abilities.

As historians of medicine have adeptly shown, the rise of the hospital during the eighteenth century was an instrumental development in the modernization of medicine. These institutions began to function as nascent laboratories for the advancement of medical knowledge.[631] Medicine was becoming institutionalized and the hospital was becoming

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[627] Ibid., f. 47.

[628] Waddington, *Medical Education at St. Bartholomew's Hospital*, 25; Hutton, *The Study of Anatomy in Britain*, 17.

[629] TNA, T70/46, Letters Sent from Home, 1720-1729, Letter from Francis Lynn to Mssrs. Levet, Kelway, and Palmer, August 4, 1720, f. 3.

[630] Ibid. See also T70/46, Letter from Francis Lynn to Mssrs. Levet, Kelway, and Palmer, August 20, 1720, f. 6.

[631] Othmar Keel, "The Politics of Health and the Institutionalisation of Clinical Practices in Europe in the Second Half of the Eighteenth Century," in *William Hunter and the Eighteenth-Century Medical World*, ed. W. F. Bynum and Roy Porter (New York: Cambridge University Press, 1985), 212. Keel's essay is also helpful in considering the development of hospital medicine more broadly across Europe and the diverse patterns that arose. The rise of hospital medicine has long been identified with revolutionary France and the reorganization of the Paris Clinical School in 1794. Methods related to modern scientific medicine such as numerical and statistical assessments of the distribution of disease, clinico-pathological correlation, and clinical education took root in Paris, Montpellier, and

medicalized.[632] A monumental shift was underway in how medical practitioners understood disease. Previously, when patients fell ill, their disorders were linked to generalized internal imbalances in the humors (bodily fluids) that circulated throughout the body. [633] However, morbidities were increasingly localized within organs and tissues, rather than in invisible fluids, which provided an anatomical substratum to disease.[634] This signaled a change in the diagnostic process. Humoral explanations of bodily ailments required doctors to arrive at diagnoses primarily by way of verbal exchanges with their patients in order to search out the various factors

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Strasbourg. However, eighteenth-century scholars have expanded the temporal and geographical scope of these aspects of early medical modernity. This literature reveals that earlier movements were at work in other locales, such as Britain, India, and the West Indies, which implemented certain medical methods and approaches characteristic of the Paris School decades before the 1790s.

For Paris medicine, two classic texts are Erwin Heinz Ackerknecht, *Medicine at the Paris Hospital, 1794-1848* (Baltimore, MD: Johns Hopkins Press, 1967); Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception*, trans. A. M. Sheridan Smith, 1st American ed. (New York: Pantheon Books, 1973). See also Toby Gelfand, *Professionalizing Modern Medicine: Paris Surgeons and Medical Science and Institutions in the 18th Century* (Westport, CT: Greenwood Press, 1980); Caroline Hannaway and Ann Elizabeth Fowler La Berge, eds., *Constructing Paris Medicine* (Atlanta, GA: Rodopi, 1998); Dora B. Weiner, *The Citizen-Patient in Revolutionary and Imperial Paris* (Baltimore, MD: Johns Hopkins University Press, 2001); Dora B. Weiner and Michael J. Sauter, "The City of Paris and the Rise of Clinical Medicine," *Osiris* 18 (2003): 23–42; John Harley Warner, *Against the Spirit of System: The French Impulse in Nineteenth-Century American Medicine* (Baltimore, MD: Johns Hopkins University Press, 2003). For work that expands the focus of hospital medicine beyond revolutionary France see Keel, "The Politics of Health"; Othmar Keel, "Was Anatomical and Tissue Pathology a Product of the Paris Clinical School or Not?," in *Constructing Paris Medicine*, ed. Caroline Hannaway and Ann Elizabeth Fowler La Berge (Atlanta, GA: Rodopi, 1998); Harrison, *Medicine in an Age of Commerce and Empire*; Lawrence, *Charitable Knowledge*, 14–15.

[632] Fissell, *Patients, Power and the Poor*, 131.

[633] Lawrence, *Charitable Knowledge*, 304. Humoralism as a medical philosophy lasted until the late nineteenth century. Although certain aspects of humoral medicine were discredited during the seventeenth and eighteenth centuries, this had little impact on therapeutic approaches which reinterpreted long-standing practices like purging and bleeding, by way of mechanistic theories of the human body. See Harrison, "Disease and Medicine in the Armies of British India, 1750-1830: The Treatment of Fevers and the Emergence of Tropical Therapeutics," 95. For a comprehensive history of humoralism see Noga Arikha, *Passions and Tempers: A History of the Humours* (New York: HarperCollins, 2008). For a global approach to the study of humoral medicine see the edited volume Peregrine Horden and Elisabeth Hsu, eds., *The Body in Balance: Humoral Medicines in Practice* (New York: Berghahn Books, 2013).

[634] Norman D. Jewson, "The Disappearance of the Sick-Man from Medical Cosmology, 1770-1870," *Sociology* 10, no. 2 (May 1, 1976): 229; David Armstrong, "Commentary: Indeterminate Sick-Men—a Commentary on Jewson's 'Disappearance of the Sick-Man from Medical Cosmology,'" *International Journal of Epidemiology* 38, no. 3 (June 1, 2009): 643; Julian Burton, "A Bite into the History of the Autopsy," *Forensic Science, Medicine, and Pathology* 1, no. 4 (December 1, 2005): 281; Lawrence, *Charitable Knowledge*, 304.

responsible for the dyscrasia, or imbalance.[635] In the humoral paradigm, the diagnostic process depended upon a highly individualized understanding of a range of factors including the patient's constitution, diet, hygiene, exercise, season, climate, quality of sleep, processes of elimination, emotional and spiritual life, family history, and narrative self- reporting of symptoms.[636] The totality of the human being was at the root of the medical encounter in the humoral system and the patient's experiential understanding of disease was crucial to diagnosis and cure.[637]

In contrast to humoralism, when disease was localized within organs and tissues, the most important physical signs and symptoms were available only to practitioners, beyond the patient's knowledge and reach.[638] Rather than the patient's narrative directing the clinical encounter, the patient's body drove the exchange. As Mary Fissell writes, "the locus of absolute truth began to lie deep inside the body, accessible only to Infirmary men...the patient's words were not relevant; his or her body spoke instead."[639] In this new paradigm, diseases exhibited consistent features and were no longer defined by their unique manifestations in individual constitutions.[640] The knowledge doctors needed to cure disease did not depend solely on the

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[635] Mary E. Fissell, "The Disappearance of the Patient's Narrative and the Invention of Hospital Medicine," in *British Medicine in an Age of Reform*, ed. Roger Kenneth French and Andrew Wear (New York: Routledge, 1991), 92.

[636] Jewson, "The Disappearance of the Sick-Man," 228–29; John V. Pickstone, *Ways of Knowing: A New History of Science, Technology, and Medicine* (Chicago, IL: University of Chicago Press, 2001), 72.

[637] Jewson, "The Disappearance of the Sick-Man," 227.

[638] Fissell, *Patients, Power and the Poor*, 163; Jewson, "The Disappearance of the Sick-Man," 235.

[639] Fissell, *Patients, Power and the Poor*, 161, 163.

[640] Jewson, "The Disappearance of the Sick-Man," 229; Armstrong, "Commentary," 643; Lawrence, *Charitable Knowledge*, 13. This highly individualized understanding of illness had earlier been supplemented with more generalized understandings of disease. As drug consumption and the commodification of medicine continued apace medicines were increasingly marketed to cure specific ailments irrespective of persons. The concept of "medical specifics" argued that diseases did not arise from individualized physiology but were ontological entities that could be treated using specific remedies targeted to the disease and not to the individual. This was a necessity in military medicine where large numbers of people had to be treated and uniform remedies were sought. The concept was much debated during the late seventeenth and eighteenth centuries. Early modern theories of medical specifics

patient's biography. As a result, the patient's individuality was diminished and their experience of illness and suffering occupied little space in the consulting room.[641] The voices of the sick were increasingly silenced as they were granted fewer opportunities to speak, which resulted in a "loss of voice [that] was disempowering for all patients."[642] This marked a sharp change in the patient-practitioner relationship. As the eighteenth century progressed, the sick patient became an object with an anatomical identity, and clinicians practiced a form of medicine that estranged the sick body from the individual's experience of suffering and its meanings.[643] Medicine was becoming depersonalized and disempowering, with the patient's "main function being "to endure and to wait. "[644] This was nothing short of a "cognitive revolution" in medicine that not only radically recalibrated doctor-patient relations, but was a key conceptual and institutional

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certainly challenged humoralism but did not mark an abandonment of humoral approaches in the diagnostic encounter. Medical specifics were grafted onto a broad therapeutic field of popular medicine in the domestic marketplace that existed alongside more traditional approaches to diagnosis and cure. However, with the rise of organ and tissue pathology, popular medicine came under attack and elite medical knowledge began to separate from vernacular medicine in a stark way.

See Owsei Temkin, "The Scientific Approach to Disease: Specific Entity and Individual Sickness," in *Scientific Change: Historical Studies in the Intellectual, Social, and Technical Conditions for Scientific Discovery and Technical Invention, from Antiquity to the Present.*, ed. A. C. Crombie (London: Heinemann, 1963), 629–47; Cook, "Practical Medicine and the British Armed Forces"; Harold J. Cook, "Markets and Cultures: Medical Specifics and the Reconfiguration of the Body in Early Modern Europe," *Transactions of the Royal Historical Society (Sixth Series)* 21 (December 2011): 123–145; Cook and Walker, "Circulation of Medicine in the Early Modern Atlantic World," 341–42. See also how specific remedies were contested and trial tested during this time in Maehle, *Drugs on Trial*. For the decline of popular medicine see Fissell, *Patients, Power and the Poor*, 171–95.

Another significant shift that occurred during the second half of the eighteenth century, was the increasing importance of the nervous system in understanding the nature of disease, which continued to supplant humoral pathology.

[641] Fissell, "The Disappearance of the Patient's Narrative," 93.

[642] Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 129.

[643] Armstrong, "Commentary," 644; D. Greaves, "Reflections on a New Medical Cosmology," *Journal of Medical Ethics* 28, no. 2 (April 1, 2002): 82.

[644] Jewson, "The Disappearance of the Sick-Man," 234–35; Ruth Richardson, *Death, Dissection and the Destitute* (Chicago, IL: University of Chicago Press, 2000), 47; Waddington, *Medical Education at St. Bartholomew's Hospital*, 31.

development in Western medicine's journey toward scientific modernity.[645]

Future slave trade surgeons were being bred in this clinical moment. As they walked the wards of hospitals across the British Isles, the young men began to witness and participate in new forms of patient objectification. Hospital patients were subordinated to clinicians and rendered increasingly powerless and passive.[646] The sick in voluntary hospitals were not only objects of charity, but clinical objects and teaching material, under the control of the hospital's institutional governance, medical practitioners and students who attended them.[647] "Unquestionably, hospitals are the best schools of medical instruction," declared John Abernathy in 1823, "for in them we have the patient's conduct under control."[648]

As teaching tools, suffering patients were put on display for scores of medical students in order to received medical treatment.[649] When aspiring practitioners shadowed attending doctors on the infirmary floor, they observed how the sick were required, for the first time, to submit to medical inspections that were detached from the provision of medical care.[650] Women suffering from venereal disease were exposed to classes of male medical school students.[651] While fully clothed, doctors carefully lifted up pieces of clothing to examine their physical symptoms, and

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[645] Armstrong, "Commentary," 642; Lawrence, *Charitable Knowledge*, 13.

[646] Jewson, "The Disappearance of the Sick-Man," 234–35; Richardson, *Death, Dissection and the Destitute*, 47.

[647] Lawrence, *Charitable Knowledge*, 20; Fissell, "The Disappearance of the Patient's Narrative," 93; Richardson, *Death, Dissection and the Destitute*, 47; Schiebinger, *Secret Cures of Slaves*, 66–67.

[648] John Abernathy, "Address to the Audience at the Conclusion of the First Anatomical Lecture," in *The London Literary Gazette and Journal of Belles Lettres, Arts, Sciences, Etc., for the Year 1823* (London: Printed for H. Colburn, 1823), 67.

[649] Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 125.

[650] Lawrence, *Charitable Knowledge*, 26.

[651] Daniel Turner, *Siphylis: A Practical Dissertation on the Venereal Disease, in Two Parts*, 5th ed. (London: Printed for R. Wilkin, et al., 1737), 284; Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 125–27.

often restricted their contact to touching women beneath their bed clothes, not looking upon naked body parts in order to maintain some level of decorum.[652] During a time when male-midwives in eighteenth-century Britain were accused of being sexual predators despite examining fully clothed female patients who were draped underneath layers of blankets in darkened rooms, the public nature of the hospital filled poxed women with pain and humiliation.[653] It is not surprising that two-thirds of all patients who left London hospitals early suffered from venereal complaints; fifty-five percent left the day they arrived; and, eighty percent never showed up, refusing both the bodily humiliation and the long-term mercury treatments.[654] Indeed, most people avoided hospitals if they could.[655] For the patients who entered the hospital and remained during the course of their illness, the detached encounters students witnessed in hospital teaching "deepened and legitimized the transformation of the individual patient into an object of clinical investigation."[656] Mary Fissell writes, "The

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[652] Helen Patricia MacDonald, *Human Remains: Dissection and Its Histories* (New Haven, CT: Yale University Press, 2006), 20.

[653] Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 126–27. Regarding male midwives as sexual predators see for example Roy Porter, "A Touch of Danger: The Man-Midwife as Sexual Predator," in *Sexual Underworlds of the Enlightenment*, ed. G. S. Rousseau and Roy Porter (Manchester, UK: Manchester University Press, 1987), 206–33. For darkened rooms and questions of propriety see for example John S. Haller, *American Medicine in Transition, 1840-1910* (Urbana, IL: University of Illinois Press, 1981), 150–91. Much has been written about the rise of male midwifery in eighteenth-century Britain. See for example Adrian Wilson, *The Making of Man-Midwifery: Childbirth in England, 1660-1770* (Cambridge, MA: Harvard University Press, 1995); Lisa Forman Cody, "The Politics of Reproduction: From Midwives' Alternative Public Sphere to the Public Spectacle of Man-Midwifery," *Eighteenth-Century Studies* 32, no. 4 (July 1, 1999): 477–95; Eve Keller, "The Subject of Touch: Medical Authority in Early Modern Midwifery," in *Sensible Flesh: On Touch in Early Modern Culture*, ed. Elizabeth D. Harvey (Philadelphia, PA: University of Pennsylvania Press, 2003); Helen King, "Midwifery, 1700-1800: The Man-Midwife as Competitor," in *Nursing and Midwifery in Britain Since 1700*, ed. Anne Borsay and Billie Hunter (New York: Palgrave Macmillan, 2012); Sheena Sommers, "Transcending the Sexed Body: Reason, Sympathy, and 'Thinking Machines' in the Debates over Male Midwifery," in *The Female Body in Medicine and Literature*, ed. Andrew Mangham and Greta Depledge (Liverpool, U.K.: Liverpool University Press, 2011).

[654] Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 130–31.

[655] Ruth Richardson, "Human Dissection and Organ Donation: A Historical and Social Background," *Mortality* 11, no. 2 (2006): 152.

[656] Lawrence, *Charitable Knowledge*, 27.

commodification of patients' bodies was a part of the creation of a hospital peopled by working-class patients who did not even own their own bodies, who served as illustrative material for the education of middle-class medical men."[657] However, it was not solely the bodies of the living who were commodified, but their lifeless corpses as well.

Patients as Anatomical Objects

While slave trade surgeons flocked to hospital wards as other aspiring practitioners did, they not only jostled around the beds of the living, but cut, sliced, sawed, perforated, and manipulated the bodies of the dead in increasing numbers. Anatomy was becoming the disciplinary pillar of surgical training.[658] Courses in anatomy proliferated by mid-century across the British Isles at hospitals and private medical schools, and the bodies of the dead were instrumental in student instruction.[659] Not only were the dead helpful in teaching aspiring surgeons the form and function of the human body so they could better cut into the living, anatomical dissection was becoming a critical tool in understanding the nature of disease.[660] In a lecture to students at his anatomy school on Great Windmill street, famed surgeon William

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[657] Fissell, *Patients, Power and the Poor*, 170.

[658] Stanley, *For Fear of Pain*, 49–50; Hutton, *The Study of Anatomy in Britain*, 1, 15, 20–21.

[659] Lawrence, *Charitable Knowledge*, 84, 162–65, 180, 198–99; R. Porter, "Medical Lecturing in Georgian London," *The British Journal for the History of Science* 28, no. 01 (1995): 93–96; John A. Ross, "History of the Liverpool Teaching Hospitals Until 1907," *Medical History* 16, no. 4 (October 1972): 371; Waddington, *Medical Education at St. Bartholomew's Hospital*, 25–27; Tania Kausmally, "William Hewson and the Craven Street Anatomy School," in *Anatomical Dissection in Enlightenment England and Beyond: Autopsy, Pathology and Display*, ed. Piers Mitchell (Burlington, VT: Ashgate Publishing, Ltd., 2012), 71–72; Piers D. Mitchell et al., "The Study of Anatomy in England from 1700 to the Early 20th Century," *Journal of Anatomy* 219, no. 2 (August 2011): 91; James Morris, "Explorations in Anatomy: The Remains from Royal London Hospital," *Anthropozoologica* 49, no. 1 (2014): 109–120; Julie Doyle, "The Spectre of the Scalpel: The Historical Role of Surgery and Anatomy in Conceptions of Embodiment," *Body & Society* 14, no. 1 (March 1, 2008): 14. For how the economic dimensions of the lucrative and competitive market for anatomical teaching influenced the teaching and establishment of dissecting theatres see for example Christopher Lawrence, "Alexander Monro 'Primus' and the Edinburgh Manner of Anatomy," *Bulletin of the History of Medicine* 62, no. 2 (Summer 1988): 193–95.

[660] Hutton, *The Study of Anatomy in Britain*, 22–25; Loudon, *Medical Care and the General Practitioner*, 24; Stanley, *For Fear of Pain*, 49–51.

Hunter stated, "It is by Anatomy only that we can arrive at the knowledge of the true nature of most of the diseases which afflict humanity."[661] Although the jumble of symptoms observed in a living body could result in mistaken diagnoses, continued Hunter, "by anatomical examination after death, we can with certainty find out the mistake."

Anatomical study, dissections, and autopsies were certainly not new in the eighteenth century.[662] The elevation of anatomy and its ability to advance knowledge of disease was due to developments in morbid or pathological anatomy.[663] As described earlier, diseases were being localized within organs and tissues rather than in internal humoral imbalances, providing an anatomical substratum to disease.[664] According to famed Italian anatomist Giovanni Battista

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[661] William Hunter, *Two Introductory Lectures: Delivered by Dr. William Hunter* (London: Printed for J. Johnson, 1784), 72.

[662] Anatomy and dissection have a long and fascinating history in the European medical tradition. For studies of earlier histories of anatomy and dissection see for example Vivian Nutton, ed., *Principles of Anatomy According to the Opinion of Galen by Johann Guinter and Andreas Vesalius* (New York: Routledge, 2017); Elizabeth Craik, "The Reception of Hippocratic Treatise On Glands," in *Blood, Sweat and Tears: The Changing Concepts of Physiology from Antiquity Into Early Modern Europe*, ed. Manfred Horstmanshoff, Helen King, and Claus Zittel (Boston, MA: Brill, 2012), 65–82; Roger K. French, *Dissection and Vivisection in the European Renaissance*, History of Medicine in Context (Brookfield, VT: Ashgate Publishing, Ltd., 1999); Roger K. French, "Berengario Da Carpi and the Use of Commentary in Anatomical Teaching," in *The Medical Renaissance of the Sixteenth Century*, ed. Andrew Wear, Roger K. French, and I. M. Lonie (Cambridge University Press, 1985), 42–74; Katharine Park, "The Criminal and the Saintly Body: Autopsy and Dissection in Renaissance Italy," *Renaissance Quarterly* 47, no. 1 (April 1994): 1–33; Andrea Carlino, *Books of the Body: Anatomical Ritual and Renaissance Learning* (Chicago, IL: University of Chicago Press, 1999); Jonathan Sawday, *The Body Emblazoned: Dissection and the Human Body in Renaissance Culture* (New York: Routledge, 2013); Andrew Cunningham, "The Pen and the Sword: Recovering the Disciplinary Identity of Physiology and Anatomy before 1800 II: Old Anatomy - The Sword," *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences* 34, no. 1 (March 2003): 51–76; Andrew Cunningham, *The Anatomical Renaissance: The Resurrection of the Anatomical Projects of the Ancients*, New edition (Brookfield, VT: Routledge, 1997); Enrique Fernandez, *Anxieties of Interiority and Dissection in Early Modern Spain* (Toronto: University of Toronto Press, 2014); Burton, "A Bite into the History of the Autopsy," 277–81; Jan G. van den Tweel and Clive R. Taylor, "A Brief History of Pathology," *Virchows Archiv* 457, no. 1 (July 2010): 3–6; Brian Muñoz and Matthew Landers, eds., *Anatomy and the Organization of Knowledge, 1500–1850* (New York: Routledge, 2015); Richard Sugg, *Murder After Death: Literature and Anatomy in Early Modern England* (Ithaca, NY: Cornell University Press, 2007).

[663] Mary Lindemann, *Medicine and Society in Early Modern Europe* (New York: Cambridge University Press, 2010), 111; Andrew Cunningham, *The Anatomist Anatomis'd: An Experimental Discipline in Enlightenment Europe* (Burlington, VT: Ashgate Publishing, Ltd., 2010), 196–222.

[664] Jewson, "The Disappearance of the Sick-Man," 229; Armstrong, "Commentary," 643; Burton, "A Bite into the History of the Autopsy," 281. For an essay that puts pathological anatomy into an older, longer historical framework see Temkin, "The Scientific Approach to Disease: Specific Entity and Individual Sickness."

Morgagni, a patient's symptoms expressed "the cry of the suffering organs" – a cry that could only be fully understood and confirmed after death through dissection.[665] Dissection was a crucial part of the process as anatomists correlated external symptoms from the patient's clinical history with internal lesions observable upon death (clinico-pathological correlation).[666] Structural changes in organs and tissues "are unique, like fingerprints, and allow those who inspect them to determine the patient's disease."[667] Even physicians who derided surgeons as manual tradesmen began to accept the significance of dissection in comprehending the nature and progression of disease.[668] Surgeons elevated anatomical knowledge and dissection as scientific endeavors that offered observable facts to the practice of medicine in contrast with speculative physiological theories often privileged by physicians.[669] Alongside the rise of the

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[665] Hector O. Ventura, "Giovanni Battista Morgagni and the Foundation of Modern Medicine," *Clinical Cardiology* 23, no. 10 (October 1, 2000): 792.

[666] Italian anatomist Giovanni Battista Morgagni (1682-1771) and French anatomist Marie-François Xavier Bichat (1771-1802) are two seminal figures in the development of clinico-pathological correlation during the eighteenth century. Morgagni is often cited as the "father of modern pathology." His 1761 *De Sedibus et Causis Morborum per Anatomen Indagatis* (*On the Seats and Causes of Disease as Investigated by Anatomy*) was based upon roughly seven hundred post-mortem examinations and helped routinize autopsies in the study of disease. Bichat built upon and expanded Morgagni's work by shifting the focus from organs to tissues. Bichat is credited with developing tissue pathology, which contributed to the foundation of modern histology. See for example Burton, "A Bite into the History of the Autopsy," 281; Malcolm Nicholson, "Giovanni Battista Morgagni and Eighteenth-Century Physical Examination," in *Medical Theory, Surgical Practice: Studies in the History of Surgery*, ed. Christopher Lawrence (New York: Routledge, 1992), 101–34; John V. Pickstone, "Bureaucracy, Liberalism and the Body in Post-Revolutionary France: Bichat's Physiology and the Paris School of Medicine," *History of Science* 19, no. 2 (June 1, 1981): 115–42; Elizabeth Haigh, *Xavier Bichat and the Medical Theory of the Eighteenth Century* (London: Wellcome Institute for the History of Medicine, 1984); Mohammadali M. Shoja et al., "Marie-François Xavier Bichat (1771–1802) and His Contributions to the Foundations of Pathological Anatomy and Modern Medicine," *Annals of Anatomy* 190, no. 5 (November 2008): 413–20; Russell C. Maulitz and Russell Charles Maulitz, *Morbid Appearances: The Anatomy of Pathology in the Early Nineteenth Century* (New York: Cambridge University Press, 2002). See also Giambattista Morgagni 1682-1771., *The Clinical Consultations of Giambattista Morgagni: The Edition of Enrico Benassi (1935)*, trans. Enrico Benassi and Saul Jarcho (Charlottesville, VA: University Press of Virginia, 1984).

[667] Mary Ann Gardell Cutter, *Reframing Disease Contextually* (Boston, MA: Kluwer Academic Publishers, 2013), 41.

[668] Hutton, *The Study of Anatomy in Britain*, 15.

[669] Doyle, "The Spectre of the Scalpel," 17–18. See also Cunningham, "The Pen and the Sword," 17–18.

hospital, clinico-pathological correlation was one of the hallmarks of medical modernity.

The bodies of the deceased poor who perished in charitable hospitals across the British Isles were an invaluable and much-needed source of anatomical specimens to carry out this research agenda. Legal methods of procuring cadavers were severely limited.[670] Whereas, family members could request a post-mortem investigation into the cause of death, dissecting the dead for anatomical study and instruction was restricted to the bodies of executed criminals, some of whom received punitive dissections as part of their death sentence. [671] To the distress and anxiety of hospital patients, their corpses were now valuable commodities in the burgeoning "body trade"; however, even new supplies of deceased paupers were inadequate to meet the high demand for anatomical specimens.[672] As a result, private anatomy schools and hospitals across

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[670] Lawrence, *Charitable Knowledge*, 181–82; Waddington, *Medical Education at St. Bartholomew's Hospital*, 53.

[671] For example, the 1752 Murder Act ("An Act for Better Preventing the Horrid Crime of Murder," 25 Geo. 11, c. 37) was enacted to curtail high murder levels. In the act, executed murderers were refused burial and instead were either hung in chains in a structure similar to a gallows (gibbeted) in a public spectacle after death or subjected to the spectacle of public dissection. The act embedded dissection in the penal system and remained in effect for eighty years until the 1832 Anatomy Act. About punitive dissection related to murder and suicide see Zoe Dyndor, "The Gibbet in the Landscape: Locating the Criminal Corspe in Mid-Eighteenth-Century England," in *A Global History of Execution and the Criminal Corpse*, ed. Richard Ward (New York: Palgrave Macmillan, 2015), 102–25; James Kelly, "Punishing the Dead: Executing the Dead and the Executed Body in Eighteenth-Century Ireland," in *A Global History of Execution and the Criminal Corpse*, ed. Richard Ward (New York: Palgrave Macmillan, 2015), 37–70; Alexander Kästner and Evelyne Luef, "The Ill-Treated Body: Punishing and Utilising the Early Modern Suicide Corpse," in *A Global History of Execution and the Criminal Corpse*, ed. Richard Ward (New York: Palgrave Macmillan, 2015), 147–69; Elizabeth T. Hurren, *Dissecting the Criminal Corpse: Staging Post-Execution Punishment in Early Modern England* (New York: Palgrave Macmillan, 2016).

The 1832 Anatomy Act was enacted partially in response to increasing levels of body snatching and grave robbing during the eighteenth and early nineteenth centuries. The act marked an important shift by allowing licensed anatomists access to the unclaimed corpses of those who had died in workhouses and other public institutions. The act also removed dissection as part of the punishment for executed murderers. Therefore, the Anatomy Act transferred the stigma of dissection from criminals to the poor and doubled the number of legally available corpses. For more on the Anatomy Act see John Knott, "Popular Attitudes to Death and Dissection in Early Nineteenth Century Britain: The Anatomy Act and the Poor," *Labour History*, no. 49 (1985): 1–18; Helen MacDonald, "Procuring Corpses: The English Anatomy Inspectorate, 1842 to 1858," *Medical History* 53, no. 3 (July 2009): 379–96; Hutton, *The Study of Anatomy in Britain*, 71–88; Richardson, *Death, Dissection and the Destitute*; Ruth Richardson, "'Trading Assasins and the Licensing of Anatomy," in *British Medicine in an Age of Reform*, ed. Roger Kenneth French and Andrew Wear (New York: Routledge, 1991), 74–91. For a study that locates *Frankenstein* as an allegory of the 1832 Anatomy Act see Tim Marshall, *Murdering to Dissect: Grave-Robbing, Frankenstein and the Anatomy Literature* (Manchester, UK: Manchester University Press, 1995).

[672] Lawrence, *Charitable Knowledge*, 199.

the British Isles resorted to grave robbing. Pauper graves were shallower and often contained multiple coffins stacked on top of one another, making poor graveyards ideal.[673] The illicit activity was carried out by institutions' own students and staff, amateur body snatchers, and eventually by organized gangs known as "resurrectionists" to ensure that hundreds of additional cadavers reached instructors.[674]

Public resistance to body snatching led to much social turmoil and could result in riots.[675] Surgeons' Hall in in Edinburgh was the scene of a violent riot in 1725, with unrest continuing in 1739 and 1742.[676] The medical school in Glasgow was attacked by riotous mobs each year between 1744 and 1748 because of grave robbing.[677] In London, hospitals began to build new

[673] Knott, "Popular Attitudes to Death and Dissection in Early Nineteenth Century Britain," 2.

[674] Stanley, *For Fear of Pain*, 31–33; Lawrence, *Charitable Knowledge*, 199; Fissell, *Patients, Power and the Poor*, 140–42; Geyer-Kordesch and Macdonald, *Physicians and Surgeons in Glasgow*, 1:221–24; Anita Guerrini, "Alexander Monro Primus and the Moral Theatre of Anatomy," *The Eighteenth Century* 47, no. 1 (2006): 8–9; Cunningham, *The Anatomist Anatomis'd*, 137, 230; Waddington, *Medical Education at St. Bartholomew's Hospital*, 55. A growing body of scholarship has been written about grave robbing, resurrectionists, unauthorized dissections, and illicit methods of accessing cadavers to advance medical knowledge in eighteenth- and nineteenth-century Britain with the bulk of literature focused on the nineteenth century. See for example Thomas R. Forbes, "'To Be Dissected and Anatomized,'" ed. Dorothy M. Schullian, *Journal of the History of Medicine and Allied Sciences* 36, no. 4 (October 1, 1981): 490–92; Fissell, *Patients, Power and the Poor*, 140–42, 166–70; Regis Olry, "Body Snatchers: The Hidden Side of the History of Anatomy," *Journal of the International Society of Plastination* 14, no. 2 (1999): 6–9; Knott, "Popular Attitudes to Death and Dissection in Early Nineteenth Century Britain"; Richardson, *Death, Dissection and the Destitute*; E. Hurren, *Dying for Victorian Medicine: English Anatomy and Its Trade in the Dead Poor, c.1834 - 1929* (New York: Palgrave Macmillan, 2011); Remigius N. Nwabueze, *Biotechnology and the Challenge of Property: Property Rights in Dead Bodies, Body Parts, and Genetic Information* (New York: Routledge, 2016), 47; Sarah Ferber and Sally Wilde, eds., *The Body Divided: Human Beings and Human "Material" in Modern Medical History* (Burlington, VT: Ashgate, 2011); Piers D. Mitchell, ed., *Anatomical Dissection in Enlightenment England and Beyond: Autopsy, Pathology and Display* (Burlington, VT: Ashgate Publishing, Ltd., 2012); Lisa Rosner, *The Anatomy Murders: Being the True and Spectacular History of Edinburgh's Notorious Burke and Hare, and of the Man of Science Who Abetted Them in the Commission of Their Most Heinous Crimes* (Philadelphia, PA: University of Pennsylvania Press, 2010); MacDonald, *Human Remains*.

[675] Olry, "Body Snatchers," 8.

[676] Guerrini, "Alexander Monro Primus and the Moral Theatre of Anatomy," 8; Cunningham, *The Anatomist Anatomis'd*, 228.

[677] Geyer-Kordesch and Macdonald, *Physicians and Surgeons in Glasgow*, 1:221.

spaces, often away from public view, for conducting autopsies and dissections.[678] Well-known surgeon William Hunter proudly taught dissection in the "Paris manner" which included giving each student their own corpse to dissect during class sessions.[679] However, the master teacher was well aware of the possibility for public outrage in London and urged his pupils to divulge little concerning their operations upon the dead. In a lecture to his pupils published in 1784 Hunter explained that since they resided in a country "where Anatomists are not legally supplied with dead bodies, particular care should be taken, to avoid given offence to the populace, or to the prejudices of our neighbors. Therefore it is to be hoped, that you will be upon your guard; and, out of doors, speak with caution of what may be passing here, especially with respect to dead bodies."[680]

Authorities at various institutions struggled to implement regulations to prevent students, surgeons, and staff from absconding with body parts or conducting unauthorized dissections. In 1758, at Middlesex Hospital the governors ruled that dissection should only occur in extraordinary circumstances, in the presence of hospital physicians and surgeons, and no body parts were to be removed from the premises.[681] However, public outcry and institutional

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[678] For example, although physicians and surgeons had been conducting autopsies at St. Thomas's Hospital in London from the beginning of the eighteenth century, the hospital governors opened up a special room specifically for dissecting the dead in 1730. In the late 1750s, London Hospital built a room over their dead house for a similar reason and purpose. In 1750, St. Bartholomew's Hospital allowed patients' bodies to be dissected upon death. See Lawrence, *Charitable Knowledge*, 195–96; Louise Fowler and Natasha Powers, "Patients, Anatomists, and Resurrection Men: Archaeological Evidence for Anatomy Teaching at the London Hospital in the Early Nineteenth Century," in *Anatomical Dissection in Enlightenment England and Beyond: Autopsy, Pathology and Display*, ed. Piers D. Mitchell (Burlington, VT: Ashgate Publishing, Ltd., 2012), 87.

[679] Toby Gelfand, "The 'Paris Manner' of Dissection: Student Anatomical Dissection in Early Eighteenth-Century Paris," *Bulletin of the History of Medicine* 46, no. 2 (April 1972): 99–130; Geyer-Kordesch and Macdonald, *Physicians and Surgeons in Glasgow*, 1:173; Cunningham, *The Anatomist Anatomis'd*, 230; Lynda Ellen Stephenson Payne, *With Words and Knives: Learning Medical Dispassion in Early Modern England* (Burlington, VT: Ashgate Publishing, Ltd., 2007), 105–7.

[680] Hunter, *Two Introductory Lectures*, 113.

[681] Lawrence, *Charitable Knowledge*, 196.

restrictions left medical men largely undeterred in their anatomical pursuit for scientific knowledge, which was becoming increasingly sought after by young, aspiring practitioners.

During the eighteenth century, future slave trade surgeons like other aspiring doctors eagerly embraced the "age of dissection," believing that anatomical study would improve their medical abilities, employment opportunities, and professional standing.[682] The popularity of anatomical studies created a lively market for instruction in hospitals and private anatomy schools not only in London but also in centers like Bristol, Edinburgh, and Glasgow, and slave trade surgeons took advantage of these new modes of medical study.[683] Slave trade surgeons studied anatomy, learned dissection, and furthered their operative techniques with some of the most illustrious surgeon-anatomists in the British Isles. In 1755, when slave trade surgeon Lawson Shan trained at Chelsea Hospital under Assistant Surgeon Alexander Reid, the slave trade surgeon became part of an impressive genealogy of anatomical training.[684] His teacher Alexander Reid was a student of pioneering anatomist and surgeon William Cheselden who elevated the importance of dissection during the early eighteenth century.[685] Cheselden's dedication to dissection openly thwarted the law in the early eighteenth century as he spirited

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[682] Andrew N. Kingsnorth, "Hernia Management," in *Fundamentals of Surgical Practice*, ed. Andrew N. Kingsnorth and Aljafri A. Majid, 2nd ed. (New York: Cambridge University Press, 2006), 265; Lawrence, *Charitable Knowledge*, 200.

[683] For London see for example Toby Gelfand, "'Invite the Philosopher, as Well as the Charitable': Hospital Teaching as Private Enterprise in Hunterian London," in *William Hunter and the Eighteenth-Century Medical World*, ed. W. F. Bynum and Roy Porter (New York: Cambridge University Press, 1985), 129–52; Lawrence, *Charitable Knowledge*, 162–214; Waddington, *Medical Education at St. Bartholomew's Hospital*, 27–29; Porter, "Medical Lecturing in Georgian London," 95–98; Hutton, *The Study of Anatomy in Britain*, 22–23. For Bristol see Fissell, *Patients, Power and the Poor*, 129–32. In Glasgow courses in anatomy and dissection courses were offered in 1744, two years before William Hunter began his well-known anatomical lectures in London, and members of the Faculty of Physicians and Surgeons were actively practicing dissection on patients. See Geyer-Kordesch and Macdonald, *Physicians and Surgeons in Glasgow*, 1:221.

[684] TNA, T70/1524, Detached Papers, 1755, 1756, Letter from Alex Reid, Chelsea Hospital, August 6, 1755.

[685] Harold Ellis, *A History of Surgery* (London: Greenwich Medical Media, 2002), 62; Faulkner, *An Historical and Topographical Description of Chelsea*, 192.

away dead felons to be dissected at his home, and Cheselden began one of the earliest and most profitable private anatomy schools in London during the first half of the eighteenth century.[686] Alexander Reid eventually became Cheselden's colleague at Chelsea Hospital until the master surgeon's death in 1752, three years before slave trade surgeon Lawson Shan walked through the infirmary doors.[687]

The many slave trade surgeons who studied at St. Thomas's and Guy's Hospitals during the 1790s and early years of the nineteenth century would surely have chosen those institutions in part because of the magnetic presence of Astley Cooper whose students idolized him, admired his extensive knowledge, and perpetually packed his courses into the hundreds.[688] Cooper offered clinical and surgical instruction at Guy's Hospital, and when necessary he operated on unwilling patients without their permission to try and save their lives.[689] In Cooper's estimation,

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[686] C. N. Morgan, "Surgery and Surgeons in 18th-Century London," *Annals of the Royal College of Surgeons of England* 42, no. 1 (1968): 6–7; Payne, *With Words and Knives*, 88; Ellis, *A History of Surgery*, 62; Lawrence, *Charitable Knowledge*, 85–86; Guerrini, "Alexander Monro Primus and the Moral Theatre of Anatomy," 8.

[687] William Cheselden was known for having performed thousands of operations over the course of his career. However, he was particularly well-known for performing lateral perineal lithotomies, a method for removing bladder stones that he added innovations to during the eighteenth century. The surgeon is reported to have been able to perform a lithotomy in sixty seconds or less, and the quick speed helped lower mortality from roughly fifty percent to ten percent because the traditional slowness of the operation resulted in an inordinate loss of blood, patient exhaustion, and susceptibility to infection. See Richardson, *Death, Dissection and the Destitute*, 40–41. Cheselden was also the first persons to perform an iridotomy, which involved creating an artificial pupil in the eye in the case of blindness. The surgeon also developed methods for cataract removal nd occupies an important place in the history of ophthalmology. See Michael E. Moran, *Urolithiasis: A Comprehensive History* (New York: Springer Science & Business Media, 2013), 151; R. Rutson James, *Studies in the History of Ophthalmology in England Prior to 1800*, Reprint (New York: Cambridge University Press, 2013), 91–93. Not only did he influence the practice of surgery but Cheselden also played a noteworthy role in the professionalization of the surgical occupation. Cheselden was instrumental in the 1745 establishment of the Company of Surgeons and the dissolution of the Company of Barber-Surgeons which formally separated barbers and surgeons and also removed the Company's monopoly on dissecting executed felons. See Ellis, *A History of Surgery*, 62.

[688] Behrendt, "The British Slave Trade, 1785-1807," 180; William John Bishop, *The Early History of Surgery* (New York: Barnes & Noble Publishing, 1960), 138; Leslie Hughes, "History of Benign Breast Disease," in *Hughes, Mansel & Webster's Benign Disorders and Diseases of the Breast*, ed. R. E. Mansel, David J. T. Webster, and H. M. Sweetland, 3rd ed. (Edinburgh: Saunders, 2009), 8; L. M. Zimmerman, "Surgeons and the Rise of Clinical Teaching in England," *Bulletin of the History of Medicine* 37 (1963): 172–73.

[689] Druin Burch, "Astley Paston Cooper (1768–1841): Anatomist, Radical and Surgeon," *Journal of the Royal Society of Medicine* 103, no. 12 (December 1, 2010): 507.

the pain of the scalpel could ultimately bring good and he was ready to bully hospital patients to advance the cause of medicine.[690]

Future slave trade surgeons also attend Cooper's daily anatomical lectures in the dissecting room at St. Thomas's Hospital where grave robbers entered with fresh cadavers to sell.[691] To enable hands-on dissection for students, Cooper not only employed a network of grave robbers but posted bail for apprehended resurrectionists and provided financial assistance to their families while incarcerated.[692] He celebrated law-breaking for the benefit of medical science and his dedication to dissection was unflappable. Cooper performed early morning daily dissections in his home before breakfast and was a staunch advocate of the 1832 Anatomy Act to expand the legal supply of corpses for anatomists. "Without dissection there can be no anatomy, and that anatomy is our polar star, for, without anatomy a surgeon can do nothing, certainly nothing well" he told a Parliamentary Select Committee in 1828.[693]

Further north in Edinburgh, future slave trade surgeons experienced a different style of anatomical training. Prior to joining the navy in 1779 and serving as surgeon on the slave ship *Brookes* in 1783, Thomas Trotter studied under Alexander Monro *secundus* at Edinburgh.[694] Monro *secundus* was Professor of Anatomy, an appointment previously held by his father, Alexander Monro *primus*, and which he would later pass down to his own son. The Monro

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[690] Ibid.

[691] Bransby Blake Cooper, *The Life of Sir Astley Cooper, Interspersed with Sketches from His Notebooks of Distinguished Contemporary Characters*, vol. I (John W. Parker, 1843), 197–98; Hutton, *The Study of Anatomy in Britain*, 3; Stanley, *For Fear of Pain*, 32; R. C. Brock, "The Life and Work of Sir Astley Cooper," *Annals of The Royal College of Surgeons of England* 44, no. 1 (January 1969): 4–5.

[692] Cooper, *The Life of Sir Astley Cooper*, I:395–96; Burch, "Astley Paston Cooper (1768–1841)," 506.

[693] "Report from the Select Committee on Anatomy," in *Reports from Committees: Five Volumes*, vol. IV, 1828, 14.

[694] Vale and Edwards, *Physician to the Fleet*, 13.

dynasty at Edinburgh offered the most popular anatomy and physiology courses at the school for most of the century, and nearly all students attended.[695] Unlike training further south in England, which often tantalized students with fresh cadavers, Alexander Monro *secundus* practiced a mode of anatomical demonstration begun by his father, which used two cadavers during the course.[696] Thomas Trotter did not perform hands-on dissections during the over one hundred lectures that comprised the class.[697] Instead, in addition to observing didactic dissections on human bodies, he witnessed live animal experimentation and vivisection with Monro "flaying, intubating, inflating, injecting, and suffocating the poor creatures to make various points."[698] Memories of those animal experimentations traveled with Trotter on the slave ship *Brooks*. When Trotter was asked by a Member of Parliament whether "the Slaves appear to suffer from the want of fresh air," Trotter responded, "yes; I have seen their breasts heaving, and observed them draw their breath with all those laborious and anxious efforts for life, which we observe in expiring animals, subjected by experiment to foul air of different kinds."[699] Like live animals

[695] Rosner, *The Anatomy Murders*, 30.

[696] Cunningham, *The Anatomist Anatomis'd*, 134–35.

[697] Lawrence, "Alexander Monro 'Primus' and the Edinburgh Manner of Anatomy," 3; Guerrini, "Alexander Monro Primus and the Moral Theatre of Anatomy," 195.

[698] William J. Turkel, *Spark from the Deep: How Shocking Experiments with Strongly Electric Fish Powered Scientific Discovery* (Baltimore, MD: Johns Hopkins University Press, 2013), 70. Animal vivisection (particularly the movements against the practice in late nineteenth-century Britain) as well as the long historical use of animals in the development of anatomical knowledge occupies a large body of scholarship. See for example, Cunningham, *The Anatomist Anatomis'd*, 295–359; French, *Dissection and Vivisection in the European Renaissance*; R. Allen Shotwell, "The Revival of Vivisection in the Sixteenth Century," *Journal of the History of Biology*, 2013, 171–97; Anita Guerrini, "The Ethics of Animal Experimentation in Seventeenth-Century England," *Journal of the History of Ideas* 50, no. 3 (July 1989): 391–407; Anita Guerrini, *Experimenting with Humans and Animals: From Galen to Animal Rights*, Johns Hopkins Introductory Studies in the History of Science (Baltimore, MD: Johns Hopkins University Press, 2003); Nicolaas A. Rupke, ed., *Vivisection in Historical Perspective* (New York: Routledge, 1990); Domenico Bertoloni Meli, "Early Modern Experimentation on Live Animals," *Journal of the History of Biology* 46, no. 2 (2013): 199–226; Susan Hamilton, "' Still Lives': Gender and the Literature of the Victorian Vivisection Controversy," *Victorian Review* 17, no. 2 (1991): 21–34; Richard D. French, *Antivivisection and Medical Science in Victorian Society* (Princeton, N.J.: Princeton University Press, 1975).

[699] HCPP, Testimony of Thomas Trotter, 85.

subject to medical experimentation, captives on board the *Brooks* struggled and choked for want of sufficient air. Other slave trade surgeons such as Christopher Murray and Charles Christian, learned anatomy in the Monro style, while practitioners like Isaac Wilson studied in multiple locales.[700] Wilson took courses in Edinburgh, Glasgow, and Dublin, which allowed him to be exposed to multiple styles of anatomical teaching, including opportunities for hands-on dissection as pilfered cadavers found their way into anatomical theatres in Glasgow.[701]

Provincial English port cities also offered opportunities to cut into the dead. In 1784, future slave trade surgeon Alexander Falconbridge enrolled at the Bristol Infirmary for twelve months as pupil to surgeon Morgan Yeatman.[702] Surrounded by cramped slums and narrow streets, the Bristol Infirmary had become the center for surgical education in the city during the 1770s.[703] The infirmary followed a pattern of clinical education that was similar to what was offered in London with ward walking, clinical and anatomical lectures, and dissection.[704] However, anatomical training was one of the infirmary's strongest assets and dissecting the dead was not only regularly performed but passionately pursued.[705] Donned in red cloaks with swords at the hip, Alexander Falconbridge and his classmates snatched bodies and robbed graves –

[700] For Christopher Murray see TNA, T70/1517, Detached Papers, 1751, Letter from Christopher Murray to the Committee of the Company Merchants Trading to Africa, undated. See also Letter from John Armstrong to Mr. Hollier, December 307, 1751. For Charles Christian see MNHLA, MS 09381/8/5, Charles Christian Journal, f. 13.

[701] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, Part 2, Vol. 72, Minutes Reported to the House March 19, 1790, Testimony of Isaac Wilson, March 5, 1790, 285.

[702] BRO 35893.36/6, Biographical Memoirs, Vol. 4, 1780-1784, f. 240, 244. For more on Morgan Yeatman see *The Medical Register for the Year 1779* (London: Printed for J. Murray, 1779); ibid., 127; *The Medical Register for the Year 1780* (London: Printed for Fielding and Walker, 1780), 142; *The Medical Register for the Year 1783* (London: Printed for Joseph Johnson, 1783), 106; George Munro Smith, *A History of the Bristol Royal Infirmary* (Bristol, UK: J. W. Arrowsmith Ltd., 1917), 169, 183, 437.

[703] Smith, *A History of the Bristol Royal Infirmary*, 29; Fissell, *Patients, Power and the Poor*, 132.

[704] Fissell, *Patients, Power and the Poor*, 129.

[705] Ibid., 129, 140.

practices that had become a regular feature of the Infirmary's education and culture by the 1760s.[706] Students were found absconding with heads, arms, and legs in order to practice their manual dexterity and deepen their anatomical knowledge.[707] Although it was common practice for Bristol's medical students to travel to London for additional training, they could often have more numerous opportunities for hands-on dissection in Bristol rather than London, as one student discovered.[708]

Alexander Falconbridge took this anatomical training, culture of body snatching, and passion for dissection into the slave trade and found opportunities to perform autopsies on board ship. During the voyage of the slave ship *Emilia*, a seemingly healthy enslaved man was discovered dead one morning.[709] Falconbridge was eager to conduct an autopsy to determine the cause of death and received permission from the ship's captain to open up the body later that night. Falconbridge explained to a Parliamentary committee in 1790, "After all the Slaves were off the deck I opened the thorax and abdomen, and found the respective contents in a healthy state; I therefore conclude he must have suffocated, or died for want of fresh air."[710] A member of the committee then asked, "Why did you not also open the head, to see the state of the brain?"[711] Falconbridge replied, "Every man that knows any thing of anatomy, likewise knows that opening the head in a dextrous manner, so as to expose the brain, is often no easy thing, and

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[706] Smith, *A History of the Bristol Royal Infirmary*, 31; Fissell, *Patients, Power and the Poor*, 140–43.

[707] Fissell, *Patients, Power and the Poor*, 143.

[708] Ibid., 129, 142.

[709] *HCPP*, *Minutes, &c. Reported to the House, Veneris 19° die Martii 1790*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade, Part 2, Vol. 72, 1790, Testimony of Alexander Falconbridge, 301.

[710] Ibid.

[711] Ibid., 338.

I had neither time nor conveniences in that instance to do it; I was forced to do it at candlelight, upon the deck, after all the Slaves were below."[712]

Falconbridge was a knowledgeable and skilled anatomist. He laid out the corpse of the deceased slave in candlelight on a roiling slave ship, successfully cut open the body, pulled back skin and flesh, exposed and studied the man's thorax and abdomen, and arrived at a cause of death before sending his body overboard into the frothy waves of the Atlantic. During a lengthy eight-year tenure in the slave trade, Falconbridge appears to have honed his anatomical skills to such a degree that he was able to make a living for an unknown period of time performing dissections in London on Broad Street in Soho.[713] The students who flocked to learn dissection during the eighteenth century benefited at least in part from the experiences of slave traders who discovered that slave ships offered a ready supply of African and European corpses.

It is impossible to know how many slave trade surgeons became truly skilled anatomists and dissectors and if others rose to Falconbridge's abilities. However, more salient in the present discussion is how surgeons' anatomical training, like their bedside teaching, created new social and cultural relations of doctoring in regard to the living and the dead. The importance of body snatching in slave trade surgeons' education allowed pupils and professors to became accustomed to dwelling in the intersection between "the wants of anatomical instruction on the one hand, and the flagrant outrages upon humanity on the other."[714] Moreover, dissection not only trained students to commodify the dead and boldly flaunt moral and social norms for the advancement of medical knowledge, but dissection helped instill new levels of clinical

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[712] Ibid.

[713] Ibid., 327.

[714] "Anatomy: The Distinternment of the Dead," in *The London Literary Gazette and Journal of Belles Lettres, Arts, Sciences, Etc., for the Year 1823* (London: Printed for H. Colburn, 1823), 67.

detachment.

In one of William Hunter's well-known lectures, he articulated the importance of dissecting the dead to develop medical dispassion toward the living. Hunter told his students, "It is dissection alone that can teach us, where we may cut the living body...This informs the *head*, gives dexterity to the *hand*, and familiarizes the *heart* with a sort of necessary inhumanity, the use of cutting-instruments upon our fellow-creatures."[715] The "necessary inhumanity" required of budding surgeons had long been acknowledged and embraced within the Western medical tradition. In approximately 30 A.D., Roman medical writer Aulus Cornelius Celsus wrote that surgeons ought to be bold, have strong, ambidextrous hands that were unflinching, and "so far void of pity, that he may have only in view the cure of him, whom he has taken in hand, and not in compassion to cries either make more haste than the case requires, or his cut less than is necessary; but to do all, as if he was not moved by the shrieks of his patient."[716]

During the eighteenth century, opportunities for dissection increased exponentially as described above, and surgical skills were being honed and professionalized in new ways and for extended periods of time. The ability to be unmoved by shrieking patients had to be learned and the dead provided ample practice for aspiring surgeons to develop this ability. Surgery was "crude, dirty, rapid, bloody."[717] To prevent prolonged agony, as well as to avoid bodily decay, surgeons were required to develop nimbleness, speed, accuracy, and proficiency. Patients had little chance to survive the pain, shock, and loss of blood if surgeons lacked such skills.[718]

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[715] William Hunter, Two Introductory Lectures: Delivered by Dr. William Hunter (London: Printed for J. Johnson, 1784), 67 (emphasis his).

[716] Aulus Cornelius Celsus, *A. Corn. Celsus of Medicine in Eight Books*, New edition (Edinburgh: Printed for Dickinson & Company, 1814), 309.

[717] Stanley, *For Fear of Pain*, 11.

[718] Fissell, *Patients, Power and the Poor*, 141.

Practicing on the dead was crucial in allowing young surgeons to become accustomed to foul odors and to cut into bodies that didn't cry out or struggle.[719] Under a dissector's gaze the human body became neutral, anonymous, even mechanistic.[720] Surgical students needed to learn how to discipline their minds and control their emotions.[721]

The anatomical theatre was an ideal space for students to exercise such discipline. The sights, sounds, and smells of the dissecting theatre forced them to "acquire another nature as it were" by learning how to remain "unmolested and unmoved by the Stench, Blood, Pus, and Nastiness that will naturally occur to them in their Practice."[722] When English naturalist and physician Martin Lister studied in France in 1698, he described the disgust elicited in the uninitiated when confronted with seeing gutted bellies and open chests scattered about the dissecting room. "Indeed, a private anatomy room is to one not accustomed to this kind of manufacture, very irksome, if not frightful; here a basket of dissecting instruments, as knives, saws, &c. And there a form with a thigh and leg stayed, and the muscles parted asunder: on one another form an arm served after the same manner. Here a tray full of bits of flesh, for the more minute discovery of the veins and nerves; and every where such discouraging objects." [723]

For Lister, dissecting the dead transgressed human nature and forced the anatomist to ignore one's basic instincts for the ultimate benefit of humanity.[724] In acquiring another nature

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[719] Payne, *With Words and Knives*, 87.

[720] Sugg, *Murder After Death*, 166.

[721] Payne, *With Words and Knives*, 5, 89.

[722] Lorenz Heister, *A General System of Surgery in Three Parts*, 4th ed. (London: W. Innys, et al., 1750), 24; Cunningham, *The Anatomist Anatomis'd*, 85.

[723] Martin Lister, "A Journey to Paris in the Year 1698," in *A General Collection of the Best and Most Interesting Voyages and Travels*, vol. IV (Philadelphia, PA: Kimber and Conrad, 1811), 129.

[724] Ibid.

and exercising necessary inhumanity, surgeons were accused of being genuinely cruel, and the diminution of surgeons' humanity was a rising concern.[725] By the late eighteenth century, the hardened, detached surgeon was a "distinctive and unapologetic badge of medical, and especially surgical, identity."[726] Operating rooms, hospital wards, dissecting theatres, and grave robbing were becoming central to surgeons' self-understanding rather than house calls on horseback or treating the sick in one's private practice.[727] These changes also increased surgeons' professional medical authority and status during the eighteenth century.[728]

Slave trade surgeons were thus trained to develop a new nature and to embrace new social structures and cultural norms related to doctoring. These young medical men encountered institutionalized patients and the stolen dead in ways that thwarted traditional moral codes and social propriety for the benefit of medical knowledge. Aspiring surgeons modeled their behavior upon attending professors who objectified and exposed patients' bodies as teaching tools and clinical objects for medical study. William Nolan critiqued hospital medicine in 1786 after having frequently witnessed eminent surgeons and physicians use "exceeding harsh language and apparently unfeeling treatment to their patients, when they were in the most agitating mental anxiety, and under the most excruciating corporeal pain."[729] Pupils often took these lessons too far upon the vulnerable poor on the hospital wards exhibiting unruly, careless, and noisy

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[725] James Carrick Moore, *A Method of Preventing Or Diminishing Pain in Several Operations of Surgery* (London: T. Cadell, 1784), 2, 5; Payne, *With Words and Knives*, 4.

[726] Sugg, *Murder After Death*, 191.

[727] Fissell, *Patients, Power and the Poor*, 146.

[728] Doyle, "The Spectre of the Scalpel," 10; Hutton, *The Study of Anatomy in Britain*, 22–23. See also Philip Wilson, "An Enlightenment Science? Surgery and the Royal Society," in *Medicine in the Enlightenment*, ed. Roy Porter (Atlanta, GA: Rodopi, 1995), 360–86.

[729] William Nolan, *An Essay on Humanity: Or a View of Abuses in Hospitals* (London: Printed by J. Murray, 1786), 24.

behavior with curses flying from their lips.[730] In 1783, for example, the Medical Committee of the Middlesex Hospital, drafted Rules for Apprentices and Pupils which included the requirement that "they behave with proper Decorum as well as Tenderness towards the Patients."[731] The institutional culture of the hospital and the dissecting theatre encouraged students to strive after clinical detachment, to be proud of their steeliness in the face of vivisected animals shrieking or poxed women exposed and trembling before rowdy, male medical students. Such skills were of the utmost necessity in order to save their patients' lives, to cut quickly and proficiently into human bodies without the benefit of anesthesia, when speed and dexterity could mean life or death. Pain and healing, violence and curing were deeply entangled. Aspiring surgeons negotiated the boundaries of both, needing to embrace the contours of each in order to be effective practitioners.

These were among the intellectual resources and cognitive tools slave trade surgeons brought with them to the African coast. Their previous naval and military service as described in the previous chapter certainly honed many of these skills further. Yet the slave trade required additional recalibration as medical practitioners met its unique challenges and became captors who wielded violence outside of the operating theatre, trafficked in suffering detached from patients' bedsides, and purchased human lives. In this historical moment which experienced nascent groaning pains of medical modernity, when patients' voices were increasingly silenced, and their experience of suffering was no longer pivotal to the clinical encounter, the slave trade crystallized and amplified these emergent shifts in the patient-practitioner relationship in an insidious new way, hardening their edges perhaps beyond recognition. If medicine was

[730] Lawrence, *Charitable Knowledge*, 122–24.

[731] Middlesex Hospital Archives (hereafter, MHA), Register of Surgeons' Pupils, 1763-1845, August 2, 1783.

becoming depersonalized and disempowering for the sick across the British Isles and indeed across the British Atlantic world in military outposts and colonial hospitals, the slave trade offers one of its most extreme institutionalized expressions, sweeping up millions of captive Africans into its steely grip. Indeed, one of the most revealing sites for considering how lessons learned in the anatomy theatre and at the hospital bedside could be utilized in the context of the slave trade is during the forced medical inspections conducted on enslaved children, women, and men prior to purchase in coastal enclaves along the Atlantic African littoral.

Enslaved Persons as Specimens

One of the first tasks slave trade surgeons performed were medical inspections of captive Africans prior to purchase.[732] Inspecting enslaved children, women, and men prior to sale has been adeptly discussed in slavery studies with antebellum slave pens and auction blocks in the Americas serving as critical sites for such activities.[733] However, pre-sale examinations on the

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[732] *HCPP*, Testimony of Alexander Falconbridge, 299; Sheridan, *Doctors and Slaves*, 114. Similar inspection procedures were carried out by other European nations involved in the slave trade. For the Dutch slave trade see P. C. Emmer, *The Dutch Slave Trade, 1500-1850*, trans. Chris Emery (Oxford, U.K.: Berghahn Books, 2006), 46–47, 72. For practices by other European nations see Thomas, *The Slave Trade*, 395–97. For the French trade see Robert W. Harms, *The Diligent: A Voyage Through the Worlds of the Slave Trade* (New York: Basic Books, 2002), 248. There is some evidence in the Danish slave trade that African merchants at Danish slave factories in West Africa conducted examinations on the enslaved prior to sale. See Ludvig Ferdinand Rømer, *A Reliable Account of the Coast of Guinea (1760)*, ed. and trans. Selena Axelrod Winsnes (New York: Oxford University Press, 2000), 225.

[733] See Walter Johnson's in-depth discussion in *Soul by Soul*, 130–61. See also for example Daina Ramey Berry, *"Swing the Sickle for the Harvest Is Ripe": Gender and Slavery in Antebellum Georgia* (Chicago, IL: University of Illinois Press, 2007), 94–96; Richard A. Bailey, *Race and Redemption in Puritan New England* (New York: Oxford University Press, 2011), 62, 67–70; Glenn David Brasher, *Peninsula Campaign and the Necessity of Emancipation: African Americans and the Fight for Freedom* (Chapel Hill, NC: University of North Carolina Press, 2012), 20; Damian Pargas, *Slavery and Forced Migration in the Antebellum South* (New York: Cambridge University Press, 2014), 100–110; Boster, *African American Slavery and Disability*, 83–89; Julia Floyd Smith, *Slavery and Rice Culture in Low Country Georgia, 1750-1860* (Knoxville, TN: University of Tennessee Press, 1991), 108–9. Regarding sex slave markets for fancy girls in New Orleans see for example Emily Epstein Landau, *Spectacular Wickedness: Sex, Race, and Memory in Storyville, New Orleans* (Baton Rouge, LA: Louisiana University Press, 2013), 56–60. It is also worth noting that Jennifer Glancy's study of pre-purchase slave examinations in the early Christian era reveals certain similarities including the inability of slaves "to screen their bodies from even the most intimate and humiliating scrutiny" which obtained in Roman law. See Jennifer A. Glancy, *Slavery in Early Christianity* (New York: Oxford University Press, 2002), 86.

African coast operated in a different context and setting. Although ship captains were present, African coastal inspections existed within the scope of tasks assigned to doctors in the Atlantic slave trade. While slave ships from the colonial United States and the early American republic did not typically carry surgeons, other carriers had a well-established tradition of hiring medical men who were charged with inspecting captive Africans.[734] Medical practitioners' knowledge and skill directed the bodily encounter, and a medical vantage point framed the event. Unlike slave purchasers in the Americas who examined enslaved children, women, and men as possible long-term investments, on the African coast captives were purchased in order to be resold on the other side of the Atlantic. Slave trade surgeons were middle men in the distribution chain. They determined which human goods to purchase based on their ability to survive the Atlantic crossing and subsequent vendibility. In this context, medical expertise was the prevailing intellectual resource during the purchasing process of pre-trafficked African people.

After being transported across the Atlantic, post-trafficked examinations of the enslaved in the British Caribbean and North America by potential purchasers were not primarily carried

[734] Slave ships from colonial America and the early republic were often smaller, carried fewer officers, and had less specialized crews. See Kelley, *The Voyage of the Slave Ship Hare*, 39, 108; James A. McMillin, *The Final Victims: Foreign Slave Trade to North America, 1783-1810* (Columbia, SC: University of South Carolina Press, 2004), 181, n. 13; Behrendt, "Human Capital in the British Slave Trade," 97, n. 88. For how medicine functioned on a North American slaving vessel without a surgeon, see for example Sowande' Mustakeem, "'She Must Go Overboard & Shall Go Overboard': Diseased Bodies and the Spectacle of Murder at Sea," *Atlantic Studies* 8, no. 3 (September 2011): 301–16.

For more on the slave trade out of colonial and early America see Leonardo Marques, *The United States and the Transatlantic Slave Trade to the Americas, 1776-1867* (New Haven, CT: Yale University Press, 2016); Kelley, *The Voyage of the Slave Ship Hare*; David Eltis, "The U.S. Transatlantic Slave Trade, 1644–1867: An Assessment," *Civil War History* 54, no. 4 (December 3, 2008): 347–78; McMillin, *The Final Victims*; O'Malley, *Final Passages*; Amelia C. Ford and Samuel Rhodes, "An Eighteenth-Century Letter from a Sea Captain to His Owner," *The New England Quarterly* 3, no. 1 (January 1, 1930): 136–45; Sarah Deutsch, "The Elusive Guineamen: Newport Slavers, 1735-1774," *The New England Quarterly* 55, no. 2 (June 1, 1982): 229–53; Jay Coughtry, *The Notorious Triangle: Rhode Island and the African Slave Trade, 1700-1807* (Philadelphia, PA: Temple University Press, 1981); Michael E. Stevens, "'To Get as Many Slaves as You Can': An 1807 Slaving Voyage," *The South Carolina Historical Magazine* 87, no. 3 (July 1, 1986): 187–92; Anne Farrow, *The Logbooks: Connecticut's Slave Ships and Human Memory* (Middletown, CT: Wesleyan University Press, 2014).

out by medical practitioners.[735] Instead, planters, brokers, merchants, and traders in human lives were responsible for studying the mental, moral, and physical fitness of enslaved people.[736] Possessed of rudimentary medical knowledge in order to spot signs of potential disease, the medical vantage point was simply one node in a broader constellation of "slave buyers' medical, managerial, aesthetic, and sexual concerns."[737] Doctors were hired to diagnose and cure the sick who were housed in slave pens prior to sale or medical men might help assess enslaved health for inexperienced buyers when needed; however, pre-purchase examinations in the Americas encapsulated more than physical health and disease. [738] Character, morality, rebelliousness, docility, likeability and other subjective factors were crucial factors in determining whether an enslaved person was considered "sound." As Dea Boster writes, "assessments of slave soundness...involved a complicated web of ideas about physical fitness and esthetics, fears of disease or slave resistance, and expectation for specific performance from prospective bondspeople."[739] Drawing the distinction between pre-trafficked medical inspections on the African coast and post-trafficked slave auction examinations in the Americas is critical. The lengthy inspections on the African coast direct our gaze toward the specialized role medical practitioners played in the largest forced oceanic migration in human history.

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[735] The medical labor slave trade surgeons performed to prepare captives for sale once landed in the Americas is discussed in Chapter Seven.

[736] Equiano, *The Interesting Narrative*, 54–55; Hilary Beckles, *Natural Rebels: A Social History of Enslaved Black Women in Barbados* (New Brunswick, NJ: Rutgers University Press, 1989), 28–29; Kiple, *The Caribbean Slave*, 57–58, 64; Johnson, *Soul by Soul*, 136–45; Boster, *African American Slavery and Disability*, 75.

[737] Johnson, *Soul by Soul*, 161; Katherine McKittrick, *Demonic Grounds : Black Women and the Cartographies of Struggle* (Minneapolis, MN: University of Minnesota Press, 2006), 65–67. See also Sharla Fett's discussion of the capacious category of "soundness" in *Working Cures: Healing, Health, and Power on Southern Slave Plantations* (Chapel Hill, NC: University of North Carolina Press, 2002), 15–35.

[738] Johnson, *Soul by Soul*, 119–20, 137; Herbert C. Covey and Dwight Eisnach, *What the Slaves Ate: Recollections of African American Foods and Foodways from the Slave Narratives* (Santa Barbara, CA: ABC-CLIO, 2009), 12.

[739] Boster, *African American Slavery and Disability*, 75.

Slave trade doctors were responsible for selecting viable bodies to be trafficked across the Atlantic, and this task was considered critical for the success of the voyage.[740] The purpose of the medical inspection was to carefully study African bodies to determine which were capable of "much labor" as one surgeon explained.[741] Young, healthy bodies would command the highest prices in the slave market economy. Old, sickly, and disabled persons could ruin the profit-potential of a voyage. In 1701, the London governors of the Royal African Company wrote "...ye Diseased and ye Aged have often been ye Distruction of ye whole adventure."[742] One slave ship surgeon, Thomas Aubrey, advised aspiring surgeons to perform the medical inspection thoroughly because "your own Reputation, as well as the Owners Interest lies at Stake."[743]

Enslaved children, women, and men were stripped naked.[744] "Male and female, young and old, all underwent a long manipulation," remarked one slave ship captain.[745] From head to foot every part of their bodies was studied.[746] Inspecting just one enslaved person could last hours. Although the Portuguese were notorious for spending upwards of four hours inspecting

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[740] Smallwood, *Saltwater Slavery*, 81–82; Mustakeem, *Slavery at Sea*, 44–45.

[741] Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17.

[742] TNA, T70/51, Letters Sent to Africa, 1698-1703, Letter from Mssrs. Evans, Bull, Rudge, Hamond, Hopkins, Lancashire, Pinda, Herne to the King of Ouidah, August 12, 1701, f. 202.

[743] Aubrey, *The Sea-Surgeon*, 118.

[744] Willem Bosman, *A New and Accurate Description of the Coast of Guinea* (London: Printed for James Knapton and Dan. Midwinter, 1705), 364; Barbot, "A Description of the Coasts," 326; Théophile Conneau, *A Slaver's Log Book or 20 Years' Residence in Africa* (Englewood Cliffs, N.J.: Prentice-Hall, 1976), 71.

[745] Conneau, *A Slaver's Log Book*, 71.

[746] H. C. Monrad, "A Description of the Guinea Coast and Its Inhabitants," in *Two Views from Christiansborg Castle*, trans. Selena Axelrod Winsnes, vol. II (Ghana: Sub-Saharan Publishers, 2009), 222; Conneau, *A Slaver's Log Book*, 71; Randy J. Sparks, *Where the Negroes Are Masters: An African Port in the Era of the Slave Trade* (Cambridge, MA: Harvard University Press, 2014), 154; Taylor, *If We Must Die*, 22–23.

one captive, the British also conducted extensive, lengthy examinations.[747] British surgeons peered into the eyes of captive Africans to see that they were bright, glistening, and vivacious despite the sorrow, tears, and despondency that swept across many faces.[748] A film over the eyes could indicate diminished sight or disease.[749] The veins in the eyes were not to be yellowish, which could be a sign of jaundice, and eyes should not "seem hollow, or sunk into their Heads," which could indicate atrophy.[750] Although a slight blemish in the eye did not detract from the enslaved person's overall health and laboring potential, the enslaved were also scrutinized in regard to their physical perfection as enslaved specimens. Such aesthetic defects were noted as deductions that lowered the prices paid for African lives.[751]

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[747] Rømer, *A Reliable Account of the Coast of Guinea (1760)*, 226; Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17. German-born merchant Ludwig Rømer served at the Danish headquarters on the Gold Coast, Christiansborg Castle, and observed that Portuguese captains "may spend four hours examining a single slave. He sniffs down the slaves' throats, and feels them everywhere. A slave must perform antics for him, laugh and sing for him. Finally he licks them with his tongue around their chins to discover if they have beards." See Rømer, *A Reliable Account of the Coast of Guinea (1760)*, 226.

[748] Aubrey, *The Sea-Surgeon*, 119; Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17; Monrad, "A Description of the Guinea Coast and Its Inhabitants," 222; Gregory, *Conspectus Medicinæ Theoreticæ*, 5. See also *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Report of the Lords of the Committee of Council, Testimony of James Arnold, February 11, 1788, f. 52. James Gregory (1753-1821) who was Professor of the Practice of Medicine at Edinburgh published lectures in 1788 under the title *Conspectus Medicinæ Theoreticæ*. His writings are instructive in thinking about how aspiring medical practitioners were taught in regard to determining the characteristics of healthy bodies. Not only did Gregory's texts influence surgeons who trained at Edinburgh, but his popularity spread throughout the British Isles. Moreover, his writings are an apt representation of medical practice and therapeutic knowledge of the period.

[749] BL Add MS 48590 B, Correspondence of Humphry Morice, Miscellaneous Letters and Documents, 1709-1856, Letter from Basnett, Miller and Mill, November 9, 1722, f. 29-30. For a description of symptoms of various eye diseases as they were understood during the eighteenth century, see for example Richard Brookes, *An Introduction to Physic and Surgery* (London: Printed for J. Newbery, 1754), 55–57. Ophthalmia, particularly gonnorrheal ophthalmia, was a dangerous, infectious eye inflammation and on board slave ships that surgeons struggled to prevent. The disease often resulted in blindness. The presence of ophthalmia in the slave trade influenced the formation of the Liverpool Institute for the Blind, which was conceived of by Edward Rushton who lost his sight by contracting ophthalmia on board a slaving vessel while he treated infected African captives. See Sheridan, "The Guinea Surgeons on the Middle Passage," 609; Rawley and Behrendt, *The Transatlantic Slave Trade*, 252.

[750] Aubrey, *The Sea-Surgeon*, 119; Brookes, *An Introduction to Physic and Surgery*, 1754, 56. See also Kiple, *The Caribbean Slave*, 57.

[751] *HCPP*, Testimony of John Fountain, 272. Non-health related aesthetic considerations regarding enslaved specimens may also have been related to theories of physiognomy which remained prevalent during the eighteenth century. Faces were decoded; bodily surfaces were infused with moral meanings; and character was reflected in

Doctors opened the mouths of the enslaved to check that their throats were free of ulcers, teeth were not loose, and gums were not discolored or decayed, which could occur from scurvy in the gums or venereal disease.[752] Surgeons also examined tooth decay to help estimate the captive's age.[753] When not related to disease, missing teeth were noted as aesthetic imperfections that reduced the amount of money paid since these captives were sub-prime, imperfect specimens.[754] Medical examiners checked the pulses of captive Africans at the wrist, which was considered crucial in determining the overall health of the body because an irregular pulse would alert the practitioner to the possibility of disease.[755] Pulses were to be "full, slow, and regular," and breathing should be easy and not labored – likely an impossibility given the

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one's appearance. In the context of the slave trade, it is possible that a blemish in the eye or a missing tooth not only rendered the specimen physically imperfect but defective in terms of the captive's character, docility, or morality given that slave traders already assessed such traits by way of African ethnicities and ceremonial bodily markings, for example. For more on physiognomy in connection to medicine see Fissell, *Patients, Power and the Poor*, 29–33. For a study that includes eighteenth-century race physiognomy in British consumer culture see E. Kim, "Race Sells: Racialized Trade Cards in 18th-Century Britain," *Journal of Material Culture* 7, no. 2 (July 1, 2002): 147. Meanings slave traders held regarding specific African ethnicities is discussed in Chapter 5.

[752] Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17; Aubrey, *The Sea-Surgeon*, 119; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 179; Monrad, "A Description of the Guinea Coast and Its Inhabitants," 222; Brookes, *An Introduction to Physic and Surgery*, 1754, 436.

[753] Phillips, *A Journal of a Voyage Made in the Hannibal of London*, 218.

[754] *HCPP*, Testimony of John Fountain, June 16, 1789, 272; Conneau, *A Slaver's Log Book*, 71; Rømer, *A Reliable Account of the Coast of Guinea (1760)*, 225–26. Cultural modifications were also made to teeth in certain West and Central African societies as described in Susie Minchin and Linda A. Newson, *From Capture to Sale: The Portuguese Slave Trade to Spanish South America in the Early Seventeenth Century* (Leiden, The Netherlands: Brill, 2007), 128. There is some evidence that such modifications like filed teeth were also considered cosmetic defects in enslaved specimens and at times aroused suspicions of cannibalism. See for example BL Add MS 48590 B, Correspondence of Humphry Morice, Miscellaneous Letters and Documents, 1709-1856, Letter from Basnett, Miller and Mill, November 9, 1722, f. 29-30; and, Rømer, *A Reliable Account of the Coast of Guinea (1760)*, 29, n. 49.

[755] Gregory, *Conspectus Medicinæ Theoreticæ*, 6; Falck, *The Seaman's Medical Instructor*, 50–51. The *Seaman's Medical Instructor* is a useful text for thinking about how health was communicated in a maritime medical context to lay people, as the manual was written for ships which carried no medical personnel. Even if some slave ship surgeons did not receive intensive clinical education, some basic knowledge of the signs of bodily health would have been widely known. Similarly, for how domestic medical treatises described the importance of the pulse as a symptom in various diseases see for example what William Buchan writes concerning the state of the pulse in fevers, peripneumony (lung inflammation), consumption, and nervous disease. William Buchan, *Domestic Medicine*, 17th ed. (London: Printed by A. Strahan, 1800), 162, 171, 175, 189.

gripping terror that plagued many of the captives.[756] Lieutenant John Matthews observed that fear of being purchased by Europeans left many of the enslaved "so terrified with apprehensions of their expected fate, as to remain in a state of torpid insensibility for some time."[757]

Nevertheless, enslaved children, women, and men were forced to jump, move, and flex their chained limbs to make sure they were not lame or weak in the joints.[758] One slave ship captain in the late seventeenth century described how surgeons tested "wind and limb, making them jump, stretch out their arms swiftly."[759] In the late eighteenth century, the enslaved were similarly observed "stamping their foot boldly on the ground and stretching out their arms" to prove they were free of defects.[760] Sometimes, the captives' pulses were taken before and after the physical exertions, explained pre-eminent Dutch physician Herman Boerhaave in a lecture to his medical students at the University of Leyden. "If now they find the Respiration and Pulse not much altered by that violent Motion," he stated, "they know that they are of a strong Habit of Body."[761] Refusal to perform the physical exercises brought whips, blows, punches, and kicks upon the captives. In the 1720s, naval surgeon John Atkins observed one enslaved man being inspected for sale who refused "to rise or stretch out his Limbs, as the Master commanded; which got him an unmerciful Whipping...with a cutting Manatea Strap, and had certainly killed

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[756] Falck, *The Seaman's Medical Instructor*, 52; Gregory, *Conspectus Medicinæ Theoreticæ*, 6.

[757] John Matthews, *A Voyage to the River Sierra-Leone* (London: B. White and Son, and J. Sewell, 1788), 152.

[758] Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17; Monrad, "A Description of the Guinea Coast and Its Inhabitants," 222; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 179; Mustakeem, *Slavery at Sea*, 45; Harms, *The Diligent*, 248.

[759] Phillips, *A Journal of a Voyage Made in the Hannibal of London*, 218.

[760] *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence Taken Before a Committee of the House of Commons, Being a Committee of the Whole House, Vol. 68, April 20, 1789 – June 22, 1789, Testimony of John Fountain, June 16, 1789, 274.

[761] Boerhaave, *Dr. Boerhaave's Academical Lectures on the Theory of Physic*, VI:127.

him" if profit loss from the African man's death had not been a concern.[762]

Medical men were instructed to observe the stature and physique of captive Africans.[763] Ideal enslaved specimens should have straight backs and wide chests.[764] An "ample chest and broad shoulders" were the signs of a healthy, vigorous body.[765] Smells were of paramount importance as "Some Disorders are discovered by the *Smell*," explained surgeon Lorenz Heister in his widely read surgical text.[766] Sniffing enslaved bodies could, according to the medical logic of the period, reveal cancer, mouth scurvy, and smallpox, which were believed to have particular odors.[767] Doctors inspected boys' and men's penises, touched their scrotums, and fingered their testicles to make sure they were free of inflammation, swelling, ulcers, and scabs

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[762] Atkins, *The Navy-Surgeon*, 41.

[763] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 179.

[764] Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 17; Gregory, *Conspectus Medicinæ Theoreticæ*, 5.

[765] Gregory, *Conspectus Medicinæ Theoreticæ*, 5.

[766] Lorenz Heister, *A General System of Surgery in Three Parts* (London: Printed for W. Innys, et al., 1743), 16. Heister's text went through ten English editions due to its popularity. For more on Lorenz Heister (1683-1758) see Ellis, *A History of Surgery*, 59–61. For smelling enslaved people during the medical inspection see Rømer, *A Reliable Account of the Coast of Guinea (1760)*, 226.

[767] Gregory, *Conspectus Medicinæ Theoreticæ*, 11–12. Smells were considered a physical indicator of disease, which was linked to theories regarding the role of internal putrefaction or decomposition in certain diseases like scurvy. Additionally, bad odors could indicate the presence of disease-causing agents in the atmosphere. Noxious, foul air was believed to be a major health hazard. See Charters, *Disease, War, and the Imperial State*, 23–24; Dobson and Smith, *Contours of Death and Disease in Early Modern England*, 10–20; James C. Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society* (New York: Oxford University Press, 2000), 1–28; Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 199–200; M. Stolberg, *Experiencing Illness and the Sick Body in Early Modern Europe* (New York: Palgrave MacMillan, 2011), 111, 119, 129, 136; Richard L. Doty, "Introduction and Historical Perspective," in *Handbook of Olfaction and Gustation*, ed. Richard L. Doty, 3rd ed. (John Wiley & Sons, 2015), 7.

Although there is no evidence that during the medical inspection doctors ascribed different odors to African bodies than European bodies, William Tullett's study of how olfactory notions were racialized in eighteenth-century British culture is a helpful reference in considering such a question. See William Tullett, "Grease and Sweat: Race and Smell in Eighteenth-Century English Culture," *Cultural and Social History* 13, no. 3 (July 4, 2016): 307–32.

which could indicate venereal disease.[768] Under threat of violence, enslaved women and men would have had to bend over at the waist, or get down on their knees and lean on their elbows with their buttocks in the air for anal and rectal inspections.[769] Surgeons forced their fingers up the anus into the rectum to check for abscesses or fistulae.[770] If a fistula was suspected, surgeons typically inserted a "blunt-pointed probe" into the rectum for confirmation.[771] Medical practitioners checked all anuses for soft tumors known as ficuses and studied groins for marks on the skin, such as scars left from syphilitic pustules.[772]

During the hours'-long inspections, captive African girls and women underwent additional procedures. Girls' and women's reproductive potential was carefully scrutinized. Merchants were willing to pay well for African women's fertile wombs—what Marlene Philip

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[768] Aubrey, *The Sea-Surgeon*, 118–19; Phillips, *A Journal of a Voyage Made in the Hannibal of London*, 218. For more on venereal disease see for example John Hunter, *A Treatise on the Venereal Disease* (London: Sold at No. 13, Castle-Street, Leicester-Square, 1786), 51–57. Please note that venereal disease in the eighteenth century referred to a broad range of symptoms and conditions, which today we understand to be separate diseases. For an excellent overview see Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 15–29.

[769] The sources do not indicate the physical position the enslaved had to assume during anal and rectal inspections. However, in the context of eighteenth-century medical practice, patient positions for accessing anal and rectal areas of the body included lying on a table on one's side with knees brought up to the chest, the knee-elbow position described above, and the lithotomy position where the patient is on their back with legs spread wide and knees bent. It seems unlikely that tables or other supports were used during these procedures on the African coast to help steady the body. Bending over at the waist at an angle sufficient to allow doctors to check the rectum may have been a difficult posture to sustain for many of the enslaved. For this reason, it is possible that the knee-elbow position may have been used. It is also possible that African captives were forced to rest on their hands and knees, rather than on their elbows during these inspections. See Samuel Cooper, *The First Lines of the Practice of Surgery: Designed as an Introduction for Students and a Concise Book of Reference for Practitioners*, 4th ed., vol. II (London: Longman, Hurst, Rees, Orme & Brown, 1820), 70, 294; Henry-François Le Dran, *The Operations in Surgery of Monsier Le Dran*, trans. Thomas Gataker (London: Printed for C. Hitch and R. Dodsley, 1749), 164; Charles Bell, *A Treatise on the Diseases of the Urethra, Vesica Urinaria, Prostate, and Rectum* (London: Longman, et al., 1820), 308.

[770] Aubrey, *The Sea-Surgeon*, 118.

[771] William Northcote, *The Marine Practice of Physic and Surgery*, vol. 1 (London: Printed by W. and J. Richardson, 1770), 52.

[772] Aubrey, *The Sea-Surgeon*, 119.

has described as "the inestimable value of the space between the legs."[773] Although men often commanded higher prices in American slave markets, reproductive capacity added value to female captives.[774] Those who had already given birth to multiple children would not command the same price as those whose reproductive labor potential lay in the future. Royal African Company factor Dalby Thomas observed in 1704 that women who had already born children could "occation a dull Sale & woold be a damage to ye whole."[775] One agent in Barbados emphasized in 1731 that "Girls of 6 or 7 years old Sells better than any Woman full grown. Especially if they have Had one or 2 Children & that their Breast be fallen."[776] In markets where small children were prized above older mothers, these little girls were particularly vulnerable.

Surgeons inspected African girl's and women's breasts to check their fullness and firmness. Fallen breasts were undesirable as they signified age.[777] Slave traders wanted to prevent the spread of venereal disease and yaws during the Atlantic crossing, and African women were considered likely carriers due to long-held European notions concerning African

[773] Marlene Nourbese Philip, "Dis Place — The Space Between," in *A Genealogy of Resistance: And Other Essays*, Black Women Writers (Toronto: Mercury Press, 1997), 92.

[774] Smallwood, *Saltwater Slavery*, 83, 163–64; Beckles, *Natural Rebels*, 12, 92–114; David Eltis and David Richardson, "Prices of African Slaves Newly Arrived in the Americas, 1673-1865: New Evidence of Long-Run Trends and Regional Differentials," in *Slavery in the Development of the Americas*, ed. David Eltis, Frank D. Lewis, and Kenneth L. Sokoloff (New York: Cambridge University Press, 2004), 181–218; G. Ugo Nwokeji, *The Slave Trade and Culture in the Bight of Biafra: An African Society in the Atlantic World* (New York: Cambridge University Press, 2010), 144–77; Thomas, *The Slave Trade*, 403. While gender and age ratios of women trafficked to the Americas varied over time and fluctuated by region based on local conditions, the presence of women in the Atlantic markets is deeply connected with the value of West African women in slave systems in West Africa.

[775] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter from Dalby Thomas, February 10, 1704, f. 23.

[776] NAS, Court of Sessions, Unextracted Processes, 1664-1868, CS228/A/3/19/40, William Alexander v. James Colhoun and Company, Letter from Thomas & Stirling, July 31, 1731.

[777] Rawley and Behrendt, *The Transatlantic Slave Trade*, 254; Emmer, *The Dutch Slave Trade, 1500-1850*, 72; Erik Gobel, *The Danish Slave Trade and Its Abolition* (Danvers, MA: Brill, 2016), 33.

women's promiscuity and deviant sexuality.[778] From the early seventeenth century, European visitors to West Africa such as German surgeon Samuel Brun identified African women as carriers of fatal, sexually transmitted diseases.[779] During the 1720s, one of the official rules given to preserve the health of African Company employees was that they not marry African

[778] Yaws was believed to be a type of venereal disease during this period because of how its symptoms mimicked syphilis. Yaws and syphilis are both caused by *Treponema* bacteria and the two diseases exhibit almost identical pathological changes even at the microscopic level. However, yaws is not a sexually transmitted disease, but an infectious disease that spreads through dermal (skin to skin) contact. Although Thomas Sydenham noted the distinction in transmission between the two diseases in 1679, this was not the commonly held belief. See Thomas Sydenham, *The Entire Works of Dr. Thomas Sydenham*, ed. John Swan, 3rd ed. (London: Printed for E. Cave, 1753), 335–36. See also Curtin, "Disease Exchange Across the Tropical Atlantic," 335; Charlotte A. Roberts and Keith Manchester, *The Archaeology of Disease*, 3rd ed. (Ithaca, NY: Cornell University Press, 2007), 206–7; Willard Cates, Jr., "Syphilis," in *Bacterial Infections of Humans: Epidemiology and Control*, ed. Alfred S. Evans and Philip S. Brachman, 3rd ed. (New York: Springer, 2013), 716–17; Alfred J. Bollet, *Plagues & Poxes: The Impact of Human History on Epidemic Disease* (New York: Demos Medical Publishing, 2004), 69–70; Lois N. Magner, *A History of Infectious Diseases and the Microbial World* (Westport, CT: Praeger Publishers, 2009), 23–24. See also Katherine Paugh, "Yaws, Syphilis, Sexuality, and the Circulation of Medical Knowledge in the British Caribbean and the Atlantic World," *Bulletin of the History of Medicine* 88, no. 2 (June 23, 2014): 225–52. In the British Caribbean, yaws was also at times confused with leprosy. See Kiple, *The Caribbean Slave*, 21, 136–40; B. W. Higman, *Slave Populations of the British Caribbean, 1807-1834* (Baltimore, MD: Johns Hopkins University Press, 1984), 293–94.

Regarding checking the enslaved for venereal disease see Phillips, *A Journal of a Voyage Made in the Hannibal of London*, 218; Barbot, "A Description of the Coasts," 326; Bosman, *A New and Accurate Description of the Coast of Guinea*, 364; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 179–80; Aubrey, *The Sea-Surgeon*, 118–19.

Regarding the long history associated with African women's promiscuity and sexual deviance, see Jennifer L. Morgan, "'Some Could Suckle over Their Shoulder': Male Travelers, Female Bodies, and the Gendering of Racial Ideology, 1500-1770," *The William and Mary Quarterly*, Third Series, 54, no. 1 (January 1, 1997): 167–92. Attacks on African womanhood continued in the British Caribbean and weaved their way through Parliamentary debates concerning the slave trade. African and African-descended women were blamed for the inability of the slave population to reproduce due to their promiscuity, abortions, venereal disease, and late night revelries. See Sheridan, *Doctors and Slaves*, 224; Brown, *The Reaper's Garden*, 182; Bush-Slimani, "Hard Labour," 89; Katherine Paugh, "The Politics of Childbearing in the British Caribbean and the Atlantic World during the Age of Abolition, 1776–1838," *Past & Present* 221, no. 1 (November 1, 2013): 119–60, doi:10.1093/pastj/gtt011. See also Katherine Paugh, "Rationalizing Reproduction: Race, Disease, and Fertility in the British Caribbean and the Atlantic World During the Age of Abolition, 1763--1833" (Unpublished dissertation, University of Pennsylvania, 2008).

For references in the Parliamentary debates see for example *HCPP*, House of Commons Sessional Papers of the Eighteenth Century, Vol. 71, Minutes of the Evidence Taken Before a Committee of the House of Commons, January 29, 1790, Testimony of Gilbert Francklyn, February 6, 1790, 90; Testimony of Ashton Warner Byam, February 10, 1790, 114; Testimony of John Castles, February 20, 1790, 212.

[779] Samuel Brun, "Samuel Brun's Voyages of 1611-1620," in *German Sources for West African History, 1599-1669*, ed. and trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 71–73; Pieter de Marees, *Description and Historical Account of the Gold Kingdom of Guinea (1602)*, ed. and trans. Albert van Dantzig and Adam Jones (New York: Oxford University Press, 1987), 173; *The Golden Coast* (London: Printed for S. Speed, 1665), 9–10; Johann von Lübelfing, "Johann von Lübelfing's Voyage of 1559-1600," in *German Sources for West African History, 1599-1669*, ed. and trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 16.

women or allow them to stay overnight in the forts.[780] Indeed, African people in general and "the overheated wombs of promiscuous tropical women" in particular were increasingly held to be responsible for the intercontinental transmission of syphilis throughout Europe and the Americas.[781] The theory was advanced by "the most eminent amongst the moderns," Thomas Sydenham and Herman Boerhaave – two highly influential medical thinkers of the late seventeenth and early eighteenth centuries.[782]

While ships' captains looked on, slave trade doctors penetrated girls' and women's naked bodies with particular scrutiny to determine if the "Contagious Venome" that seemingly lurked inside them was present.[783] In order to examine female bodies for venereal disease surgeons inspected the girls' and women's groin areas for buboes (swollen lymph nodes) and small abscesses.[784] With their legs held open and pinned down if necessary, doctors spread apart girls' and women's labial folds to check for inflammation, swelling, and ulcers.[785] If only slight swelling was observed, doctors exerted force and pressure upon the area to determine if it was truly diseased, which resulted in considerable pain, according to surgeon John Hunter.[786] While mariners armed with whips and cutlasses ensured compliance, British medical men moved

[780] TNA, T70/66 Letters Sent, Instructions to Chief Agents in Africa, 1720-1737, Letter to David Dunbar, October 6, 1720, f. 11r.

[781] Paugh, "The Politics of Childbearing in the British Caribbean," 129–30. Although, according to some, African women were credited with the initial transmission of the disease to Europe and the Americas, all female bodies were implicated in the disease. Eighteenth-century medical theory and culture more broadly located the cause and generation of venereal disease within women's bodies. See Turner, *Siphylis: A Practical Dissertation*, 4–5; Siena, *Venereal Disease, Hospitals, and the Urban Poor*, 9, 78.

[782] Sydenham, *The Entire Works of Dr. Thomas Sydenham*, 336; William Turnbull, *An Inquiry Into the Origin and Antiquity of the Lues Venerea* (London: Printed for J. Murray, 1786), 32–33.

[783] Aubrey, *The Sea-Surgeon*, 118–19; Turner, *Siphylis: A Practical Dissertation*, 18.

[784] Hunter, *A Treatise on the Venereal Disease*, 64, 294.

[785] Aubrey, *The Sea-Surgeon*, 119; Turner, *Siphylis: A Practical Dissertation*, 26, 282.

[786] Hunter, *A Treatise on the Venereal Disease*, 263.

beyond the groin and labia to inspect the lips and mouths of the girls' and women's vaginas for pustules.[787] Vaginal discharges offered an additional complication during the physical inspection because doctors often confused the abnormal vaginal discharge *fluor albus*, commonly referred to as "the whites," with gonorrhea.[788] If such a discharge was discovered, African women would have been subjected to additional probing as medical men sought to determine the exact nature of the discharge.

Surgeons inspected the clitoris for chancres (lesions), and medical men forced open girls' and women's vaginas, thrusting their fingers through the vagina to the cervix to check for ulcers.[789] As slave trade surgeon Thomas Aubrey warned, African women will try to conceal any "*Ulcers* in the Neck of the *Matrix*" (cervix) which required doctors to inspect this portion of the uterus.[790] To protect merchants' profits, gynecological inspections were deemed a necessity on the African coast and surgeons freely examined African women's "secret parts" as H. C. Monrad observed.[791] Enslaved African girls and women, especially the younger amongst them, wept inconsolably during the bodily violations.[792]

Slave ship captain Thomas Phillips described the invasive nature of coastal medical

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[787] Ibid., 83, 244.

[788] John Astruc, *A Treatise on All the Diseases Incident to Women Containing an Account of Their Causes (Etc.)* (London: Printed for M. Cooper, 1743); Turner, *Siphylis: A Practical Dissertation*, 27; Hunter, *A Treatise on the Venereal Disease*, 61; W. D. Churchill, "The Medical Practice of the Sexed Body: Women, Men, and Disease in Britain, circa 1600-1740," *Social History of Medicine* 18, no. 1 (April 1, 2005): 11; Wendy D. Churchill, *Female Patients in Early Modern Britain: Gender, Diagnosis, and Treatment* (Burlington, VT: Ashgate Publishing, Ltd., 2013), 41.

[789] Hunter, *A Treatise on the Venereal Disease*, 41; Aubrey, *The Sea-Surgeon*, 118.

[790] Aubrey, *The Sea-Surgeon*, 119.

[791] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 222.

[792] Ibid., 222–23.

inspections for venereal disease as "a great slavery."[793] Although slavery was the institution that structured every aspect of captives' lives on the African coast, Phillips identified the invasive inspections as its own form of slavery, a kind of slavery-within-slavery. In this way, the captain emphasized the brutal and totalizing nature of girls' and women's enslavement, which included their breasts, labia, vagina, and uterus. Women's menstrual blood, painful vaginal discharges, and lactating breasts were all subject to scrutiny on the West African coast. Naming these medical encounters as a form of slavery also reinforces their illegibility outside the context of enslavement; no other identifier *but* slavery could appropriately articulate such extreme bodily abuses in the context of eighteenth-century British medicine and culture.[794]

Doctors handled the bodies of captive children, women, and men as depersonalized anatomical specimens. In some cases, even the lexicon used to describe ideal enslaved specimens borrowed imagery from the dead in the dissecting theatre. In 1716, William Ballie one of the Royal African Company factors on the Gold Coast wrote that the enslaved people recently inspected and sold to ships' captains were "almost as fine as wax work," referencing the carefully preserved wax anatomical models of human bodies and body parts housed in dissecting rooms and sensationalized in museums across Britain.[795] The color, texture, and shape of wax

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[793] Phillips, *A Journal of a Voyage Made in the Hannibal of London*, 218.

[794] For a discussion that examines black women's bodily domination from the vantage point of geography see McKittrick, *Demonic Grounds*, 44–63.

[795] TNA, T70/6, Abstracts from Africa, 1714-1719, Letter from William Baillie, November 20, 1716, f. 50; Mitchell et al., "The Study of Anatomy in England from 1700 to the Early 20th Century," 96; Lawrence, "Alexander Monro 'Primus' and the Edinburgh Manner of Anatomy," 200. See also Hunter, *Two Introductory Lectures*, 110; Piers D. Mitchell, "There's More to Dissection than Burke and Hare: Unknowns in the Teaching of Anatomy and Pathology from the Enlightenment to the Early Twentieth Century in England," in *Anatomical Dissection in Enlightenment England and Beyond: Autopsy, Pathology and Display*, ed. Piers D. Mitchell (Burlington, VT: Ashgate Publishing, Ltd., 2012), 2–4; Geyer-Kordesch and Macdonald, *Physicians and Surgeons in Glasgow*, 1:174–75.

For more on anatomical preparations during this period see for example Harold J. Cook, "Times's Bodies: Crafting the Preparation and Preservation of Naturalia," in *Merchants and Marvels: Commerce, Science, and Art in Early Modern Europe*, ed. Pamela Smith and Paula Findlen (New York: Routledge, 2001), 223–47; Simon Chaplin,

anatomical models gave cadavers an aliveness which instructors used daily to teach students human and comparative anatomy, while they also offered the public the opportunity to gaze upon bodies and dismembered body parts that were strikingly beautiful, monstrous, titillating, or deviant.[796] Thus, while captives' tears might have been streaming; pulses elevated through fear or rage; and breathing slowed by shock, or elevated to the point of hyperventilation, the medical inspections appear largely detached from the suffering of the incarcerated. Enslaved children, women, and men were curious wax models still infused with the spark of life. They were "organs in a sack of flesh," corpses that lived, moved, and cried. Surgeons meticulously manipulated the disembodied bodies of the enslaved, rendering mute their narratives of loss and the shattering of their life histories on the African coast.[797] As slave trade surgeons forcibly investigated the bodies of captive children, women, and men, their medical knowledge and authority was not merely an accessory to the slave trade. Medical men were pivotal in the process of enslavement, functioning as merchants' medical representatives who brought the figure of "the slave" into vendible existence as they groped and studied enslaved bodies as labor

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"Dissection and Display in Eighteenth-Century London," in *Anatomical Dissection in Enlightenment England and Beyond: Autopsy, Pathology and Display*, ed. Piers D. Mitchell (Burlington, VT: Ashgate Publishing, Ltd., 2012), 95–114; Simon Chaplin, "The Divine Touch or Touching Divines: John Hunter, David Hume, and the Bishop of Durham's Rectum," in *Vital Matters: Eighteenth-Century Views of Conception, Life, and Death*, ed. Mary Terrall and Helen Deutsch (Toronto: University of Toronto Press, 2012), 222–45.

[796] Elizabeth Hallam, *The Anatomy Museum: Death and the Body Displayed* (London, UK: Reaktion Books, 2008), 119. The spectacular display and popularity of wax models, dismembered body parts, and organs suspended in jars filled with wine and turpentine is an important reminder that enslaved Africans were also considered exotic species. As Kathleen Murphy's research shows, the training slave trade surgeons received in botany also informed their medical practice, gazing upon captive Africans as exotic goods that ought to be minutely inspected and collected in order to advance natural knowledge. Murphy, "Collecting Slave Traders," 650–52. This is discussed in more detail in Chapter Six.

[797] Katharine Galloway Young, *Presence in the Flesh: The Body in Medicine* (Cambridge, MA: Harvard University Press, 1997), 12; Hanako Okada, "Negotiating the Invisible: Two Women Making Sense of Chronic Illness through Narrative," in *Language, Body, and Health*, ed. Paul McPherron and Vaidehi Ramanathan (Boston, MA: Walter de Gruyter, 2012), 146.

specimens and purchasable people amidst scenes of terror-wielding violence.[798] Driven by the demands of a globalizing market, the cognitive content of slave trade medicine operated upon a new grid of intelligibility that placed doctoring in the service of large-scale commercial forces that incentivized an extreme form of human exploitation.

As outlined above, the initial transition from early modern medicine to modern medicine in Britain during the second half of the eighteenth century was centered within hospitals and anatomy theatres. It was observable in organs and tissues through clinico-pathological correlation, in patients who were newly conceptualized as clinical objects, in pilfered cadavers that were greedily cut up for the sake of medical knowledge, and in patient-practitioner encounters that were increasingly depersonalized and disempowering for the sick. While future slave trade surgeons walked the wards, robbed graves, and dissected the dead, they, too, were thrust into the riotous center of these modernizing forces and the "cognitive revolution" which resulted.[799]

Mark Harrison convincingly argues that there were multiple sites of medical modernity.[800] In colonial hospitals in India and the West Indies, Harrison shows how these practices reverberated beyond the British Isles and took new form in the wider Atlantic and Indian Ocean worlds. In other words, British hospitals and dissecting theatres were not the only spaces where the modernizing impulses of medicine were at work during the second half of the eighteenth century. Indeed, Susan Lawrence writes that hospital medicine was never self-contained within the infirmary's wall. Doctors and students took their experiences and

[798] For excellent discussions of the process of turning human beings into commodities in the context of the Atlantic slave trade and in U.S. slavery see for example Smallwood, *Saltwater Slavery*, 33–64; Johnson, *Soul by Soul*, 117–34.

[799] Armstrong, "Commentary," 642.

[800] Harrison, *Medicine in an Age of Commerce and Empire*, 9–10.

knowledge from patients' bedsides and dissecting theatres to the myriad spaces where they labored.[801] Two such spaces were the West African coast and the slave ships that groaned across the Atlantic. The slave trade produced its own sites of medical modernity, and millions of captive Africans were caught in its web. As patients' voices became muted, bodies became anatomized, and the experience of suffering gradually became excised from the medical encounter, the bodily violations experienced by captive Africans articulate the extreme limits these modernizing impulses could take. The slave trade reveals how medicine wielded differing levels of force against vulnerable populations, spurred on by economic, social, and cultural contingencies.

And so tens of thousands of British surgeons set sail for the West African coast. It is likely that few among them prior to departure would have known that they were about to encounter West African river peoples, forest dwellers, and sahel pastoralists with their own vibrant pharmaceutical, surgical, and medical traditions. The enslaved children, women, and men who experienced British medicine at the end of a lash and pinned to the ground, came from therapeutic traditions where plants and spirits converged, indigenous priests and herbalists doctored the sick, spirit possession and divination were diagnostic tools, and herbalism produced efficacious remedies for a broad range of illnesses. Many British slave ship captains, surgeons, and mariners would experience these healing techniques first hand, and West African indigenous medicine offered enduring intellectual resources for captives swept up in the odious traffic.

[801] Lawrence, *Charitable Knowledge*, 22.

Part Two: West Africa

Chapter Four: Plants, Spirits, Knowledge

In 1772, two enslaved women, Deddie and Amenah, labored as healers at Cape Coast Castle, the British slave trading headquarters in West Africa.[802] Deddie was approximately thirty years old and served the slave factory as an indigenous priest. Amenah was approximately fifty years old and worked as an herbalist and surgeon. How the two women came to be enslaved healers at the castle is unknown. Deddie's name, properly spelled "Dede," means "first-born daughter" in the Ga language (present-day Ghana).[803] This may indicate that Deddie was locally born, although the British regularly renamed the enslaved when they began their tenure at the castle.[804] Amenah's Arabic name could signify that she was among the steady stream of enslaved workers purchased in the Senegambia region to provide skilled and unskilled labor at Cape Coast Castle.[805] It is possible that the women were targeted for shipment to the Americas but remained at the castle as "refuse slaves" – weak or sickly captives rejected from sale after

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[802] TNA, T70/1032, Cape Coast Castle Day Books, 1772, List of Serviceable Slaves, October – December 1772, f. 43r.

[803] Richard Francis Burton, *Wanderings in West Africa from Liverpool to Fernando Po* (New York: Cambridge University Press, 2011), 163.

[804] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkett and Abraham Knox, Feb 9, 1721, f. 45; Letter to Cape Coast Castle, September 12, 1721, f. 106; T70/66, Letters Sent, Instructions to Chief Agents in Africa, 1720-1737, Letter to James Phipps, July 1, 1720, f. 4v.

[805] Newman, *New World of Labor*, 130, 139–65; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 88; Reese, "Facilitating the Slave Trade," 364, 369–73.

For the early presence of Islam in West Africa in general and the Senegambia region in particular see Boubacar Barry, *La Sénégambie Du XVe Au XIXe Siècle: Traite Négrière, Islam et Conquête Coloniale* (Paris: L'Harmattan, 1988); Donald R. Wright, *The World and a Very Small Place in Africa: A History of Globalization in Niumi, the Gambia*, 2nd ed. (Armonk, N.Y.: M.E. Sharpe, 2004), 24–33; James A. Miller, "Trading Through Islam: The Interconnections of Sijilmas, Ghana, and the Almoravid Movement," in *North Africa, Islam and the Mediterranean World: From the Almoravids to the Algerian War*, ed. Julia Clancy-Smith (Portland, OR: Frank Cass, 2001), 29–58; David Owusu-Ansah, "West Africa," in *The Islamic World*, ed. Andrew Rippin (New York: Routledge, 2008), 24–38; Vernon O. Egger, *A History of the Muslim World to 1405: The Making of a Civilization* (New York: Routledge, 2016), 101–9; Roman Loimeier, *Muslim Societies in Africa: A Historical Anthropology* (Bloomington, IN: Indiana University Press, 2013), 1–107; Maghan Keita, *A Political Economy of Health Care in Senegal* (Boston, MA: Brill, 2007), 57–82.

their medical inspections. Deddie and Amenah may have been "pawns" – individuals who served as security for a loan and who could be redeemed when the debt was paid.[806]

Although much of their lives are hidden from view, both enslaved women practiced different forms of healing at Cape Coast Castle. Deddie was held captive by the British at the slave factory for over twenty years.[807] In castle accounting books, she is described variously as a "labouress" and a "fetishwoman" – the English word given to African female religious specialists in West Africa.[808] As a labouress at Cape Coast Castle, Deddie was expected to perform a range of domestic and agricultural tasks such as working in the gardens, washing clothes, cooking, cleaning, caring for infants and children, and tending to the "shipping slaves" – the captives who were incarcerated in underground, vermin-infested dungeons awaiting shipment

[806] Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 88.

[807] TNA, T70/1034, Cape Coast Castle Day Books, 1773, List of Serviceable Slaves, October – November 1773, f. 39; T70/1035, Cape Coast Castle Day Books, 1774, List of Serviceable Slaves, October – December 1774, f. 27v; T70/1037, Cape Coast Castle Day Books, 1775, List of Serviceable Slaves, August – September 1775, f. 21, T70/1038, Cape Coast Castle Day Books, 1776, List of Serviceable Slaves, October – November 1776, f. 28; T70/1040, Cape Coast Castle Day Books, 1777, List of Serviceable Slaves, October – November 1777, f. 26v; T70/1041, Cape Coast Castle Day Books, 1778, List of Serviceable Slaves, October – November 1778, f. 27v; T70/1043, Cape Coast Castle Day Books, 1779, List of Serviceable Slaves, October – December 1779, f. 26v; T70/1044, Cape Coast Castle Day Books, 1780, List of Serviceable Slaves, October – December 1780, f. 24v; T70/1046, Cape Coast Castle Day Books, 1781-1783, List of Serviceable Slaves, July – September 1783, f. 22v; T70/1052, Cape Coast Castle Day Books, 1787, List of Serviceable Slaves, January – March 1787, unpaginated; House of Lords, Records of the Parliament Office (hereafter, HLRO), Main Papers, HL/PO/JO/10/7/660, June 16, 1783 – June 20, 1783, List of the Company's Slaves, f. 9; HLRO, Main Papers, HL/PO/JO/10/7/900, February 9, 1792 – February 10, 1792, List of the Company's Slaves; HLRO, Main Papers, HL/PO/JO/10/7/944, April 12, 1793 – May 3, 1793, List of Unserviceable Women Slaves, 26 January 1792.

[808] "Fetish" was derived first from *feitiçaria*, the Portuguese word for "sorcery," and *feitiço*, the Portuguese for word for "spell." The term was not specifically connected with an African context but was part of a wider vocabulary related to early modern sorcery and magic. Over time "fetish" came to be associated specifically with African sorcery, deities, ritual objects, and religious specialists. As pejorative descriptor, "fetish" often articulated the cultural, religious, and intellectual distance between Africans and Europeans. See Roger Sansi, "Sorcery and Fetishism in the Modern Atlantic," in *Sorcery in the Black Atlantic*, ed. Luis Nicolau Parés and Roger Sansi (Chicago, IL: University of Chicago Press, 2011), 19–40; Peter Mark, "Fetishers, 'Marybuckes' and the Christian Norm: European Images of Senegambians and Their Religions, 1550-1760," *African Studies Review* 23, no. 2 (1980): 91–99; William Pietz, "The Problem of the Fetish, I," *RES: Anthropology and Aesthetics*, no. 9 (April 1, 1985): 5–17; "The Problem of the Fetish, II: The Origin of the Fetish," *RES: Anthropology and Aesthetics*, no. 13 (April 1, 1987): 23–45; "The Problem of the Fetish, IIIa: Bosman's Guinea and the Enlightenment Theory of Fetishism," *RES: Anthropology and Aesthetics*, no. 16 (October 1, 1988): 105–24.

to the Americas.[809] As an indigenous priest, Deddie was an intermediary between the visible and invisible worlds, operating as conduit for the spirit realm.[810] By communicating with the gods on behalf of the community through dance, song, invocations, and sacrificial offerings, Deddie accessed otherworldly knowledge to identify the hidden causal factors related to diseases that resisted traditional treatments.[811] Divine directives and ancestral guidance allowed her to diagnose lingering illnesses and administer appropriate remedies. Indigenous priests like Deddie also created sacred power objects which adorned the bodies of Africans and Europeans at the castle to protect them from misfortune or restore them to health.[812] In her capacity as a ritual

[809] Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 91–92; Reese, "Facilitating the Slave Trade," 366.

[810] Sweet, *Domingos Álvares*, 23–25; Keita, *A Political Economy of Health Care in Senegal*, 37; Tola Olu Pearce, "Political and Economic Changes in Nigeria and the Organisation of Medical Care," *Social Science & Medicine, Part B: Medical Anthropology* 14, no. 2 (May 1, 1980): 91; Kofi Appiah-Kubi, "Traditional African Healing System versus Western Medicine in Southern Ghana: An Encounter," in *Religious Plurality in Africa: Essays in Honour of John S. Mbiti*, ed. Jacob K. Olupona and Sulayman S. Nyang (New York: Mouton de Gruyter, 1993), 98–99; Umar Habila Dadem Danfulani, "Pa Divination: Ritual Performance and Symbolism among the Ngas, Mupun, and Mwaghavul of the Jos Plateau, Nigeria," in *African Spirituality: Forms, Meanings, and Expressions*, ed. Jacob K. Olupona (New York: Crossroad Publishing Company, 2000), 87; Deborah van den Bosch-Heij, *Spirit and Healing in Africa: A Reformed Pneumatological Perspective* (Bloemfontein: Rapid Access Publishers, 2012), 32, 45; John M. Janzen, "Ideologies and Institutions in Precolonial Western Equatorial African Therapeutics," in *The Social Basis of Health and Healing in Africa*, ed. Steven Feierman and John M. Janzen (Berkeley, CA: University of California Press, 1992), 196; Laura S. Grillo, "African Rituals," in *The Wiley-Blackwell Companion to African Religions*, ed. Elias Kifon Bongmba (Malden, MA: John Wiley & Sons, 2012), 112.

[811] Michael Hemmersam, "Description of the Gold Coast, 1639-45," in *German Sources for West African History, 1599-1669*, trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 122; Jean Barbot, *Barbot on Guinea : The Writings of Jean Barbot on West Africa 1678-1712*, ed. P. E. H. Hair, Adam Jones, and Robin Law, vol. I (London: Hakluyt Society, 1992), 275; Barbot, "A Description of the Coasts," 134–35; Steven Feierman, "Struggles for Control: The Social Roots of Health and Healing in Modern Africa," *African Studies Review* 28, no. 2/3 (June 1, 1985): 77; David Westerlund, *African Indigenous Religions and Disease Causation: From Spiritual Beings to Living Humans* (Boston, MA: Brill, 2006), 80; Dennis A. Ityavyar, "Background to the Development of Health Services in Nigeria," *Social Science & Medicine* 24, no. 6 (January 1, 1987): 488; Brian Morris, *Chewa Medical Botany: A Study of Herbalism in Southern Malawi* (Hamburg: Lit Verlag, 1996), 106; Brian Morris, "Herbalism and Divination in Southern Malawi," *Social Science & Medicine* 23, no. 4 (January 1, 1986): 367; John M. Janzen and Edward C. Green, "Continuity, Change, and Challenge in African Medicine," in *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures*, ed. Helaine Selin and Hugh Shapiro (New York: Kluwer Academic Publishers, 2003), 7.

[812] Hemmersam, "Description of the Gold Coast, 1639-45," 102; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 38, 56, 94–95; Barbot, *Barbot on Guinea*, 1992, I:221–22; Barbot, "A Description of the Coasts," 281; Bosman, *A New and Accurate Description of the Coast of Guinea*, 123; Paul Erdmann Isert, *Letters on West Africa and the Slave Trade*, ed. and trans. Selena Axelrod Winsnes (New York: Oxford University Press, 1992), 176.

specialist, Deddie would have been in contact with one of the most significant deities in the town who dwelled nearby.

The site of her captivity, Cape Coast Castle, was built upon a high, sacred rock which was inhabited by the chief god of the sea in the region, known as "Taberah."[813] The rock housing the deity jutted out prominently into the ocean from the bottom of the cliff upon which the castle was built.[814] Deddie would likely have officiated during weekly Sunday offerings made to the marine god.[815] In addition, the annual festivals to Taberah allowed Deddie and other indigenous priests the opportunity to gather otherworldly intelligence that would benefit the community, such as learning the best times for fishing.[816] After consuming meat from a sacrificial goat and drinking a quantity of rum, Deddie and other ritual specialists would then offer the meat and drink to Taberah by tossing the consecrated items into the sea.[817] In addition to weekly and annual celebrations, the marine god was also consulted when distress, sickness, drought, or fear of famine struck the community. Deddie was meant to intervene by lifting up the community's concerns, sacrificing a sheep or goat, and seeking esoteric knowledge from the spirit realm to restore harmony.[818] Sickness, famine, and other forms of affliction were all within Deddie's domain. Thus, while Deddie's role as an indigenous priest involved bodily healing, her

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[813] Wilhelm Johann Müller, "Description of the Fetu Country, 1662-1669," in *German Sources for West African History, 1599-1669*, ed. and trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 160, 160 n. 103.

[814] John Atkins, *A Voyage to Guinea, Brasil, and the West-Indies* (London: Printed for Caesar Ward and Richard Chandler, 1735), 102. The deity is variously described in the sources as "Tabri," "Tabra," "Tahbi," and "Taberah," and was noted by European travelers as early as the 1660s. See Ibid.; Ty M. Reese, "'Sheep in the Jaws of So Many Ravenous Wolves': The Slave Trade and Anglican Missionary Activity at Cape Coast Castle, 1752-1816," *Journal of Religion in Africa* 34, no. 3 (2004): 365.

[815] Thomas Thompson, *An Account of Two Missionary Voyages* (London: Printed for Benjamin Dod, 1758), 38–39.

[816] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 102.

[817] Ibid.

[818] Thompson, *An Account of Two Missionary Voyages*, 38–39.

work extended well beyond curing sick bodies to include wider societal concerns. The physical, agricultural, and social states of unwellness that came under her priestly domain relied upon her access to the spirit realm and the intelligence that came from the beyond. Between 1772 and 1792, Deddie was an active enslaved priest at the castle. However, on January 26, 1792, at the age of forty-five, Deddie was listed as "unserviceable" and "crippled."[819] The remainder of her life remains hidden away with the other vanished souls who labored in obscurity at the castle.

In contrast, Amenah was a fifty-year old "Black Doctress," a title assigned to her by British slave trading merchants because of her herbal and surgical skills.[820] The designation of "Black Doctor" and "Black Doctress" for enslaved Africans at British forts and settlements articulated their legitimacy as medical practitioners from merchants' perspectives, as well as their legibility within European categories of medical labor. Rather than priests who were "masters of occult powers," enslaved doctors like Amenah studied the quality of resinous barks and the plants that grew from saline soils.[821] She would have known the precise moment when a forest flower was medically efficacious and how to experiment and conduct trials of new remedies when an illness resisted treatment. Women healers like Amenah possessed ecological fluency and expert anatomical and botanical knowledge. West African medical practitioners in the slave trading zones were known for their facility with a diverse range of medicinal plant

[819] HLRO, Main Papers, HL/PO/JO/10/7/944, April 12, 1793 – May 3, 1793, List of Unserviceable Women Slaves, 26 January 1792.

[820] TNA, T70/1022, Cape Coast Castle Day Books, 1765, List of Serviceable Slaves, November – December 1765 f. 30r; T70/1024, Cape Coast Castle Day Books 1766, List of Serviceable Slaves, December 31, 1766, f. 26v; T70/1025, Cape Coast Castle Day Books, 1767, List of Serviceable Slaves, December 31, 1767, f. 26v; T70/1026, Cape Coast Castle Day Books, 1768, List of Serviceable Slaves, April 30, 1768, f. 15r; June 30, 1768 f. 17r; August 31, 1768, f. 19v; October 31, 1768, f. 20v; December 31, 1768, f. 21r; T70/1028, Cape Coast Castle Day Books, 1769, List of Serviceable Slaves, March 30, 1769, f. 27r; December 31, 1769, f. 23r; T70/1029, Cape Coast Castle Day Books, 1770, List of Serviceable Slaves, December 31, 1770, f. 17v; T70/1031, Cape Coast Castle Day Books, 1771, List of Serviceable Slaves, December 31, 1771, f. 22v; T70/1032, Cape Coast Castle Day Books, 1772, List of Serviceable Slaves, December 31, 1772, f. 43r.

[821] For "masters of occult powers," see Voeks, "African Medicine and Magic in the Americas," 68.

species and how to most efficaciously engage their therapeutic properties.[822] Such proficiencies made Amenah a valuable source of medical labor and knowledge.

From at least 1765, at approximately forty-six years of age, until 1773, Amenah doctored sick Africans and Europeans on the Gold Coast. Her healing labor would have included diagnosing disease, making and administering herbal remedies, caring for the chronically ill, and performing surgical interventions when necessary. The orbit of medical care enslaved doctors provided extended beyond Cape Coast Castle to include other slave factories along the Gold Coast. Cape Coast Castle was the medical headquarters for the British and the castle was responsible for providing medical care to its "dependencies," the smaller out-forts who were not consistently supplied with medical practitioners.[823] Traveling by canoe along the treacherous coastal surf and riverine waterways, enslaved doctors like Amenah provided medical assistance to enslaved and free workers scattered across the Gold Coast who were too weak to travel to the castle for their convalescence and rehabilitation.[824] At age fifty-three, Amenah retired and was transferred to the list of "superannuated and unserviceable" enslaved women. She held this status into the next decade as her health slowly but steadily declined.[825] Eventually, Amenah

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[822] Barbot, *Barbot on Guinea*, 1992, I:287–88, n. 32; Barbot, "A Description of the Coasts," 132; Isert, *Letters on West Africa and the Slave Trade*, 226; Henry Meredith, *An Account of the Gold Coast of Africa: With a Brief History of the African Company* (London: Printed for Longman, Hurst, Rees, Orme, and Brown, 1812), 233–34; Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:11, 20–21.

[823] See for example Bristol Record Office (hereafter, BRO), SMV/7/2/1/1, Records of the Society of Merchant Venturers, 1493-2003, Overseas Trade, Africa and the West Indies, The Royal African Company of England, 1730-1731, Account of Trade and Castle Charges for the Year 1730, f. 1-7; SMV/7/2/1/5, Annual Accounts of the Company Trading to Africa, 1778.

[824] See for example, TNA, T70/1026, Cape Coast Castle Day Book, 1768, February 6, 1768, f. 16v; T70/32, Inward Letter Books, 1773-1781, Letter from Jerome Barnard Weuves, October 26, 1781, f. 19.

[825] TNA, T70/1034, Cape Coast Castle Day Books, 1773, List of Superannuated and Unserviceable Slaves, December 31, 1773, f. 39v; T70/1035, Cape Coast Castle Day Books, 1774, List of Superannuated and Unserviceable Slaves, December 31, 1774, f. 28r; T70/1037, Cape Coast Castle Day Books, 1775, List of Superannuated and Unserviceable Slaves, September 30, 1775, f. 22r; T70/1040, Cape Coast Castle Day Books, 1777, List of Superannuated and Unserviceable Slaves, March 30, 1777, f. 26; T70/1041, Cape Coast Castle Day Books, 1778, List of Superannuated and Unserviceable Slaves, October – November 1778, f. 27v; T70/1043, Cape

was described as "very infirm," and at some point she moved on to join the ancestors.[826]

Cape Coast Castle and the tumult of the British slave trade is the context through which women like Deddie and Amenah enter the historical record. However, this chapter is not about Cape Coast Castle and neither is it primarily about the slave trade and enslaved medical practice in the slave trading zones, which are discussed at length in the next two chapters. Instead, Deddie and Amenah are introduced to direct our attention to how concepts of medicine, health, and healing in precolonial West African contexts articulated a broad range of knowledge. Cultures of curing involved ritual objects and botanical remedies, spiritual offerings to the deities as well as song and dance, quarantine and surgical interventions. There is much about precolonial, pre-nineteenth-century West African medicine that simply cannot be known or traced across time and place with any level of historical specificity given the nature of the surviving evidence. [827] The historical traces that remain, however, allow for a robust exploration of key themes in the West African medical past that illustrate the complexity of African indigenous systems of knowledge – whether or not such practices applied universally (which they surely did not) or whether they remained unchanged during the period of this study. This

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Coast Castle Day Books, 1779, List of Superannuated and Unserviceable Slaves, October – December 1779, f. 27v; HLRO, Main Papers, HL/PO/JO/10/7/660, State and Condition of Cape Coast Castle, 1782, List of Superannuated and Unserviceable Slaves.

[826] TNA, T70/1043, Cape Coast Castle Day Books, 1779, List of Superannuated and Unserviceable Slaves, October-December 1779, f. 27v.

[827] Although it is outside the bounds of this current project, historical linguistics offers another avenue for exploring early African histories of healing. For a study that uses historical linguists to trace precolonial East African medicine see Waite, *A History of Traditional Medicine and Health Care in Pre-Colonial East-Central Africa*. See also what John Janzen, Edward Green and Steven Feierman write about Bantu language cognates from the Bantu expansion in approximately 1500 BC Janzen and Green, "Continuity, Change, and Challenge in African Medicine," 3; Feierman and Janzen, "African Religions," 231; Janzen, "Ideologies and Institutions in Precolonial Western Equatorial African Therapeutics," 195–96; John K. Thornton, "Demography and History in the Kingdom of Kongo, 1550-1750," *Journal of African History* 18, no. 4 (1977): 512; John Thornton, "The Development of an African Catholic Church in the Kingdom of Kongo, 1491-1750," *The Journal of African History* 25, no. 2 (January 1, 1984): 156–57.

chapter offers the first extended discussion of precolonial West African herbal medicine between the sixteenth and eighteenth centuries. Of particular interest are the meanings of sickness and health, the complex intertwining of the material and spiritual dimensions of healing, theories of disease etiology (causation), and how individuals and communities mobilized ecological, botanical, and medical knowledge to cure the ailments that afflicted their worlds.

With admittedly fragmentary historical sources and a historiographical emphasis on the late precolonial and colonial periods, West African medicine between the sixteenth and eighteenth centuries occupies limited space in historical scholarship.[828] As an indigenous priest, Deddie fits comfortably within existing historical literature on West African healing in the early

[828] The textual evidence utilized in African history prior to the nineteenth century comes largely from European-authored travelogues. Africanists have long discussed the challenges of using such sources and debated the status of individual texts as primary sources as traditionally understood by historians. European travel literature presents a dense textual web that in some instances inter-mingles fact with fiction, hearsay with first-hand observation, and the author's own narrative with free borrowing from other published and unpublished texts. See Fage, "Continuity and Change in the Writing of West African History," 238–40; Fage, "The Prehistory of African History," 146–49; David Henige, "The Race Is Not Always to the Swift: Thoughts on the Use of Written Sources for the Study of Early African History," *Paideuma* 33 (January 1, 1987): 56; Andrew S. Curran, *The Anatomy of Blackness: Science and Slavery in an Age of Enlightenment* (Baltimore, MD: Johns Hopkins University Press, 2011), 31; Thornton, "European Documents and African History," 255–56; Beatrix Heintze, "Translations as Sources for African History," *History in Africa* 11 (January 1, 1984): 133; Adam Jones and Beatrix Heintze, "Introduction: European Sources for Sub-Saharan Africa Before 1900: Use and Abuse," *Paideuma* 33 (January 1, 1987): 2, 4.

In regard to historical scholarship on precolonial African medicine and health between the sixteenth and eighteenth centuries see for example Akyeampong, "Disease in West African History"; Njoh, "Ideology and Public Health Elements of Human Settlement Policies in Sub-Saharan Africa"; Davies, "The Development of `Scientific' Medicine in the African Kingdom of Bunyoro-Kitara"; Janzen, "Ideologies and Institutions in the Precolonial History of Equatorial African Therapeutic Systems"; Janzen, *Lemba, 1650-1930*; Charles S. Finch, *The African Background to Medical Science: Essays in African History, Science & Civilization* (London: Karnak House, 1990), 121–40; Waite, "Public Health in Pre-Colonial East-Central Africa"; Waite, *A History of Traditional Medicine and Health Care in Pre-Colonial East-Central Africa*; Abdalla, *Islam, Medicine, and Practitioners in Northern Nigeria*; Adam Debusmann and Frieder Ludwig, "From Distance to Difference: Modern European Travel Accounts on Religion and Healing in Africa," in *European Traditions in the Study of Religion in Africa*, ed. Frieder Ludwig and Afe Adogame (Wiesbaden: Otto Harrassowitz Verlag, 2004), 65–74; Adell Patton, *Physicians, Colonial Racism, and Diaspora in West Africa* (Gainesville, FL: University Press of Florida, 1996), 11–58; D. Maier, "Nineteenth-Century Asante Medical Practices," *Comparative Studies in Society and History* 21, no. 1 (January 1, 1979): 63–81; Kananoja, "Healers, Idolaters, and Good Christians"; Timothy Insoll, "Introduction: Shrines, Substances and Medicine in Sub-Saharan Africa: Archaeological, Anthropological, and Historical Perspectives," *Anthropology & Medicine* 18, no. 2 (August 1, 2011): 145–66; Timothy Insoll, *Material Explorations in African Archaeology* (New York: Oxford University Press, 2015), 339–86; Philip J. Havik, "Hybridising Medicine: Illness, Healing and the Dynamics of Reciprocal Exchange on the Upper Guinea Coast (West Africa)," *Medical History* 60, no. 02 (April 2016): 181–205; Kalle Kananoja, "Bioprospecting and European Uses of African Natural Medicine in Early Modern Angola," *Portuguese Studies Review* 23, no. 2 (2015): 45–69.

modern Atlantic world because priests are often central to historical inquiries.[829] Excellent studies set in the Americas where the enslaved creatively negotiated a new healing landscape, have adeptly investigated African and African-descended indigenous priests as health practitioners who blended herbal and spiritual knowledge to cure disease, used divination and spirit possession in their therapeutic practice, and attended to the importance of spiritual disharmony and moral disorder in disease causation.[830] These ritual specialists were often intellectual and social leaders, not only master healers. They rise to the surface in documentary evidence because they contested civil and ecclesiastical authorities, elicited fear due to their perceived occult activities, or transgressed social norms.[831] Indeed, at Cape Coast Castle the individual who tallied enslaved laborers during the months of October and November in 1777, found Deddie's priestly activities so disagreeable that he labeled her as a "lunatic" and the

[829] John Thornton made a similar observation in regard to studies of Kongolese Christianity, which he argued "tended to be very priest-centered in its appreciation of religion life." See John K. Thornton, "Rural People, the Chruch in Kongo, and the Afro-American Diaspora," in *Transkontinentale Beziehungen in der Geschichte des Aussereuropäischen Christentums = Transcontinental links in the history of Non-Western Christianity*, ed. Klaus Koschorke (Wiesbaden: Harrassowitz, 2002), 35.

[830] See for example the following excellent texts James H. Sweet, *Recreating Africa: Culture, Kinship, and Religion in the African-Portuguese World, 1441-1770* (Chapel Hill: University of North Carolina Press, 2003), 139–60; Sweet, *Domingos Álvares*; Kananoja, "Healers, Idolaters, and Good Christians"; Kalle Kananoja, "Infected by the Devil, Cured by Calundu: African Healers in Eighteenth-Century Minas Gerais, Brazil," *Social History of Medicine* 29, no. 3 (March 22, 2016): 490–511; Kalle Kananoja, "Pai Caetano Angola, Afro-Brazilian Magico-Religious Practices, and Cultural Resistance in Minas Gerais in the Late Eighteenth Century," *Journal of African Diaspora Archaeology and Heritage* 2, no. 1 (May 1, 2013): 18–37; Pablo F. Gómez, "The Circulation of Bodily Knowledge in the Seventeenth-Century Black Spanish Caribbean," *Social History of Medicine* 26, no. 3 (August 1, 2013): 383–402; Pablo F. Gómez, *The Experiential Caribbean: Creating Knowledge and Healing in the Early Modern Atlantic* (Chapel Hill, NC: The University of North Carolina Press, 2017); Kenneth M. Bilby and Jerome S. Handler, "Obeah: Healing and Protection in West Indian Slave Life," *Journal of Caribbean History* 38, no. 2 (2004): 153–83; Jerome S. Handler, "Slave Medicine and Obeah in Barbados, Circa 1650 to 1834," *Nieuwe West-Indische Gids–New West Indian Guide* 74 (2000): 57–60; Jerome S. Handler and Kenneth M. Bilby, *Enacting Power: The Criminalization of Obeah in the Anglophone Caribbean, 1760-2011* (Kingston, Jamaica: University Press of the West Indies, 2013); Parrish, *American Curiosity*, 259–306; Niklas Thode Jensen, *For the Health of the Enslaved: Slaves, Medicine and Power in the Danish West Indies, 1803-1848* (Copenhagen: Museum Tusculanum Press, 2012), 68–76.

[831] Particularly rich scholarship on the Iberian Americas had made use of Inquisition records, for example, which divulge a stunning level of detail in regard to the work performed by African and African-descended healers in the Americas. See for example Kananoja, "Infected by the Devil, Cured by Calundu"; Sweet, *Domingos Álvares*; Gómez, *The Experiential Caribbean*.

following year Deddie's status as a "Fetish Woman" was listed as an illness, alongside enslaved women like Ambah who was "Lame with Worms" and Abinebah who was "Stout but blind of an Eye."[832] The factor who kept the accounting books in 1780 perceived Deddie differently and her role as an indigenous priest was listed as her occupation not as an illness.[833] The contested healing role that African ritual specialists negotiated traversed the Atlantic world.

However, ritual specialists, diseases caused by spiritual forces, and esoteric therapeutic knowledge represent just one mode of healing in precolonial West Africa. Enslaved doctors like Amenah reveal that a robust tradition of herbalism and surgery operated alongside of and complementary to priestly healing, which offers a less explored path in the historical study of precolonial West African medicine.[834] Health practitioners who doctored without song and dance, who were not embedded in public ceremonial displays, and whose sanity or orthodoxy were not questioned are challenging to access. Little record has been left of their labors because they were merely part of the everyday. Like waking and sleeping, cooking and cleaning, during

[832] TNA, T70/1040, Cape Coast Castle Day Books, 1777, List of Serviceable Slaves, October – November 1777, f. 26v; T70/1043, Cape Coast Castle Day Books, 1778, List of Serviceable Slaves, October – November 1778, f. 27v.

[833] TNA, T70/1044, Cape Coast Castle Day Books, 1780, List of Serviceable Slaves, October – December 1780, f. 24v.

[834] An important body of literature traces the circulation of natural knowledge in the Americas and discusses the importance of enslaved Africans as botanical informants and herbalists in slave societies across the Americas. Additionally, scholars have explored the role of herbalism and medicinal plant knowledge on slave plantations in the Americas. However, historians explain that the botanical and medicinal knowledge held by African and African-descended people in the Americas was a product of a new therapeutic landscape which included Amerindian and European knowledge as well as African. Disentangling the influences has proven unfeasible given surviving evidence. With few in-depth studies of precolonial West African medicine between the sixteenth and eighteenth centuries, the West African foundations of African diasporic medicine remain schematic.

For the role of African and African-descended people in the Americas serving as botanical informants and herbalists see for example Susan Scott Parrish, "Diasporic African Sources of Enlightenment Knowledge," in *Science and Empire in the Atlantic World*, ed. James Delbourgo and Nicholas Dew (New York: Routledge, 2007), 281–310; Parrish, *American Curiosity*, 259–306; Jerome S. Handler and JoAnne Jacoby, "Slave Medicine and Plant Use in Barbados," *Journal of the Barbado Museum and Historical Society* 41 (1993): 74–98; Fett, *Working Cures*, 60–83; Weaver, *Medical Revolutionaries*, 61–75; Murphy, "Translating the Vernacular"; Gómez, "The Circulation of Bodily Knowledge in the Seventeenth-Century Black Spanish Caribbean"; Judith A. Carney, "African Traditional Plant Knowledge in the Circum-Caribbean Region," *Journal of Ethnobiology* 23, no. 2 (2003): 167–186; Schiebinger, *Plants and Empire*, 73–104; Schiebinger, *Secret Cures of Slaves*.

the course of an ordinary day in communities across West Africa, herbalists gathered medicinal plants. Healers extracted essential oils to make ointments and infused palm wine with roots and barks to make medicinal cordials. Over their hearths, women prepared nutritive broths for feverish bodies by boiling coconut milk with poultry, rice, or meat, and they administered enemas to purge and detoxify the body. Healers rubbed aching heads with bruised leaves that had been transformed into anti-inflammatory poultices, and drained blood from the temples to further ease headache pain.[835]

Although Deddie and Amenah invite us to consider two interrelated modalities of healing, the boundaries between them were fluid and porous. In different ways, both women were entangled in healing practices that blended the material and the spiritual, plants and spirits, botany and cosmology. This chapter explores the two together because they cannot be disentangled in West African cultures. As Jacob Olupona writes, "religion, culture, and society are imperatively interrelated," in African cultures, and medicine, health, and healing are embedded in all areas of life.[836]

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[835] See Appendix 1 for a detailed compilation of West and West Central African *materia medica* and over two hundred remedies used to cure a host of symptoms and illnesses. It is worth noting that although the sources describe Deddie and Amenah as practitioners of two different types of healers, they may well have had overlapping spheres of therapeutic knowledge. Scholars who study West African indigenous priests in the early modern Americas as well as in the present-day context indicate that priestly healers often practiced non-ritualized therapeutics and had extensive knowledge of herbalism. Some indigenous priests also functioned as herbalists and surgeons in various societies. For an historical and a present-day example see Sweet, *Domingos Álvares*; Morris, "Herbalism and Divination in Southern Malawi," 368. However, documentary evidence shows clear distinctions between priestly and non-priestly healers. See for example Meredith, *An Account of the Gold Coast of Africa*, 234. There is little doubt that herbalists and surgeons existed in precolonial West Africa who did not function as consecrated specialists, diviners, and indigenous priests.

[836] Jacob K. Olupona, ed., "Introduction," in *African Spirituality: Forms, Meanings, and Expressions* (New York: Crossroad Publishing Company, 2000), xvii; Kwasi B. Konadu, *Indigenous Medicine and Knowledge in African Society* (New York: Routledge, 2007), 17; J. Kwabena Asamoah-Gyadu, "Therapeutic Strategies in African Religions: Health, Herbal Medicines and Indigenous Christian Spirituality," *Studies in World Christianity* 20, no. 1 (April 1, 2014): 71–73.

Sickness and Health in a Sacred Cosmos

In late eighteenth-century Sierra Leone, physician Thomas Winterbottom pondered why when rowing past certain rocks, canoe men paused to pour libations on them.[837] The rocks were sacred objects, filled with spiritual power because of the deities who dwelled within them. To honor the gods with palm wine was to seek their protection against illness, misfortune, or harm. West African healing systems pivot around apprehending the cosmos as a sacred locus alive with mystical power that could heal and harm.[838] In precolonial West Africa spiritual beings were enmeshed in the everyday lives of individuals.[839] The land itself was a sacred geography infused with otherworldly beings. Rocks, trees, rivers, and forests were populated by spiritual entities.[840]

When Wilhelm Müller lived on the Gold Coast in the middle of the seventeenth century, he related that while at Cape Coast Castle "I sat down on a big stone to rest, a large number of black women ran up to me and shouted that I should watch out that no harm were done to me."[841] The stone was dedicated to one of their deities and refusing to pay proper respect could have repercussions. During Müller's seven-year residence as chaplain at the Danish Frederiksberg slave castle on the Gold Coast, the Lutheran minister discovered sacred rocks dedicated to various deities throughout the region writing, "the whole country is full of such *fitiso*-rocks and

[837] Thomas Masterman Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, vol. 1 (London: Printed by C. Whittingham, 1803), 224.

[838] John S. Mbiti, *African Religions & Philosophy*, 2nd ed. (Portsmouth, NH: Heinemann, 1990), 197.

[839] Dominique Zahan, "Some Reflections on African Spirituality," in *African Spirituality: Forms, Meanings, and Expressions*, ed. Jacob K. Olupona (New York: Crossroad Publishing Company, 2000), 4–5.

[840] For examples of how human settlement took on ritual dimensions to make peace with spirits of the land see Robert Harms, *Games Against Nature: An Eco-Cultural History of the Nunu of Equatorial Africa* (New York: Cambridge University Press, 1999), 34–39.

[841] Müller, "Description of the Fetu Country, 1662-1669," 160.

stones."[842] English slave trade merchant, Richard Thelwall, made a similar discovery during his residence on the late seventeenth-century Gold Coast. The slave trader attempted to secure wood to fortify the Royal African Company's settlement at Anomabu but was prevented. Thelwall's timber scouts "have been 2 dayes out" and "the Blacks would not lett them cutt, for they say it is their fetish," he related.[843] Thelwall did not realize the extent of sacred shrines that were present in the vicinity of Anomabu. Nature shrines dotted the landscape across precolonial southern Ghana converting forest spaces into contact zones between the visible and invisible worlds. In these sacred groves, communities like the Fante established ritual alliances with powerful spirits who were consulted in civil, judicial, and economic affairs including the slave trade. Such political and socio-economic processes had sacred dimensions.[844]

The seventeenth-century Kingdom of Kquoja (i.e. "kuoi-ya, Sea Place" in the Vai language) was a seventeenth-century forest kingdom which extended over roughly 350

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[842] Ibid., 134, 160–61.

[843] Letters from Richard Thelwall, 10 March 1682 and 13 March 1682 in Robin Law, ed., *The English in West Africa 1681-1683: The Local Correspondence of the Royal African Company of England 1681-1699, Part 1*, vol. I (New York: British Academy, 1998), 108–9.

[844] Bosman, *A New and Accurate Description of the Coast of Guinea*, 153; Gérard Chouin, "Sacred Groves in History: Pathways to the Social Shaping of Forest Landscapes in Coastal Ghana," *IDS Bulletin* 33, no. 1 (2002): 39–40; Rebecca Shumway, "The Fante Shrine of Nananom Mpow and the Atlantic Slave Trade in Southern Ghana," *International Journal of African Historical Studies* 44, no. 1 (February 2011): 27–44; Rebecca Shumway, *The Fante and the Transatlantic Slave Trade* (Rochester, NY: University Rochester Press, 2011), 133–44; Ogbu U. Kalu, "Poverty in Pre-Colonial & Colonial West Africa: Perception, Causes & Alleviation," in *Themes in West Africa's History*, ed. Emmanuel K. Akyeampong (Athens, OH: Ohio University Press, 2006), 174; John Parker, "Earth and Shadow: Substance, Medicine and Mobility in the History of Ghana's Tongnaab Shrines," *Anthropology & Medicine* 18, no. 2 (August 1, 2011): 257–70.

See also Robert M. Baum, "Shrines, Medicines, and the Strength of the Head: The Way of the Warrior among the Diola of Senegambia," *Numen*, 1993, 274–292; Robert M. Baum, *Shrines of the Slave Trade: Diola Religion and Society in Precolonial Senegambia* (New York: Oxford University Press, 1999); J. N. Oriji, "Transformations in Igbo Cosmology during Slavery: A Study of the Geneses of Place-Names, Totems & Taboos," *Cahiers D'études Africaines*, no. 4 (2010): 953–968; George E. Brooks, *Landlords and Strangers: Ecology, Society, and Trade in Western Africa, 1000-1630* (Boulder, CO: Westview Press, 1993), 42; Emmanuel K. Akyeampong and Samuel A. Ntewusu, "Rum, Gin and Maize: Deities and Ritual Change in the Gold Coast during the Atlantic Era (16th Century to 1850)," *Afriques* 5 (December 2014): 1–40.

kilometers from Freetown in present-day Sierra Leone to Monrovia in present-day Liberia.[845] In Kquoja, the rainforest was inhabited by harmful and healing spiritual entities. It was ill-advised to take solitary journeys into the rainforest. "None, how valiant and daring soever they be will venture to go alone into the Woods," because one was vulnerable to being possessed by a malevolent spirit known as *Souach*.[846] When *Souach* possessed a human being, the spirit caused a form of despair, melancholy, and raving madness.[847] *Souach* was no ordinary spirit, but a botanical instructor who taught the possessed and raving individual the most harmful plants they could use to attack others. *Souach's* botany was dangerous and all poisonous herbs bore the spirit's name creating a unique spirit-driven taxonomy to the plant world.[848] Any individual who ventured alone into the dense forest-covered valleys became known as "a dissolute and desperate

[845] Knowledge of the Kindgom of Kquoja comes from an anonymous Dutch manuscript printed in Olfert Dapper's 1668 *Naukeurige Beschrijvinge der Afrikaensche Gewesten* (translated *An Accurate Description of African Places*). The manuscript represents one of the most original contributions in Dapper's travel compilation and its botanical information has been little investigated. For the complete Kquoja Manuscript, "Het Koningrijk of Lant van Kquoja,"see Olfert Dapper, *Naukeurige Beschrijvinge Der Afrikaensche Gewesten* (Amsterdam: Jacob van Meurs, 1668), 384–426. For more on the Kingdom of Kquoja see P. E. H. Hair, "An Early Seventeenth-Century Vocabulary of Vai," *African Studies* 23, no. 3 (1964): 129, 131–33; P. E. H. Hair, "Barbot, Dapper, Davity: A Critique of Sources on Sierra Leone and Cape Mount," *History in Africa* 1 (January 1, 1974): 33–34; Adam Jones, "Decompiling Dapper: A Preliminary Search for Evidence," *History in Africa* 17 (January 1, 1990): 171; Adam Jones, "The Kquoja Kingdom: A Forest State in Seventeenth Century West Africa," *Paideuma* 29 (January 1, 1983): 23–43; Brooks, *Landlords and Strangers*, 300–301.

[846] John Ogilby, *Africa* (London: Printed by Tho. Johnson, 1670), 392. Translator, editor, and cosmographer John Ogilby made a 1670 translation of the original Dutch version of Olfert Dapper's travel compilation under the title *Africa: Being an Accurate Description of the Regions of Ægypt, Barbary, Lybia, and Billedulgerid, the land of Negroes, Guinee, Æthiopia and the Abyssines*. Ogilby's translation is largely complete. I have relied on both Ogilby's translation as well as Dapper's original, comparing the two. For more on the translation history of Dapper's text see Hair, "Barbot, Dapper, Davity," 26–27, 44, n. 11; Fage, *A Guide to Original Sources for Precolonial Western Africa Published in European Languages*, xix. While the Kquoja manuscript represents a unique manuscript in Dapper's compilation, most of the text was compiled from over one hundred sources, published and unpublished. At times, Dapper identifies the original authors and subsequent scholars have identified others, allowing for greater critical assessment of the text. For more on the challenges the text poses to historians see Jones, "Decompiling Dapper," 171–72; Hair, "Barbot, Dapper, Davity," 33, 40; Margery Corbett, "John Ogilby's Africa (London 1670); Some Notes on the Illustrations," *Quaerendo* 19, no. 4 (January 1, 1989): 301.

[847] Dapper, *Naukeurige Beschrijvinge Der Afrikaensche Gewesten*, 397; Ogilby, *Africa*, 391.

[848] Dapper, *Naukeurige Beschrijvinge Der Afrikaensche Gewesten*, 304; Ogilby, *Africa*, 397. Please note that in Dapper's original the page number is a misprint and should read 404 not 304.

person," seeking *Souach* and its destructive and disabling plants.[849]

Yet other spirits resided in the Kquoja rainforest as well. One's ancestral spirits dwelled underneath its canopy.[850] During times of grief or illness, family members brought offerings of food and wine into its thick recesses. They reverently gave voice to their afflictions and sought much-needed assistance from the ancestors, the "dead-among-the living."[851] In the seventeenth-century Kingdom of Kquoja, the rainforest was a kaleidoscopic space shifting between danger, disease, and healing. It was a refuge for the needy, a sacred grove for ancestral communion, a disordered site of madness, and an outlet for one's destructive impulses to harm and to hurt.[852]

Thus, whether one paused to acknowledge sacred rocks during the course of a day, fell ill and visited ancestral shrines, made a daily offering to a household deity, sought to poison an enemy, or were involved in commercial trade and politics, the material and spiritual aspects of life were dynamically interrelated. Often described as an holistic perspective on life, phenomena in the natural, supernatural, and social worlds were permeable and inherently fluid, interconnected and inseparable.[853] To touch one element caused "the whole to vibrate."[854]

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[849] Ogilby, *Africa*, 392.

[850] Ibid., 402.

[851] Ibid; and, Ogbu U. Kalu, "Ancestral Spirituality and Society in Africa," in *African Spirituality: Forms, Meanings, and Expressions*, ed. Jacob K. Olupona (New York: Crossroad Publishing Company, 2000), 54. See also Katrina Brown, "Medicinal Plants, Indigenous Medicine and Conservation of Biodiverity in Ghana," in *Intellectual Property Rights and Biodiversity Conservation: An Interdisciplinary Analysis of the Values of Medicinal Plants*, ed. Timothy Swanson (New York: Cambridge University Press, 1998), 222.

[852] For an overview of religious ecology in Africa from the perspective of present-day anthropological research see Edward P. Antonio, "Religion and the Environment," in *The Wiley-Blackwell Companion to African Religions*, ed. Elias Kifon Bongmba (Malden, MA: John Wiley & Sons, 2012), 140-152.

[853] David Baronov, *The African Transformation of Western Medicine and the Dynamics of Global Cultural Exchange* (Philadelphia, PA: Temple University Press, 2010), 130.

[854] Bénézet Bujo, "Differentiations in African Ethics," in *The Blackwell Companion to Religious Ethics*, ed. William Schweiker (Malden, MA: John Wiley & Sons, 2008), 425. See also Olupona, "Introduction," xvii; Konadu, *Indigenous Medicine and Knowledge in African Society*, 17; Asamoah-Gyadu, "Therapeutic Strategies in African Religions," 71–73.

Cosmology penetrated ecology, and clothed the natural world with spiritual and moral meanings.[855] Medicinal plants bore spiritual nomenclature while esoteric spiritual knowledge was mobilized to direct large-scale economic policies and maintain social order. In other words, in precolonial West African communities there was "almost constant contact with the other world."[856] By way of ancestral spirits, secondary deities, nature and earth spirits, or malevolent beings, there was "continuous interaction between visible and invisible, worldly and sacralized realms."[857] Across thousands of miles of coastline, in the midst of diverse cultures, languages, origin myths, and cosmologies, belief in the interpenetration between spirit and earthly realms represented a commonly shared, yet culturally and ecologically differentiated, religious understanding in precolonial West Africa – a spiritual affinity akin to a family resemblance operating amidst "networks of crisscrossing similarities."[858]

As illustrated by the Kingdom of Kquoja, these densely entangled relationships between

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[855] Charles Anyinam, "Ecology and Ethnomedicine: Exploring Links Between Current Environmental Crisis and Indigenous Medical Practices," *Social Science & Medicine* 40, no. 3 (February 1, 1995): 322; Brooks, *Landlords and Strangers*, 42; Emmanuel K. Akyeampong, *Between the Sea & the Lagoon: An Eco-Social History of the Anlo of Southeastern Ghana, C. 1850 to Recent Times* (Athens, OH: Ohio University Press ; Oxford England, 2001), 13, 104–26.

[856] John K. Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800* (New York: Cambridge University Press, 1992), 251.

[857] Zahan, "Some Reflections on African Spirituality," 4–5; Feierman and Janzen, "African Religions," 231. As scholars in various fields have explored at length, the nature of the spiritual beings involved, their ordering within the cosmos, the spheres they influence, and the precise mechanisms by which they penetrate the earthly realm is specific to the local cosmologies of individual societies, including the founding myths that shape cosmological and ontological orientations. Exemplary scholarship detailing this includes Jacob K. Olupona, *City of 201 Gods: Ilé-Ifè in Time, Space, and the Imagination* (Berkeley, CA: University of California Press, 2011); Jacob K. Olupona, "Owner of the Day and Regulator of the Universe: Ifa Divination and Healing among the Yoruba of Southwestern Nigeria," in *Divination and Healing: Potent Vision*, ed. Michael Winkelman and Philip M. Peek (Tuscon, AZ: University of Arizona Press, 2004); Westerlund, *African Indigenous Religions and Disease Causation*; John M. Janzen, *The Quest for Therapy in Lower Zaire* (Berkeley, CA: University of California Press, 1978); Konadu, *Indigenous Medicine and Knowledge in African Society*; Sandra E. Greene, *Sacred Sites and the Colonial Encounter: A History of Meaning and Memory in Ghana* (Bloomington, IN: Indiana University Press, 2002).

[858] Sweet, *Recreating Africa*, 132; Voeks, "African Medicine and Magic in the Americas," 69; Sónia Silva, "Remarks on Similarity in Ritual Classification: Affliction, Divination, and Object Animation," *History of Religions* 53, no. 2 (November 1, 2013): 153.

spirit, nature, and human society were also fundamental to West African epistemologies of health and healing. Physical illnesses were not solely lodged in individual bodies but existed in relationship to broader moral, social, ecological, and spiritual aspects of life.[859] Spiritual beings could cause accidents, bruises, wounds, disease, and death, or they could offer healing.[860] Social conflicts between individuals and communities increased the risk of disease, particularly through witchcraft.[861] Moral failings might precipitate physiological distress because spiritual entities reacted to moral disturbances.[862] Otherworldly beings could afflict an individual with ill health after the person performed impure acts, violated behavioral norms, neglected ancestor veneration, or committed hidden sins.[863]

In 1803 Thomas Winterbottom noted that in Sierra Leone, sickness provoked sufferers to engage in deep moral reflection. If they remembered that several months ago, they stole a piece of fruit, they believed their deity was punishing them. "To get cured he must go or send to the person whose property he had taken, and make to him whatever recompense he demands," Winterbottom described.[864] The thief made restitution to the individual who had been wronged

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[859] Clare Madge, "Therapeutic Landscapes of the Jola, The Gambia, West Africa," *Health & Place* 4, no. 4 (December 1998): 294; Feierman and Janzen, "African Religions," 231.

[860] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 1:226; Kwasi Wiredu, "African Religions from a Philosophical Point of View," in *A Companion to Philosophy of Religion*, ed. Charles Taliaferro, Paul Draper, and Philip L. Quinn, 2nd ed. (Malden, MA: John Wiley & Sons, 2010), 36.

[861] Baronov, *The African Transformation of Western Medicine*, 129–30.

[862] Steven Feierman, "Change in African Therapeutic Systems," *Social Science & Medicine. Part B: Medical Anthropology* 13, no. 4 (December 1979): 277; Janzen, "Ideologies and Institutions in Precolonial Western Equatorial African Therapeutics," 196; Feierman and Janzen, "African Religions," 229; Robert M. Baum, *West Africa's Women of God: Alinesitoué and the Diola Prophetic Tradition* (Bloomington, IN: Indiana University Press, 2015), 36–37; Greene, *Sacred Sites and the Colonial Encounter*, 83–84.

[863] See for example, Robert Baum's research on the Diola in precolonial Senegambia where a powerful blacksmith spirit shrine, Duhagne ("the anvil") not only protected blacksmiths when working at the forge, but also protected the community against theft by afflicting thieves with leprosy. See Baum, *Shrines of the Slave Trade*, 164–65.

[864] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 1:262.

and performed sacrificial offerings to the relevant spiritual entities involved.[865] Sickness and recovery therefore had implications beyond the physiological experience of illness. Ill health encompassed a surplus of meanings that overflowed the bounds of the biological body by implicating other aspects of one's life.

Given such interconnectedness between bodily health and social, spiritual, and environmental factors, curing illness could be a complicated affair. An individual's "quest for therapy" was not necessarily a straightforward matter.[866] Was the cause of one's sickness a malevolent spirit, a moral fault, political upheaval, witchcraft, family conflict, or community disorder? Or, perhaps a stomach ache was quite simply a stomach ache from indigestion or bad water. The fruit thief who fell ill seemingly arrived at a sound diagnosis and treatment plan. However, deciphering the underlying cause of a malady, identifying which elements demanded attention, and determining the appropriate intervention could require a sophisticated diagnostic and therapeutic process involving otherworldly knowledge. Alternatively, a commonly known herbal remedy, widely-used foodstuffs, or a regime change promised a ready cure for a predictable illness – all the while being bolstered through invocations to the ancestors. The spirit realm threaded through medicine in diverse ways.

Navigating this complex therapeutic context required an intricate blend of ecological, environmental, botanical, and spiritual knowledge. Precolonial West African indigenous healing

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[865] For more on sacrificial offerings see Giovanni Antonio Cavazzi, *Relation Historique de l'Ethiopie Occidentale, Contenant la Description des Royaumes de Congo, Angolle et Matamba*, trans. Jean Baptiste Labat, vol. I (Paris: C. J. B. Delespine, 1732), 283–94; Ogilby, *Africa*, 394, 469; Barbot, "A Description of the Coasts," 280; Isert, *Letters on West Africa and the Slave Trade*, 171; Olupona, "Owner of the Day and Regulator of the Universe: Ifa Divination and Healing among the Yoruba of Southwestern Nigeria," 103–4, 108; William Russell Bascom, *Ifa Divination: Communication Between Gods and Men in West Africa* (Bloomington, IN: Indiana University Press, 1969), 60; David T. Okpako, "Traditional African Medicine: Theory and Pharmacology Explored," *Trends in Pharmacological Sciences* 20, no. 12 (December 1, 1999): 482.

[866] I borrow this phrase from the title of John Janzen's path breaking study of medicine and therapy management in Zaire. See Janzen, *The Quest for Therapy in Lower Zaire*.

systems had much knowledge on which to draw and build. Medical cultures in West Africa have been developing for over three thousand years and represent one of the most "developed ethnomedical traditions" in the world.[867] Indeed, precolonial West African medical knowledge and practice not only had ancient roots but had to be flexible and adaptive because these systems was forged in some of the most unpredictable and challenging environments in the world.[868]

Parasites, Viruses, and Public Health

West African communities inhabit disease environments that have been brutal, volatile, and complex at various times.[869] The emergence, transmission and spread of vector-borne diseases, for example, involve a fluid set of relations between pathogens, vectors, hosts, and the environment.[870] Bioclimatic variables such as shifts in precipitation, temperature, and air moisture, as well as human activities such as new settlement patterns and population growth, can

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[867] John M. Janzen and Edward C. Green, "Medicine in Africa," in *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Westen Cultures*, ed. Helaine Selin, 2nd ed. (Amherst, MA: Springer Science & Business Media, 2013), 1493; Carney, "African Traditional Plant Knowledge in the Circum-Caribbean Region," 170.

[868] James L. A. Webb, Jr., "Ecology & Culture in West Africa," in *Themes in West Africa's History*, ed. Emmanuel K. Akyeampong (Athens, OH: Ohio University Press, 2006), 33, 38.

[869] For a classic text that traces variables which influenced disease conditions in Africa during different historical moments see Gerald W. Hartwig and K. David Patterson, "The Disease Factor: An Introductory Overview," in *Disease in African History: An Introductory Survey and Case Studies*, ed. Gerald W. Hartwig and K. David Patterson (Durham, NC: Duke University Press, 1978), 3–24. A significant ecological and epidemiological crisis occurred between 1890 and 1920 when European colonization became widespread and ravaged ecological environments. See Akyeampong, "Disease in West African History," 195–201; William Beinart, "African History and Environmental History," *African Affairs* 99, no. 395 (2000): 271–72; Helen Tilley, "Medicine, Empires, and Ethics in Colonial Africa," *AMA Journal of Ethics* 18, no. 7 (July 1, 2016): 743–53. For a classic and seminal text that describes this phenomenon from the perspective of trypanosomiasis see John Ford, *The Role of the Trypanosomiases in African Ecology: A Study of the Tsetse Fly Problem* (Oxford, UK: Clarendon Press, 1971).

[870] Vector-borne diseases are diseases in which pathogens are transmitted between hosts by intermediate organisms known as vectors. Many vectors are anthropods such as mosquitoes, flies, ticks, and fleas. For example, due to the blood-sucking behavior of female mosquitoes, who use blood as a source of protein for egg formation, certain mosquito species can acquire pathogens from an infected vertebrate host during a blood meal and transmit the pathogen to another host. This ability depends on the mosquito's physiology and ecology. See Daniel Boakye, Dziedzom de Souza, and Moses Bockarie, "Alternative Interventions Against Neglected Tropical Diseases in SSA: Vector Control," in *Neglected Tropical Diseases - Sub-Saharan Africa*, ed. John Gyapong and Boakye Boatin (New York: Springer, 2016), 367–84.

significantly expand vector breeding grounds and intensify disease transmission.[871] Numerous vector-borne diseases afflicted precolonial West Africa such as yellow fever, trypanosomiasis (sleeping sickness), schistosomiasis (bilharzia), onchocerciasis (river blindness), and malaria. For example, malaria is not only one of the world's oldest human diseases but also remains the most significant vector-borne disease.[872] The scourge is caused by single-celled parasites from the genus *Plasmodium*.[873] The most prevalent plasmodial parasite in Africa is also the most virulent — *Plasmodium falciparum*.[874] *P. falciparum* enters human hosts through the infective bites of two mosquitoes, *Anopheles gambiae* and *Anopheles funestus* who feed on mammalian blood.[875] *P. falciparum* attacks red blood cells and invades the bloodstream.[876] In addition to debilitating fevers, chills, nausea, diarrhea, and anemia that occur with less lethal malarial

[871] Clive A. Spinage, *African Ecology: Benchmarks and Historical Perspectives* (New York: Springer, 2012), 34–38; Baronov, *The African Transformation of Western Medicine*, 99. For climatic fluctuations in West Africa traced over centuries and millennia see for example George E. Brooks, "A Provisional Historical Schema for Western Africa Based on Seven Climate Periods (ca. 9000 B.C. to the 19th Century) (Un Schéma Provisoire de l'Histoire de l'Afrique Occidentale, Fondé sur Sept Périodes Climatiques (de ca. 9000 AV. J.-C. au XIXe Siècle))," *Cahiers d'Études Africaines* 26, no. 101/102 (1986): 43–62.

[872] While today ninety percent of estimated malaria deaths across the globe occur in Africa, during the precolonial period, the disease burden presented by malaria from the perspective of how it influenced economic development is open to debate. See David N. Weil, "The Impact of Malaria on African Development over the Longue Durée," in *Africa's Development in Historical Perspective*, ed. Emmanuel Akyeampong et al. (New York: Cambridge University Press, 2014), 89–130.

[873] For a description of the lifecycle of plasmodium parasites see James L. A. Webb, *Humanity's Burden: A Global History of Malaria* (New York: Cambridge University Press, 2009), 3–4.

[874] The three other species of *Plasmodia* that can cause human malaria are *Plasmodium vivax*, which is less fatal, but can produce a recurring, debilitating fever, as well as *Plasmodium malariae* and *Plasmodium ovale* – both of which occur in sub-Saharan Africa but are less virulent and less prevalent. See Sylvie Manguin et al., *Biodiversity of Malaria in the World* (Montrouge, France: John Libbey Eurotext, 2008), 76.

[875] Philip D. Curtin, *The Image of Africa: British Ideas and Action, 1780-1850* (Madison: University of Wisconsin Press, 1964), 73; Curtin, "Disease Exchange Across the Tropical Atlantic," 345–46; Norbert Becker et al., *Mosquitoes and Their Control*, 2nd ed. (Los Angeles, CA: Springer Science & Business Media, 2010), 25–28.

[876] Randall M. Packard, *The Making of a Tropical Disease: A Short History of Malaria* (Baltimore, MD: Johns Hopkins University Press, 2007), 19; Webb, *Humanity's Burden*, 15.

infections, *P. falciparum* frequently causes coma, organ failure, mental retardation, and death.[877] The protozoan predator is responsible for the majority of malarial deaths in Africa and across the globe.[878]

In West Africa, malaria has long been linked with extensive forest clearance, the development of agriculture, and settled village life across the Guineo-Congolian rainforest zone, which comprises the dominant forest area in West and Central Africa.[879] Early agriculturalists cut through the rainforest canopy. They dug up soil to plant starchy tubers like yellow and white Guinea yams (*Dioscorea cayenensis* and *Dioscorea rotundata* respectively), created water management systems, and increased their populations.[880] Not only did these practices produce

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[877] James L. A. Webb, *The Long Struggle against Malaria in Tropical Africa* (New York: Cambridge University Press, 2014), 5.

[878] Curtin, "Disease Exchange Across the Tropical Atlantic," 344–45; James L. A. Jr. Webb, "Historical Epidemiology and Infectious Disease Processes in Africa," *The Journal of African History* 54, no. 01 (2013): 8; Packard, *The Making of a Tropical Disease*, 19–23; Peter W. Gething et al., "Mapping Plasmodium Falciparum Mortality in Africa between 1990 and 2015," *New England Journal of Medicine* 375, no. 25 (December 22, 2016): 2435–45.

[879] Vanessa Plana, "Mechanisms and Tempo of Evolution in the African Guineo-Congolian Rainforest," *Philosophical Transactions: Biological Sciences* 359, no. 1450 (2004): 1585–94; F. White, *The Vegetation of Africa: A Descriptive Memoir to Accompany the UNESCO/AETFAT/UNSO Vegetation Map of Africa* (Paris: UNESCO, 1983), 46; Jon C. Lovett, "Tropical and Humid Forests," in *New Encyclopedia of Africa*, ed. John Middleton and Joseph Calder Miller, vol. II (Detroit, MI: Thomson Gale, 2008), 198; John B. Hall and M. D. Swaine, *Distribution and Ecology of Vascular Plants in a Tropical Rain Forest: Forest Vegetation in Ghana* (Boston, MA: W. Junk, 1981), 32; L. Poorter, F. Bongers, and R. H. M. J. Lemmens, "West African Forests: Introduction," in *Biodiversity of West African Forests: An Ecological Atlas of Woody Plant Species*, ed. L. Poorter et al. (Cambridge, MA: CABI Publishing, 2004), 5; Lee J. T. White, "The African Rainforest: Climate and Vegetation," in *African Rain Forest Ecology and Conservation: An Interdisciplinary Perspective*, ed. William Weber et al. (New Haven, CT: Yale University Press, 2001), 3–29; Ulrich Salzmann and Philipp Hoelzmann, "The Dahomey Gap: An Abrupt Climatically Induced Rain Forest Fragmentation in West Africa During the Late Holocene," *The Holocene* 15, no. 2 (February 1, 2005): 190.

[880] James D. La Fleur, *Fusion Foodways of Africa's Gold Coast in the Atlantic Era* (Boston, MA: Brill, 2012), 31–41. For examples of how this process developed during the Iron Age among proto-Akan and pre-Igbo agriculturalists see Kwasi Konadu, *The Akan Diaspora in the Americas* (New York: Oxford University Press, 2010), 27–37; John Nwachimereze Oriji, *Political Organization in Nigeria since the Late Stone Age : A History of the Igbo People* (New York: Palgrave Macmillan, 2011), 31–43. For more on agriculture in West African forest regions and the domestication of yams see Webb, Jr., "Ecology & Culture in West Africa," 38–39; W. B. Morgan, "The Forest and Agriculture in West Africa," *The Journal of African History* 3, no. 2 (1962): 235–36; D. G. Coursey, "The Origins and Domestication of Yams in Africa," in *West African Culture Dynamics: Archaeological and Historical Perspectives*, ed. B. K. Swartz and Raymond E. Dumett (New York: Mouton de Gruyter, 1980), 67–90; Roland Anthony Oliver and Brian M. Fagan, *Africa in the Iron Age: C. 500 BC-1400 AD* (New York: Cambridge University

new mechanisms for sustaining life but also they also produced a more complex and lethal disease environment.[881] The sunlight that pored through the cleared forest and shone upon pools of stagnant water expanded the breeding sites for *Anopheles gambiae* who propagate in sunlit water.[882] Higher density populations increased the number and frequency of blood meals available to vectors.[883] Malaria has been described as "an inherently biocultual phenomenon" because of how human modifications to the landscape amplified the disease.[884]

In response, West African societies carefully engaged with their landscapes to minimize the risks posed by malaria and other infectious diseases, which included viruses such as measles, chicken pox, and smallpox.[885] Villages and towns were often built on breezy hilltop settlements with access to good sources of water, rather than in deep thickets which scholars now know helped protect them from malaria.[886] Several European observers noted quarantine measures taken in West African communities. When Michael Hemmersam resided on the Gold Coast

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Press, 1975), 18–19; Julio Mercader, "Forest People: The Role of African Rainforests in Human Evolution and Dispersal," *Evolutionary Anthropology: Issues, News, and Reviews* 11, no. 3 (January 1, 2002): 118. For an overview of debates concerning the origins of yam cultivation and revisions made to D. G. Coursey's model see Webb, *Humanity's Burden*, 29–33.

[881] Hartwig and Patterson, "The Disease Factor," 6; Carol P. MacCormack, "Human Ecology and Behaviour in Malaria Control in Tropical Africa," *Bulletin of the World Health Organization* 62, no. Supplemental (1984): 81; Webb, *The Long Struggle against Malaria in Tropical Africa*, 7–9.

[882] MacCormack, "Human Ecology and Behaviour in Malaria Control in Tropical Africa," 81, 86.

[883] Ibid., 81; Spinage, *African Ecology*, 35. See what Philip Curtin writes about the population requirements for certain diseases in Curtin, "Disease Exchange Across the Tropical Atlantic," 333.

[884] Loretta A. Cormier, *The Ten-Thousand Year Fever: Rethinking Human and Wild-Primate Malarias* (Walnut Creek, CA: Routledge, 2011), 10.

[885] Hartwig and Patterson, "The Disease Factor," 4–5; Webb, Jr., "Ecology & Culture in West Africa," 42; Njoh, "Ideology and Public Health Elements of Human Settlement Policies in Sub-Saharan Africa," 10.

[886] Janzen and Green, "Continuity, Change, and Challenge in African Medicine," 4–5. See also Yousif E. Himeidan et al., "Habitat Stability and Occurrences of Malaria Vector Larvae in Western Kenya Highlands," *Malaria Journal* 8, no. 1 (2009): 234–39. For the ancient African practice of building settlements proximate to water sources for hydrotherapy, which was a disease prevention strategy see Njoh, "Ideology and Public Health Elements of Human Settlement Policies in Sub-Saharan Africa," 10.

between 1639 and 1645, he noted that when people contracted chicken pox the sufferers went outside the town borders to recover, which took approximately six or more weeks.[887] Sick provisions were brought to the containment areas every two or three days to aid their recovery.[888] Almost one hundred years later, in 1729, slave ship surgeon Thomas Aubrey wrote that when diseases like measles and smallpox afflicted individuals in West Africa, they retreated into the forest.[889] "When they are in the Woods sick of these Diseases," wrote the sea surgeon, "they take nothing but cold Water, and suck Oranges, and yet recover, as I myself have been an Eye Witness many a time." Living on the Gold Coast in the late eighteenth century, surgeon and slave trade merchant Henry Meredith also observed quarantine measures in the case of smallpox. The afflicted were removed "to a remote place," he wrote.[890]

In addition to quarantine practices intended for temporary, curable ailments, some precolonial West African communities developed measures for those with long-term, incurable contagious disease. In the late seventeenth century, slave trader Jean Barbot described lepers in the Sestos River area (present-day Liberia) who dwelled apart from the healthy population and lived in spaces cordoned off from the larger community.[891] Henry Meredith noted a similar practice in regard to lepers on the late eighteenth century Gold Coast writing that "the unfortunate sufferers are excluded from society."[892] Those infected with contagious diseases

[887] Hemmersam, "Description of the Gold Coast, 1639-45," 119.

[888] Ibid., 119–20.

[889] Aubrey, *The Sea-Surgeon*, 108.

[890] Meredith, *An Account of the Gold Coast of Africa*, 237. D. Maier writes that in late nineteenth-century Asante, there is evidence that prisoners of war that exhibited signs of smallpox were not captured, and that checkpoints were erected at the border of the capital city, Kumase, to prevent those suffering from smallpox entry to the city. See Maier, "Nineteenth-Century Asante Medical Practices," 70–71.

[891] Barbot, *Barbot on Guinea*, 1992, I:271.

[892] Meredith, *An Account of the Gold Coast of Africa*, 235.

were also isolated in precolonial East Central Africa, a practice that may extend back millennia.[893]

Forests and bush areas thus take on an expanded social and cultural function, adding to and likely imbricated with, an already densely entangled web of meanings. As discussed earlier, forests were populated by spiritual entities, including spirits that caused disease and ancestral spirits that offered healing. Forest spaces contained sacred groves and spirit shrines. The bush also served as sites for initiation into secret societies, and functioned as symbolic cultural spaces when communities conducted rites of passage during major life events.[894] Yet quarantine and containment measures suggest that forests also offered locales for convalescence and formed a natural barrier to protect healthy villagers from contagion. The specific forest areas utilized, the therapeutic activities that transpired within them, and the spiritual entities that may have participated in the cure are hidden in the chaotic recesses of the bush. However, certain insights are possible. The existence of quarantine zones in precolonial West Africa suggests that unlike diseases which could be cured inside one's home or in a healer's hut, which were the primary

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[893] Waite, *A History of Traditional Medicine and Health Care in Pre-Colonial East-Central Africa*, 15, 35, 86–87.

[894] In the context of precolonial West Africa, observations of initiation rites in forest spaces include the Kingdom of Kquoja and Sierra Leone in regard to the Poro and other secret societies. See for example Ogilby, *Africa*, 402–7; Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 1:136–43; Jones, "The Kquoja Kingdom," 39–41. For more on initiation rites in Senegambia and the Poro and Sande societies see Baum, *Shrines of the Slave Trade*. One of the most well-known, classic anthropological studies of initiation rites and the importance of the forest is Victor Turner's scholarship on the Ndembu in Zambia. See Victor W. Turner, *The Forest of Symbols: Aspects of Ndembu Ritual* (Ithaca, NY: Cornell University Press, 1967). The classic and still widely used text on rites of passage is by ethnographer and folklorist Arnold van Gennep. See Arnold van Gennep, *Les Rites de Passage* (Paris: É. Nourry, 1909). Additionally, the symbolic importance of the forest in contrast with the village appears in many literary, anthropological, and religion studies. See for example J. Little John, "Temne Space," *Anthropological Quarterly* 36, no. 1 (1963): 1–17; Robert D. Pelton, *The Trickster in West Africa: A Study of Mythic Irony and Sacred Delight* (Berkeley, CA: University of California Press, 1989); J. G. Platvoet, "Cool Shade, Peace and Power: The Gyedua ('Tree of Reception') as an Ideological Instrument of Identity Management among the Akan Peoples of Southern Ghana," *Journal of Religion in Africa* 15, no. 3 (1985): 174–200; Brenda Cooper, "Landscapes, Forests, and Borders within the West African Global Village," in *Mapping the Sacred: Religion, Geography and Postcolonial Literatures*, ed. Jamie S. Scott and Paul Simpson-Housley (Atlanta, GA: Rodopi, 2001), 275–96; Paul Griffith, *Art and Ritual in the Black Diaspora: Archetypes of Transition* (New York: Lexington Books, 2016), 137–43.

sites for daily sick care, several societies had their own nosologies (disease classification schemes) that differentiated between diseases that spread amongst a population and those that did not. Certain diseases necessitated seclusion and separation for the health and safety of their communities. These maladies also followed a predictable pattern that could largely be treated according to a well-established process. As Michael Hemmersam described, communities knew that chicken pox progressed over a roughly six-week period before the sufferer emerged free of the infection, ready to be reintegrated into the community. The natural environment was adapted to meet these public health needs, but it also offered healing remedies in the form of leaves, barks, roots, resins, and food.

Botanical Medicines

Precolonial West African communities utilized a predominantly plant-based pharmacopoeia. Histories of health and healing in precolonial West Africa are written into the landscapes of the semi-arid sahel and the humid savanna. Cultures of curing are found in mangrove swamps, coastal estuaries, and tidal floodplains that give way to tropical rainforests and drier forest-savanna mosaics. Although these aquatic and terrestrial biomes are replete with epidemiological challenges due to disease vectors that thrive in the wet tropics, they are also richly supplied with medicinal flora and fauna.[895] Plants were central components of precolonial West African medicine, and this remains the case. Researchers today estimate that 5,400 plant species are utilized in traditional African medicine and up to eighty percent of the population relies on medicinal plants for their primary remedies.[896] Although writing in 1996, Brian Morris

[895] Akyeampong, "Disease in West African History," 187.

[896] M. Fawzi Mahomoodally, "Traditional Medicines in Africa: An Appraisal of Ten Potent African Medicinal Plants," *Evidence-Based Complementary and Alternative Medicine* 2013 (December 3, 2013): 2; Konadu, *Indigenous Medicine and Knowledge in African Society*, 4; C. Haris Saslis-Lagoudakis et al., "The Evolution of

made an evocative observation writing, "when an anthropologist can walk but 200 yards along a village path and be informed about a hundred medicinal plants growing along it, we can have I think a good indication of the crucial role that plants played in such communities."[897]

The flora and fauna available for medicinal use was dually dependent upon and constrained by local and regional ecosystems and the floristic environment. Thus, precolonial West African communities developed therapeutic traditions that were shaped by the distinct ecological zones in which they dwelled.[898] Indeed, the ecological setting that comes through most prominently in regard to West African therapeutics is the rainforest. As James Fairhead and Melissa Leach write, "forests house human history."[899] The Guineo-Congolian rainforest zone comprises the dominant forest area in West and Central Africa. The Upper Guinea portion represents a vast expanse of tropical moist forest stretching from Senegal to Togo until the "Dahomey Gap," a savanna corridor containing grassland vegetation from the northern savannas to the coast.[900] The tropical rainforest comprises one of nature's most capacious repositories for

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Traditional Knowledge: Environment Shapes Medicinal Plant Use in Nepal," *Proceedings of the Royal Society of London B: Biological Sciences* 281, no. 1780 (April 7, 2014): 1–7; Joseph Otieno et al., "Vernacular Dominance in Folk Taxonomy: A Case Study of Ethnospecies in Medicinal Plant Trade in Tanzania," *Journal of Ethnobiology and Ethnomedicine* 11, no. 1 (2015): 1; S. O. Aniama, S. S. Usman, and S. M. Ayodele, "Ethnobotanical Documentation of Some Plants among Igala People of Kogi State," *The International Journal of Engineering and Science* 5, no. 4 (2016): 33.

[897] Morris, *Chewa Medical Botany*, 25.

[898] Steven Feierman and John M. Janzen, "Introduction: Therapeutic Traditions in Africa: A Historical Perspective," in *The Social Basis of Health and Healing in Africa*, ed. Steven Feierman and John M. Janzen (Berkeley, CA: University of California Press, 1992), 170–71; Janzen and Green, "Continuity, Change, and Challenge in African Medicine," 1–2; Saslis-Lagoudakis et al., "The Evolution of Traditional Knowledge," 4; Anyinam, "Ecology and Ethnomedicine," 322; Molefi K. Asante and Emeka Nwadiora, *Spear Masters: An Introduction to African Religion* (Lanham, MD: University Press of America, 2007), 52.

[899] James Fairhead and Melissa Leach, "Deforestation in Question: Dialogue and Dissonance in Ecological, Social and Historical Knowledge of West Africa. Cases from Liberia and Sierra Leone," *Paideuma* 43 (1997): 219.

[900] See Vanessa Plana, "Mechanisms and Tempo of Evolution in the African Guineo-Congolian Rainforest," *Philosophical Transactions: Biological Sciences* 359, no. 1450 (2004): 1585-1594; F. White, *The Vegetation of Africa: A Descriptive Memoir to Accompany the UNESCO/AETFAT/UNSO Vegetation Map of Africa* (Paris: UNESCO, 1983), 46; Jon C. Lovett, "Tropical and Humid Forests," in *New Encyclopedia of Africa*, ed. Joseph C.

medicinal plants. Several present-day studies show that in comparison to other ecological zones in West Africa, the rainforest contains the highest density of medicinal plant species.[901]

The peppery-tasting bark of the Niaukony tree, for example, served as a highly utilized remedy in many illnesses, and the leaves and resin from the Borrouw tree were a powerful purgative when other medicines proved ineffective.[902] Kquoja residents would bruise bark from the Domboch tree, mix the extracted juices with liquid, and drink the decoction for an excellent purge.[903] Medicinal cordials were made with bark from the Duy tree (*Alchornea cordifolio* Schumach & Thonn), steeped in palm wine and then drunk.[904] The Duy tree is one of the most widely used medicinal plants in Africa and the bark and leaves exhibit powerful antibacterial and anti-inflammatory activity.[905] Bark from the Bongia tree functioned as another important

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Miller and John Middleton (Detroit: Thompson Gale, 2008), II:198; John B. Hall and M. D. Swaine, *Distribution and Ecology of Vascular Plants in a Tropical Rainforest: Forest Vegetation in Ghana* (Boston: W. Junk, 1981), 32; Ulrich Salzmann and Philipp Hoelzmann, "The Dahomey Gap: An Abrupt Climatically Induced Rain Forest Fragmentation in West Africa During the Late Holocene," *The Holocene* 15, no. 2 (February 2005): 190; and, L. Poorter, F. Bongers, and R. H. M. J. Lemmens, "West African Forest: Introduction," in *Biodiversity of West African Forests: An Ecological Atlas of Woody Plant Species*, ed. L. Poorter, F. Bongers, F. Y. N.' Kouamé, and W. D. Hawthorne (Cambridge, MA: CABI Publishing, 2004), 5.

[901] A. Falodun, "Herbal Medicine in Africa — Distribution, Standardization, and Prospects," *Research Journal in Phytochemistry* 4, no. 3 (2010): 154-161; and, N. H. Ayodele Cole, "Diversity of Medicinal Plants in West African Habitats," in *The Biodiversity of African Plants: Proceedings XIVth AETFAT Congress, 22-27 August 1994, Wageningen, the Netherlands* (Boston: Kluwer Academic Publishing, 1996), 707; see also Mohad Hyder, "Ecology," in *New Encyclopedia of Africa*, II:152; and, Robert Harms, *Games Against Nature: An Eco-Cultural History of the Nunu of Equatorial Africa* (New York: Cambridge University Press, 1999), 1.

[902] Dapper, *Naukeurige Beschrijvinge der Afrikaensche Gewesten*, 387-388; Dapper [Ogilby], *Africa: Being an Accurate Description*, 382-383; Hair, "Early Seventeenth-Century Vocabulary," 135.

[903] Dapper, *Naukeurige Beschrijvinge der Afrikaensche Gewesten*, 388; Dapper [Ogilby], *Africa: Being an Accurate Description*, 383; Hair, "Early Seventeenth-Century Vocabulary," 134. A decoction is the concentrated liquid that remains after the active principles of a medicinal plant are extracted by heating or boiling.

[904] Dapper, *Naukeurige Beschrijvinge der Afrikaensche Gewesten*, 388; Dapper [Ogilby], *Africa: Being an Accurate Description*, 383.

[905] U Ajali, "Antibacterial Activity of Alchornea Cordifolia Stem Bark," *Fitoterapia* 71, no. 4 (August 1, 2000): 436–38; H. Mavar-Manga et al., "Anti-Inflammatory Compounds from Leaves and Root Bark of Alchornea Cordifolia (Schumach. & Thonn.) Müll. Arg.," *Journal of Ethnopharmacology* 115, no. 1 (January 4, 2008): 25–29; H. Mavar Manga et al., "In Vivo Anti-Inflammatory Activity of Alchornea Cordifolia (Schumach. & Thonn.) Müll. Arg. (Euphorbiaceae)," *Journal of Ethnopharmacology* 92, no. 2 (June 1, 2004): 209–14.

arboreal medicament, and it has since been identified as *Sterculia tragacantha* Lindl.[906] In recent chemical screenings, the plant has been shown to have effective anti-inflammatory, analgesic, and antioxidant properties.[907] The Oubi and Wè forest people in Southwestern Côte d'Ivoire use the plant today in the case of difficult pregnancies.[908] In Sierra Leone it is currently used as a topical salve to heal sores, and it is also prescribed in several African indigenous medical systems as a vermifuge, a syphilis remedy, and also a cure for digestive disorders.[909] When André Donelha traveled through Sierra Leone in the early seventeenth century he learned of an efficacious Sierra Leonean cure for stomachache and diarrhoea. The residents took fruit from the spice pepper tree, mixed it in rice or soup, and then ate it.[910] Donelha was impressed by the way Africans used bitter kola as a purgative and extracted oil from *chabeo*, the oil palm (*Elaies Guineensis*), to make healing ointments.[911]

In 1689, John Smyth was hired by the Royal African Company to serve as their chaplain at Cape Coast Castle (present-day Ghana).[912] During his residence, Smyth became a student of West African *materia medica* and located herbalists who could instruct him. Smyth assiduously studied their healing techniques and the plants that comprised their *materia medica*. After

[906] Dapper, 383; Hair, "Early Seventeenth-Century Vocabulary," 134.

[907] R. I. Udegbunam, et al., "Anti-Nociceptive, Anti-Inflammatory and Anti-Oxidant Effects of the Methanol Leaf Extract of Sterculia tragacantha Lindl," *Journal of Pharmacology and Toxicology* 6, no. 5 (2011): 516-524.

[908] Djah F. Malan and Danho F. R. Neuba, "Traditional Practices and Medicinal Plants Use during Pregnancy by Anyi-Ndenye Women (Eastern Côte d'Ivoire)," *African Journal of Reproductive Health* 15, no. 1 (2011): 89.

[909] Maurice M. Iwu, *Handbook of African Medicinal Plants*, 2nd ed. (Boca Raton, FL: CRC Press, 2014), 102; and Cyrus Macfoy, *Medicinal Plants and Traditional Medicine in Sierra Leone* (Bloomington, IN: iUniverse, 2013), 123-124. See also Edward S. Ayensu, *Medicinal Plants of West Africa* (Algonac, MI: Reference Publications, 1978), 257-258.

[910] Donelha, *Descrição da Serra Leoa*, 82-83, 215, n. 56.

[911] Ibid.

[912] TNA, T70/319, Journal, Home, 23 September 1689, f. 108; December 1689, f. 162; T70/373, Accounts, Journals, Cape Coast Castle, 1689-1691, August 1690, f. 63v.

gathering a significant amount of knowledge, the minister sent a collection of medicinal plant specimens from the Gold Coast to celebrated London apothecary and naturalist James Petiver. In doing so, West Africa became folded into Petiver's global network of natural knowledge. The naturalist accrued "one of the largest and most varied collections of specimens on the natural history of the world" in the early eighteenth century.[913] Along with the specimens, Smyth included detailed descriptions of how Africans on the Gold Coast prepared and used individual plants to create remedies for a wide range of specific illnesses.

Smyth observed plants being dried in the sun, powdered, and sniffed to cure headaches.[914] Swollen limbs were washed with an infusion created by boiling the *unnena* plant, which caused fluid retention to dissipate.[915] Decoctions were made from boiled plants mixed with palm wine and drunk to cure constipation.[916] Leaves were pounded and mixed with palm oil to create ointments that healed sores and wounds.[917] If you suffered from dysentery, *pocumma* would be pounded, dried, baked, and eaten, and the symptoms cleared.[918] Stomach aches, smallpox, worms, venereal disease, toothaches, scurvy, and hemorrhaging were among

[913] Raymond Phineas Stearns, "James Petiver: Promoter of Natural Science, c. 1663-1718," *Proceedings of the American Antiquarian Society* 62, no. 2 (October 1952): 244. For a discussion of James Petiver's use of slave traders in gathering natural history, including John Smyth, see Kathleen S. Murphy, "Collecting Slave Traders: James Petiver, Natural History, and the British Slave Trade," *The William and Mary Quarterly* 70, no. 4 (October 2013): 637-670, for John Smyth see p. 645, 653. For Henry Oldenburg's earlier correspondence network see Mark Govier, "The Royal Society, Slavery and the Island of Jamaica: 1660-1700," *Notes and Records of the Royal Society of London* 53, no. 2 (May 1999): 213.

[914] Petiver, "A Catalogue of Some Guinea-Plants," 678.

[915] Ibid., 686.

[916] Ibid., 678.

[917] Ibid.

[918] Ibid., 684.

the lengthy list of cures Smyth discovered from his African instructors.[919]

Although Smyth does not reveal who his teachers were, in all likelihood it was a West African woman as they were prized for having expert skills in medicine, botany, and surgery.

Common and Expert Medical Knowledge

In the seventeenth-century Kingdom of Kquoja, when someone died, the community wanted to know why. If the residents suspected the deceased "died not a natural Death" an investigation took place, as was common across precolonial West Africa.[920] In the Kingdom of

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[919] Ibid., 678-686.

[920] Dapper, *Naukeurige Beschrijvinge Der Afrikaensche Gewesten*, 304; Ogilby, *Africa*, 396, 497. Please note the page number misprint in Dapper's Dutch original which should be 404. For additional examples in West and West Central Africa see Barbot, "A Description of the Coasts," 276, 281; Jean Barbot, *Barbot on Guinea: The Writings of Jean Barbot on West Africa, 1678-1712*, ed. P. E. H. Hair, Adam Jones, and Robin Law, vol. II (London: Hakluyt Society, 1992), 574; Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 1:129–32, 136–41; *The Golden Coast*, 72–74; Bosman, *A New and Accurate Description of the Coast of Guinea*, 225; Louis Jadin, "Rivaltés Luso-Néerlandaise Au Soyo, Congo, 1600-1675," *Bulletin de l'Institut Historique Belge de Rome* 37 (1966): 231–32; Cavazzi, *Relation Historique*, I:266–69; Girolamo Merolla da Sorrento, "A Voyage to Congo, and Several Other Countries Chiefly in Southern-Africk," in *A Collection of Voyages and Travels*, ed. Awnsham Churchill and John Churchill, 3rd ed., vol. 1 (London: Printed for Messrs. Churchill, Henry Lintot, and John Osborn, 1744), 613–14; Luca da Caltanisetta, *Diaire Congolais, 1690-1701*, trans. François Bontinck (Louvain: Éditions Nauwelaerts, 1970), 81–82, 103.

For more on the above sources: See discussions of French slave trader Jean Barbot's two texts, how to use them, and the important differences between them in Hair, "Barbot, Dapper, Davity," 27-32 46, nn. 24, 26; Barbot, *Barbot on Guinea*, 1992, I:xix–xlvi.

Regarding Willem Bosman: His original Dutch text *Nauwkeurige beschryving van de Guinese Goud-, Tand-, en Slave-Kust*, was published in Amsterdam in 1703 and an English translation was published in 1705. Historian Albert van Dantzig published a series of eight articles over nearly ten years to identify and correct errors in the English translation. When relevant, I have cited from those articles. See Willem Bosman, *Nauwkeurige Beschryving van de Guinese Goud-, Tand-, En Slave-Kust* (Utrecht: Printed by Anthony Schouten, 1704); Albert van Dantzig, "Willem Bosman's 'New and Accurate Description of the Coast of Guinea': How Accurate Is It?," *History in Africa* 1 (January 1, 1974): 101–8; "English Bosman and Dutch Bosman: A Comparison of Texts," *History in Africa* 2 (January 1, 1975): 185–216; "English Bosman and Dutch Bosman: A Comparison of Texts: II," *History in Africa* 3 (January 1, 1976): 91–126; "English Bosman and Dutch Bosman: A Comparison of Texts: III," *History in Africa* 4 (January 1, 1977): 247–73; "English Bosman and Dutch Bosman: A Comparison of Texts: IV," *History in Africa* 5 (January 1, 1978): 225–56; "English Bosman and Dutch Bosman: A Comparison of Texts: V," *History in Africa* 6 (January 1, 1979): 265–85; "English Bosman and Dutch Bosman. A Comparison of Texts: VI," *History in Africa* 7 (January 1, 1980): 281–91; "English Bosman and Dutch Bosman: A Comparison of Texts: VII," *History in Africa* 9 (January 1, 1982): 285–302; "English Bosman and Dutch Bosman: A Comparison of Texts: VIII," *History in Africa* 11 (January 1, 1984): 307–29.

Regarding Capuchin priest Giovanni Antonio Cavazzi: His *Istorica Descrizione de' tre regni Congo, Matamba ed Angola* was published in 1687, and the Jean-Baptiste Labat's French translation was published in 1732. I use

Kquoja, the deceased would be questioned in a public ceremony to determine the cause of death.[921] If God took the person away, no further inquiry was necessary. If, however, the deceased said that a *Bolly* (medicinal herb) killed them, the ceremony shifted to an oral recitation of all the medicinal plants used in Kquoja.[922] One by one, each plant would be named, and the Kingdom's entire body of medicinal plant knowledge would be spoken aloud in the presence of the community until the plant responsible was identified.[923] The botanical recitations were one way in which the community's storehouse of herbal knowledge was learned, transmitted, and integrated into the society's collective cultural and medicinal understanding of the forest plants that healed and harmed. Although the Kingdom of Kquoja appears to be unique in this mode of death inquiry, widespread knowledge of plants for food, medicine, and ceremonial purposes was diffused across precolonial West African communities.

German soldier-turned-goldsmith Michael Hemmersam resided on the Gold Coast between 1639 and 1645, and discovered that that there was a certain amount of generally shared healing knowledge in the region. Inhabitants often needed "no special people" to cure smallpox, swollen glands, fever and headaches.[924] A few decades later, also on the Gold Coast, French slave trader Jean Barbot wrote that Africans on the Gold Coast always have "a great diversity of medicinal herbs" on hand and when any fall ill they "ease and cure it in a short time, according

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Labat's French translation and Cavazzi's original in this chapter. For more on the challenges of using Cavazzi as well as issues with Labat's translation see Cavazzi, *Relation Historique*, I:7–8; John K. Thornton, "New Light on Cavazzi's Seventeenth-Century Description of Kongo," *History in Africa* 6 (January 1, 1979): 253; Jan Vansina, *How Societies Are Born: Governance in West Central Africa Before 1600* (Charlottesville, VA: University of Virginia Press, 2004), 10; Heintze, "Translations as Sources for African History," 136, 138; Henige, "The Race Is Not Always to the Swift," 63.

[921] Ogilby, *Africa*, 396.

[922] Ibid., 397.

[923] Ibid., 396–97.

[924] Hemmersam, "Description of the Gold Coast," 122.

to the skill they have."[925]

Twentieth-century anthropologists illustrate a similar phenomenon. In 1948 C. M. N. White observed in the Zambia, the people are "familiar with a large number of herbal remedies without having recourse to diviners and doctors. Herbal remedies for constipation, headaches, stomach pains, swollen feet, and even gonorrhoea are familiar to everyone, even to children."[926] Brian Morris's study of southern Malawi reveals that every person "is essentially a practising herbalist, and knows a variety of herbs to treat common ailments."[927] Samuel Ogundele's study of the Yoruba revealed that from as early as eight years of age, many children are informally taught the names of plants and their uses, and "almost everybody in rural Yoruba land, has at least, some elementary knowledge of plants and their medicinal values."[928] Bernhard Bierlich's study of northern Ghana also indicated that "knowledge about healing with plants is distributed among most members of the community…and everyone has some knowledge of plants."[929]

Londa Schiebinger rightly observed, based on the current state of knowledge, "it is impossible to know with any precision how much African herbal knowledge was transferred into

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[925] Barbot, "Description of the Coasts," 277. This may be one of Barbot's original contributions as I have been unable to locate this particular observation in any of the sources he commonly borrowed from which include Pieter de Marees, Olfert Dapper, Nicolas Villault, and Willem Bosman. For more on Barbot's text see P. E. H. Hair, Adam Jones, and Robin Law, "Introduction," *Barbot on Guinea: The Writings of Jean Barbot on West Africa 1678-1712* (London: Hakluyt Society, 1992), ix-li; Hair, "Barbot, Dapper, Davity," 25-54; and Hair, "On Editing Barbot," *History in Africa* 20 (January 1993): 53-59.

[926] C. M. N. White, "Witchcraft Divination and Magic among the Balovale Tribes," *Africa: Journal of the International African Institute* 18, no. 2 (1948): 93.

[927] Brian Morris, "Herbalism and Divination in Southern Malawi," *Social Science & Medicine* 23, no. 4 (January 1986): 368.

[928] Samuel Oluwole Ogundele, "Aspects of Indigenous Medicine in South Western Nigeria" *Ethno-Medicine* 1, no. 2 (2007): 130.

[929] See Bierlich, *The Problem of Money*, 80, 91. See also Anselm Adodo, *Nature Power: Natural Medicine in Tropical Africa* (Bloomington, IN: AuthorHouse, 2013), 58; Edward Khiwa, *Health Care Organization and Project Management for Emerging Nations* (Bloomington, IN: Xlibris Corporation, 2013), 30; Janzen, "Ideologies and Institutions," 318.

the New World."[930] We can safely say that most individuals likely had some. Yet herbalism also had expert practitioners who were consistently identified as African women. Leaf doctoring in their hands represented a specialized domain of African indigenous knowledge.

British merchant and governor Henry Meredith was stationed on the Gold Coast for twenty years and was keenly interested in documenting his observations of the inhabitants and the state of trade in the region.[931] African medicine did not escape his notice. "The women in general perform the office of the Surgeon, as well as of the Physician," wrote the governor. "Their manual operations are confined to scarifications and cupping; both of which they perform with much dexterity. Their manner of selecting different roots and herbs, and their choice of them, discover no mean knowledge in botany: there is scarcely a plant without its peculiar virtue among them. Their medical knowledge is confined within the family, and is seldom imparted to more than one, who is usually a female."[932]

African women were repositories of expert botanical knowledge and displayed adept surgical skill on the Gold Coast. Women healers trained their daughters or other female family members to be practitioners in the tradition. The inherited herbal knowledge was proprietary and was not to be divulged outside the precise transmission mechanism determined by the family, likely following a pattern with long and deep ancestral roots. Younger healers were continually in the process of formation, transitioning from novice to elder over the course of their lives. This made expert herbalism in the region a female-directed form of knowledge production and

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[930] Londa L. Schiebinger, "Prospecting for Drugs: European Naturalists in the West Indies," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L. Schiebinger and Claudia Swan (Philadelphia: University of Pennsylvania Press, 2005), 123.

[931] Henry Meredith, *An Account of the Gold Coast of Africa: With a Brief History of the African Company* (London: Printed for Longman, Hurst, Rees, Orme, and Brown, 1812), i, vi. See also Klas Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa: The Case of the Gold Coast* (New York: Routledge, 2015), 57.

[932] Ibid., 233-234. African women's surgical practice is discussed in Chapter 4.

practice.[933] Although writing about twentieth-century Niger, Susan Rasmussen's anthropological study is evocative. An elderly herbalist told the researcher in 1998, "Only women know trees. My medicine is like a secret. It is inherited from the mother of my mother."[934] In contrast with the broadly held herbal knowledge known by many, African women healers served as "physicians" and "surgeons." They were medical professionals in Meredith's estimation.[935] West African women ably diagnosed and cured the more complex health challenges experienced by the community. Twenty years on the Gold Coast had convinced Meredith of the significance of their healing roles.

West African women herbalists were highly sought after by Europeans. Writing about Sierra Leone, Thomas Winterbottom revealed that "frequently some old woman…acquired celebrity for the cure of a particular disorder" and sick Africans and Europeans traveled to distant villages to obtain her herbal remedies.[936] "Europeans will often trust themselves" to these female elders "in preference to their own countrymen," Winterbottom added.[937] Rather than relying on European surgeons and physicians, West African women healers became the practitioners of choice for many. Some women herbalists in Sierra Leone developed expertise in curing specific illnesses. Others may have functioned as general practitioners, which could have been the case with the healers Meredith identified on the Gold Coast.

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[933] Twentieth-century researchers have noted the importance of family lineage among herbalists. One study of herbalists in Nigeria found that 78.2% of the individuals studied had followed in the profession of a parent. See D. D. O. Oyebola, "Some Aspects of Yoruba Traditional Healers and Their Practice," *Transactions of the Royal Society of Tropical Medicine and Hygiene* 74, no. 3 (1980): 320.

[934] Susan J. Rasmussen, "Only Women Know Trees: Medicine Women and the Role of Herbal Healing in Tuareg Culture," *Journal of Anthropological Research* 54, no. 2 (1998): 148, 152.

[935] Meredith, *An Account of the Gold Coast of Africa*, 233.

[936] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, II:11.

[937] Ibid.

Winterbottom's dismissive reference to "some old woman," occludes the deeper cultural and practical significance linking age and healing in West Africa. Elder knowledge was "the fuel of the community," commanded authority, and was essential for its survival.[938] In the context of medicine, age brought greater expertise to the complex arts of herbalism. There is a tendency to view elderly enslaved women and men through the context of plantation societies in the Americas, which featured a labor regime that relied on youthful physical strength to turn a profit, making old age a disability.[939] In precolonial West Africa, elder herbalists were in their prime as medical practitioners.

West African women healers' specialist knowledge was also embedded within the gendered division of labor that structured many precolonial West African societies, particularly in regard to food. African women oversaw and managed food needs for their families and communities, and food was an essential dimension of herbal therapeutics. A gendered system of African indigenous medical knowledge emerged that was vital to the life, health, and well-being of individuals and communities across the region.

Food and Medicine

When surgeon Paul Isert visited Little Popo (Aného), in present-day Togo, he was roused early in the morning by a young girl's voice.[940] She crooned, "Come buy *flatta*, the water is hot!

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[938] Robert K. N. Mwadime, "Indigenous Knowledge Systems for an Alternative Culture in Science: The Role of Nutritionists in Africa," in *What is Indigenous Knowledge?: Voices from the Academy*, ed. Ladislaus M. Semali and Joe L. Kincheloe (New York: Routledge, 2002), 243; and, Philomina Ezeagbor Okeke-Ihejirika, *Negotiating Power and Privilege: Igbo Career Women in Contemporary Nigeria* (Athens, OH: Ohio University Press, 2004), 14.

[939] See for example, Richard Dunn's study of Mesopotamia plantation in Barbados. Dunn writes that nurses were "semi-invalids who took on this work late in life after being shifted from more 'valuable' jobs." Richard S. Dunn, "'Dreadful Idlers' in the Cane Fields: The Slave Labor Pattern on a Jamaican Sugar Estate, 1762-1831," *The Journal of Interdisciplinary History* 17, no. 4 (April 1987): 804, n. 12.

[940] Isert, *Letters on West Africa and the Slave Trade*, 124.

Come buy *flatta*, the water is hot! Come buy *flatta*, the water is hot!" Peering out his window, Isert saw a girl walking with two pots. She balanced a pot of hot water on her head and tucked a pot with ground maize underneath one of her arms.[941] When approached by hungry customers, the young girl spooned some of the maize into a calabash shell and poured hot water over it. The purchaser stirred the mixture with a finger and drank the porridge for breakfast.[942] Although this was a common morning meal in the region, it was also the "preferred" nutriment given to the sick.[943]

West African women were the guardians, stewards, and producers of food. They wielded authority over this most basic of life's necessities. The women of precolonial West Africa performed agricultural labor, managed food markets, and prepared victuals in domestic and community settings. As "Regent" of the home, women were responsible for "procuring…household provisions and daily food to meet her own and her family's needs," wrote Pieter de Marees.[944] From the Gold Coast to the Kingdom of Kongo, European observers noted that household work was performed almost exclusively by women, and this included the preparation of food.[945] Food was a gendered source of power and withdrawing food was one of women's most potent weapons in West African society.[946] Women pounded millet, made bread,

[941] Ibid. See also H. C. Monrad, "A Description of the Guinea Coast and its Inhabitants," in *Two Views from Christiansorg Castle*, ed. and trans. Selena Axelrod Winsnes (Ghana: Sub-Saharan Publishers, 2009), 184.

[942] Isert, *Letters on West Africa and the Slave Trade*, 124.

[943] Ibid.

[944] De Marees, *Description and Historical Account of the Gold Kingdom of Guinea*, 40.

[945] Isert, *Letters on West Africa and the Slave Trade*, 182; and, da Lucca, *Relations sur le Congo*, 78.

[946] Josephine Beoku-Betts, "Western Perceptions of African Women in the 19th & Early 20th Centuries," reprinted in *Readings in Gender in Africa*, ed. Andrea Cornwall (Bloomington, IN: Indiana University Press, 2005), 22.

cooked, fetched water, and kept fires burning in their homes.[947]

West African women also worked as agriculturalists, and the cultivation of food crops depended upon women's knowledge and labor.[948] As Willem Bosman remarked in the early eighteenth century, the women of Africa had to attend to the "Fatigues of Agriculture."[949] Describing Sierra Leone two decades later, John Atkins observed the women "work hard in Tillage, make Palm-Oil, or spin Cotton."[950] West African women were seed selectors and plant breeders, created innovative solutions to soil infertility, and displayed sophisticated understandings of how to increase agricultural productivity.[951] African women's extensive knowledge of plant life was integral to their communities. In describing the importance of women's labor in rice cultivation, Judith Carney wrote, "with the dawn of each day women's pounding of rice awakens millions of African villagers, the rhythmic striking of rice grains by the pestle providing the steady heartbeat of community life."[952]

Like the young girl who sold *flatta* every morning, women traders participated in West Africa's urbanizing economy, vending foodstuffs, handicrafts, and artisanal goods in local and long-distance trading networks.[953] Food markets in particular were dominated by women.[954] On

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[947] Barbot, *Barbot on Guinea*, I:90.

[948] Akyeampong and Fofack, "The Contribution of African Women to Economic Growth and Development," 46.

[949] Bosman, Bosman, *A New and Accurate Description*, 193, 438.

[950] Atkins, *A Voyage to Guinea*, 50.

[951] Edda L. Fields-Black, *Deep Roots: Rice Farmers in West Africa and the African Diaspora* (Bloomington, IN: Indiana University Press, 2008), 31; and, Judith A. Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge, MA: Harvard University Press, 2001), 50-68; Frederick C. Knight, *Working the Diaspora: The Impact of African Labor on the Anglo-American World, 1650-1850* (New York: New York University Press, 2010), 39.

[952] Judith A. Carney, *Black Rice: The African Origins of Rice Cultivation in the Americas* (Cambridge, MA: Harvard University Press, 2001), 31.

[953] White, "Women in West and West-Central Africa," 68; Beoku-Betts, "Western Perceptions of African Women,"

the Gold Coast, in the late seventeenth century, Wilhelm Müller observed the markets were all run by women who sold fresh and fried fish, eggs, palm oil, chickens, various fruits, grains, and pepper.[955] In seventeenth-century Senegambia, Richard Jobson described the careful attention Fulbe women gave to the dairy products they prepared and sold.[956] The women adhered to strict quality control standards related to the cleanliness of the products and the shining gourds they were distributed in, all "made up very handsomely."[957] Markets were more than centers for commodity exchange.[958] Women's market activities also facilitated the transmission of their cultural knowledge.[959]

As "custodians of food" and responsible for food concerns whether in the home, field, or marketplace, African women's labor was interwoven with broader concerns of health and healing in precolonial West Africa.[960] The story of maize and its introduction into West Africa provides an excellent example of how these interconnected spheres of skilled agricultural labor, cookery, and health converged.

As discussed earlier in the chapter, maize was introduced to West Africa to meet food

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21; Frederick C. Knight, *Working the Diaspora: The Impact of African Labor on the Anglo-American World, 1650-1850* (New York: New York University Press, 2010), 15.

[954] Knight, *Working the Diaspora*, 17.

[955] Wilhelm Johann Müller , "Description of the Fetu Country, 1662-1669," in *German Sources*, 244; see also De Marees, *Description and Historical Account of the Gold Kingdom of Guinea*, 63; and Barbot, *Barbot on Guinea*, II:546-548.

[956] Jobson, *The Discovery of River Gambra*, 103.

[957] Ibid.

[958] Frederick C. Knight, *Working the Diaspora: The Impact of African Labor on the Anglo-American World, 1650-1850* (New York: New York University Press, 2010), 15.

[959] Ibid.

[960] Samson Omwoyo, "Assessing the Impact of Coffee Production on Abagusii Women in Western Kenya: A Historical Analysis (1900-1963)," in *Gender, Science and Technology: Perspectives from Africa*, ed. Catherine Wawasi Kitetu (Dakar, Senegal: Council for the Development of Social Science Research in Africa, 2008), 160.

shortages on the coast due to the high provisioning needs of slaving vessels. Frederick Knight argues that when maize and other crops were brought to West Africa, women were responsible for integrating new foods into West African agricultural systems and existing production patterns.[961] Maize was "largely a woman's crop," and the "Africanization of maize" required women agriculturalists to studiously select from various maize types that differed in terms of yield, maturation time, and vulnerability to climatic and epidemiological conditions.[962]

While making agricultural advances, women in West Africa also worked with maize within the home. They cooked it, experimented with fermenting the ground meal, and observed its effects when fed to the sick.[963] Observation and experimentation led women to incorporate *flatta* into precolonial West African therapeutics and maize porridge became a preferred nutriment for the ill.[964] As individuals had done for centuries, African women practiced a "demystified 'scientific' process" to develop herbal and medicinal knowledge through observation, trial tests, and practical experience.[965] Utilizing agricultural and domestic innovation, women effectively expanded the *materia medica*. African women's authoritative presence in domestic, agricultural, and mercantile spaces likely helped transmit knowledge of the new therapy which became an established feature of sick care. The young girl who sold *flatta* in the darkness of the early morning hours was part of a dynamic nexus of cookery, agriculture,

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[961] Knight, *Working the Diaspora*, 47.

[962] McCann, *Maize and Grace*, 7, 37-38, 53.

[963] Paul Isert noted that on the Gold Coast the *flatta* was left to sour for twenty-four hours. See Isert, *Letters on West Africa and the Slave Trade*, 167.

[964] Isert, *Letters on West Africa and the Slave Trade*, 124. For a discussion of how maize was incorporated into the ritual landscape on the Gold Coast see Emmanuel Akyeampong and Samuel A. Ntewusu, "Rum, Gin and Maize: Deities and Ritual Change in the Gold Coast during the Atlantic Era (16th century to 1850)," *Afriques* 5, (December 2014): 1-40.

[965] Kwasi Konadu, "Medicine and Anthropology in Twentieth Century Africa: Akan Medicine and Encounters with (Medical) Anthropology," *African Studies Quarterly* 10, no. 2 (2008): 56.

trade, and medicine in precolonial West Africa.

In the domestic realm, as women cooked and fed their families, they created a repository of African indigenous medical knowledge that was integral to the health and wellness of individuals and communities. To cook was also to make medicines and skill in both realms followed. Much healing knowledge flowed inside African women's boiling pots and between the stones they used to bruise, macerate, and pulverize fruits, roots, and pepper pods for an evening meal. Some of the most widely consumed foodstuffs were imbued with considerable therapeutic value in West Africa.[966] The palm oil that John Atkins observed African women producing on the Gold Coast, the lemons, limes, and pepper they grew and then sold in the marketplace were all critical components in West African therapeutics.

Palm oil was widely used throughout precolonial West Africa. The product was an everyday ingredient in cooking and individuals cleansed and anointed their bodies with the oil as part of their daily hygienic practice.[967] On the Gold Coast palm oil was also a topical salve to heal wounds, and it was incorporated into the process of worm removal.[968] As worms were slowly extracted, palm oil was transformed into a healing plaster where it covered and protected sore skin.[969] When individuals suffered from flagging strength, additional amounts of palm oil

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[966] Robert L. Hall, "Food Crops, Medicinal Plants, and the Atlantic Slave Trade," in *African American Foodways: Explorations of History and Culture* (Urbana, IL: University of Illinois Press, 2008), 17-44; Robin Law, Suzanne Schwarz, and Silke Strickrodt, "Introduction," in *Commercial Agriculture, the Slave Trade and Slavery in Atlantic Africa*, ed. Robin Law, Suzanne Schwarz, and Silke Strickrodt (Rochester, NY: Boydell & Brewer, 2013), 13; and Robert A. Voeks, "Traditions in Transition: African Ethnobotany in Lowland South America," in *Mobility and Migration in Indigenous Amazonia: Contemporary Ethnoecological Perspectives*, ed. Miguel N. Alexiades (New York: Berghahn Books, 2009), 278-281.

[967] Andreas Josua Ulsheimer, "Andreas Josua Ulsheimer's Voyage of 1603-4," in Jones, *German Sources*, 33; Atkins, *Voyage to Guinea*, 52; Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, I:103; Cavazzi [Labat], *Relation Historique de l'Ethiopie Occidentale*, I:455

[968] Hemmersam, "Description of the Gold Coast, 1639-1645," 122; and, Müller, "Description of the Fetu Country, 1662-9," 152, 224.

[969] Hemmersam, "Description of the Gold Coast, 1639-1645," 122; and, John Atkins, *The Navy-Surgeon* (London:

were added to their meals as a restorative.[970] For rheumatism, back pain, joint pain, and cold limbs, palm oil was made into an ointment and applied warm to the body.[971] By lavishing the skin with palm oil on a daily basis, it was not only a general preventative medicine, but also invigorated the nerves.[972]

Precolonial West African therapeutics featured a collection of foodstuffs like *flatta* that African women dispensed to the sick to provide nourishment, increase appetites, quench thirst in feverish patients, or to bolster strength. On the Gold Coast, West African women boiled coconut milk with poultry, rice, or meat to create a broth for sufferers to drink.[973] Pineapples were used in Sierra Leone to quench thirst in individuals struggling under a fever.[974] The waning strength of an ill person could be remedied by drinking an infusion made from the *acroe* plant boiled in palm wine.[975]

Certain herbal remedies were administered by being mixed into foods and consumed. In Sierra Leone, to rid the body of worms, African women procured bark from the *argól* tree, reduced it to powder, boiled it with a small amount of pepper, and mixed it with rice. The patient consumed the dish every morning until the worms were gone.[976] On the Gold Coast, the

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Printed for Caesar Ward and Richard Chandler, 1734), Appendix, 27.

[970] Bosman, *A New and Accurate Description*, 285.

[971] Barbot, "A Description of the Coasts," 204; and Smith, *A New Voyage to Guinea*, 163.

[972] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, I:103; Barbot, "A Description of the Coasts," 204; Smith, *A New Voyage to Guinea*, 163. See also Johann von Lübelfing, "Johann von Lübelfing's Voyage of 1559-1600," in Jones, *German Sources*, 16.

[973] Barbot, "A Description of the Coasts," 202.

[974] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, II:17.

[975] Petiver, "A Catalogue of Some Guinea-Plants," 678.

[976] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, II:28-29.

atanta plant was added to broth and eaten to restore strength in sick patients, and the *tetrephoe* plant was similarly prepared to cure dysentery.[977]

As custodians of food, precolonial West African women developed a gendered system of indigenous medical knowledge which transformed the most common foodstuffs into cures for dysentery, diarrhoea, venereal disease, worms, and frayed nerves. Women turned their homes into workshops to extract essential oils, create strong decoctions from roots, compose plant-based infusions in palm wine, warm ointments over the hearth, and skillfully blend herbal remedies into daily meals. Whether as casual or expert herbalists, women's labor specialization placed them into a unique position as healers of families and communities. The fluid boundaries between food and medicine, coupled with the gendered division of labor, meant that West African women played a pivotal role as stewards of health and wellbeing across the African Atlantic world.

Travel literature is silent concerning therapeutic activities enmeshed with African women's labor. European visitors to precolonial West Africa would have had little impetus to probe inside women's work to decipher how it threaded through other aspects of life. Europeans articulated strongly negative views concerning the gendered nature of labor in West Africa. Authors narrated African women's working lives as degraded. The women transgressed appropriate gender roles and represented a savage, uncivilized culture.[978] Thomas Winterbottom noted "women are regarded as beings of an inferior nature, and as born to the slaves of man…Upon them devolved all the drudgery of the family, they not only cook, and wash, beat rice, and clean it from the husk, but they cut down the underwood, assist in hoeing the ground,

[977] Petiver, "A Catalogue of Some Guinea-Plants," 680, 684.

[978] Morgan, "'Some Could Suckle over Their Shoulder,'" 168

and they also carry the produce to market."[979] African women were often depicted in European travelogues as hyper-sexualized and monstrous beasts of burden.[980]

The expert herbalists that Winterbottom and Meredith described were abstracted from African women's labor in cookery, agriculture, and trade. They were not among the women involved in the drudgery of daily life. Instead, female practitioners performed as physicians, surgeons, and old women who possessed specialized knowledge and efficacious cures. Meredith and Winterbottom alternatively positioned African women's healing practices to exist in an extra-ordinary sphere. These healers were removed from the degraded positions typically assigned to African women in European travel narratives. Indeed, as expert herbalists, these West African women were exceptional inhabitants of "'proper' female space."[981] Their ministrations were reminiscent of women's medical roles in British society as midwives, nurses, and general practitioners.[982] By the time Winterbottom and Meredith were writing British women were increasingly marginalized as healers, yet they continued to perform medical labor

[979] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, I: 144-145. For an excellent discussion of African women's labor as represented in European travel literature see Klas Rönnbäck, "'The Men Seldom Suffer a Woman to Sit Down': The Historical Development of the Stereotype of the 'Lazy African,' *African Studies* 73, no. 2 (May 2014): 211-227.

[980] Morgan, "'Some Could Suckle over Their Shoulder,'" 167-192.

[981] Morgan, "'Some Could Suckle over Their Shoulder,'" 168.

[982] Robert Ralley, "Medical Economies in Fifteenth-Century England," in *Medicine and the Market in England and its Colonies, c. 1450-c. 1850*, ed. Mark S. R. Jenner and Patrick Wallis (New York: Palgrave Macmillan, 2007), 32-33; Doreen Evenden, *The Midwives of Seventeenth-Century London* (New York: Cambridge University Press, 2000); Mary E. Fissell, *Patients, Power and the Poor in Eighteenth-Century Bristol* (New York: Cambridge University Press, 2002), 58-68; Penelope J. Corfield, "From Poison Peddlers to Civic Worthies: The Reputation of the Apothecaries in Georgian England," *Social History of Medicine* 22, no. 1 (April 2009): 16; Amy Louise Erickson, "Married Women's Occupations in Eighteenth-Century London," *Continuity and Change* 23, special issue no. 2 (August 2008): 271; Patricia Crawford, "Printed Advertisements for Women Medical Practitioners in London, 1670-1710," *Society for the Social History of Medicine Bulletin* 35 (1984): 66-70; Anne Borsay, "Nursing, 1700-1830: Families, Communities, Institutions," in *Nursing and Midwifery in Britain Since 1700* (ed. Anne Borsay and Billie Hunter (New York: Palgrave Macmillan, 2012), 23-45 .

as part time or "occasional practitioners" throughout the eighteenth century.[983]

In contrast to Winterbottom and Meredith's herbal specialists, it would seem that many other African women herbalists were unseen, unrecognized, and unrecognizable as they boiled plants, pounded maize, fed their families, hauled produce to market, and sowed seeds. When we consider the general diffusion of healing knowledge amongst individuals and societies in precolonial West Africa, there is every reason to suspect that many African women's herbal knowledge was barely visible beneath a scrim of European assumptions about their unwomanly, even beastly, laboring lives. The sophisticated intellectual labor women performed on a daily basis was masked by this biased staging of African womanhood. The dynamic knowledge systems women developed in regard to agricultural development, therapeutic experimentation, and botanical study were embedded in their labors. African women's intellectual capital fed and healed their worlds.

Spirit Interventions

There were many medicinal resources culled from rainforests, coastal estuaries, and dry woodlands. However, therapeutic resources also importantly included spirit interventions for protective and restorative medicines. When European observers first referenced health and healing traditions in precolonial West and Central Africa, it was often through the inescapable presence of sacred power objects they derided as "fetishes."[984] These were material objects that

[983] Fissell, *Patients, Power and the Poor*, 65. For a study of the rise of male midwifery and its marginalization of women healers see Jean Donnison, *Midwives and Medical Men: A History of Interprofessional Rivalries and Women's Rights* (New York: Schocken Books, 1997); Adrian Wilson, *The Making of Man-Midwifery: Childbirth in England, 1660-1770* (Cambridge, MA: Harvard University Press, 1995); and, Lisa Forman Cody, *Birthing the Nation: Sex, Science, and the Conception of Eighteenth-Century Britons* (New York: Oxford University Press, 2008).

[984] For an excellent study of the history and development of the concept of the fetish see series of articles published by William Pietz, "The Problem of the Fetish, I," *RES: Anthropology and Aesthetics* 9 (April 1985): 5-17; "The Problem of the Fetish, II: The Origin of the Fetish," *RES: Anthropology and Aesthetics* 13 (April 1987): 23-45; and

had been ritually transformed by indigenous priests into sacred abodes for the indwelling of spiritual entities or spiritual powers.[985] Sacred power objects functioned as consecrated medicines that possessed protective and restorative capabilities. Almost every culture in precolonial Atlantic Africa made use of some form of sacred power object or ritual container meant to prevent and heal illness, misfortune, and affliction.[986]

English merchant Richard Jobson visited the Gambia in 1620 and when he encountered the Mandinka, he wrote at length about "gregories," or, *gris-gris*.[987] The *gris-gris* were finely constructed leather pouches, often red in color, with pieces of paper inside containing "characters in either Moorish or Arabesque script," carefully written by Muslim priests, or *marabouts.* [988] The "written charm medicine" was inscribed with Qu'aranic verses, prayers, and invocations and was worn on the body to protect against misfortune and to cure illness.[989] By the time Jobson traveled to Senegambia, *gris-gris* had been part of the ritual and therapeutic landscape of the region for several hundred years. The sacred medicine had come to West Africa by way of

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"The Problem of the Fetish, IIIa: Bosman's Guinea and the Enlightenment Theory of Fetishism," *RES: Anthropology and Aesthetics* 16 (October 1988): 105-124.

[985] Thornton, "The Development of an African Catholic Church," 157.

[986] Michael W. Twitty, "Conjure Bags," in *World of a Slave: Encyclopedia of the Material Life of Slaves in the United States* (Santa Barbara, CA: ABC-CLIO, 2010), 140.

[987] Richard Jobson, *The Discovery of River Gambra (1623)*, ed. David P. Gamble and P. E. H. Hair (London: Hakluyt Society, 1999), 113-114.

[988] Barbot, *Barbot on Guinea*, I:85; Dapper [Ogilby], *Africa: Being an Accurate Description*, 353, 369; Guy Thilmans, "La Relation de François de Paris (1682-1683)," *Bulletin de l'Institut Fondemental d'Afrique Noir* 38, no. 1 (1976): 24; and Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, I:254. See also Philip J. Havik, "Hybridising Medicine: Illness, Healing and the Dynamics of Reciprocal Exchange on the Upper Guinea Coast (West Africa)," *Medical History* 60, no. 2 (April 2016): 189, 193.

[989] Jane Landers, "The Atlantic Transformations of Francisco Menéndez," in *Biography and the Black Atlantic* (Philadelphia, PA: University of Pennsylvania, 2013), 211; and, Matt Schaffer, *Djinns, Stars, and Warriors: Mandinka Legends from Pakao, Senegal* (Boston, MA: Brill, 2003), 7. Jean Barbot acquired some *gris-gris, a*nd when he returned to Europe he showed the objects to individuals "skilled in the Oriental languages." According to Barbot's experts, the writing was a mix of Hebrew, Arabic, and "Syro-Arabic intermix'd" (Barbot, *Description of the Coasts*, 60).

Muslim holy men, clerics, and healers who were part of medieval trans-Saharan trading networks.[990] Substantial Muslim communities existed in Senegambia during the seventeenth century, but *gris-gris* adorned the bodies of Muslims and non-Muslims alike.[991]

Richard Jobson observed *gris-gris* worn on the head, wrapped around the forehead from ear to ear, hanging around the neck, tied across both shoulders, encircling the abdomen, and wrapped around the upper and lower parts of the arm.[992] "In a manner," reflected the merchant, "they seeme as it were laden, and carrying an outward burthen of religious blessings."[993] The concerns of daily life flowed through these sacred objects. Protection from drowning, from being killed in war, from sickness or death during childbirth, as well as from fatal accidents, witchcraft, wild animals, and fire were just a few of the domains that the *gris-gris* oversaw.[994] The people "do confidently beleave no hurt can betide them, whilst these Gregories are about them," observed Jobson.[995] The ritual objects could also heal specific maladies. One *gris-gris*

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[990] For more on the early presence of Islam in West Africa see Donald R. Wright, *The World and a Very Small Place in Africa: A History of Globalization in Niumi, the Gambia*, 2nd. ed (Armonk, NJ: M. E. Sharpe, 2004), 24-33; James A. Miller, "Trading Through Islam: The Interconnections of Sijilmas, Ghana, and the Almoravid Movement," in *North Africa, Islam and the Mediterranean World: From the Almoravids to the Algerian War*, ed. Julia Clancy-Smith (New York: Routledge, 2013), 29-58; David Owusu-Ansah, "West Africa," in *The Islamic World*, ed. Andrew Rippin (New York: Routledge, 2013), 24-38; Vernon O. Egger, *A History of the Muslim World to 1405: The Making of a Civilization* (New York: Routledge, 2016), 101-109; Roman Loimeier, *Muslim Societies in Africa: A Historical Anthropology* (Bloomington, IN: Indiana University Press, 2013), 1-107.

[991] Peter Mark, "Fetishers, "Marybuckes" and the Christian Norm: European Images of Senegambians and Their Religions, 1550-1760," *African Studies Review* 23, no. 2 (1980): 95. For more on Islamic medical influences in West Africa see Philip J. Havik, "Hybridising Medicine: Illness, Healing and the Dynamics of Reciprocal Exchange on the Upper Guinea Coast (West Africa)," *Medical History* 60, no. 2 (April 2016): 181-205; Ismail Hussein Abdalla, *Islam, Medicine and Practitioners in Northern Nigeria* (Lewiston, NY: Edwin Mellen Press, 1997); and, Abdalla, "Diffusion of Islamic Medicine into Hausaland," in *The Social Basis of Health and Healing in Africa*, ed. Steven Feierman and John M. Janzen (Berkeley, CA: University of California Press, 1992), 177-194.

[992] Jobson, *The Discovery of River Gambra (1623)*, 113

[993] Ibid. See also Barbot, "Description of the Coasts," 61-62.

[994] Barbot, *Barbot on Guinea*, I:86; and Barbot, "Description of the Coasts," 60.

[995] Jobson, *The Discovery of River Gambra (1623)*, 113.

could cure fevers, and in the case of injuries, swellings, or sores, people placed the *gris-gris* upon the disordered part of the body.[996] For ought I can perceive, this is all the Physicke they have amongst them," Jobson added.[997]

In other parts of Atlantic Africa, ritual power objects did not include sacred text but instead contained consecrated ingredients whose powers were ritually activated by indigenous priests. During the seventeenth century, Michael Hemmersam observed that *santen* bark was braided, dyed, knotted, and strung with gold, rosary beads, or other beads, and made into bracelets.[998] "They believe that if they wear these on their body they will not easily become sick," wrote the soldier.[999] In the early eighteenth century, Willem Bosman related that newborn babies on the Gold Coast were swaddled in "Ropes and Coral" and other items that were tied "about the Head, Body, Arms and Legs of the Infant."[1000] Once the baby was fully swaddled, the priest performed a ceremony that infused the objects with protective spiritual powers, "by which they believe it is armed against all Sickness and ill Accidents."[1001] Until children are seven or eight years old, the power objects "serve the Children instead of Cloaths."[1002]

In seventeenth-century Sierra Leone, Jean Barbot described power objects as cloth bags filled with different objects and hung with a string about the neck, on arms, chest, legs, and over

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[996] Barbot, "Description of the Coasts," 60; and, Jobson, *The Discovery of River Gambra (1623)*, 113.

[997] Jobson, *The Discovery of River Gambra (1623)*, 113-114.

[998] Hemmersam, "Description of the Gold Coast," 102.

[999] Ibid.

[1000] Bosman, *A New and Accurate Description*, 123.

[1001] Ibid.

[1002] Ibid. For a similar observation in the Kingdom of Kongo see Merolla, *A Voyage to Congo*, 625.

the heart."[1003] "They have many of these on their paths," Barbot added, "either to make their devotions as they pass, or to honour some dead man who is buried underneath."[1004] When John Atkins visited Sierra Leone during the eighteenth century, the sacred objects appeared as "either a cleaved piece of Wood, a Bundle of peculiar little Sticks or Bones, a Monkey's Skull, or the like."[1005] The protective medicines were kept in homes, canoes, and again, on the body.[1006] Leather cords strung with cowries or small gourds filled with consecrated objects like "burnt bones, feathers and the like," were sacred medicines worn around the neck when Paul Isert resided on the Gold Coast during the eighteenth century.[1007] Individuals adorned their bodies with them, kept them in their homes and canoes, swaddled their babies and young children with them, used them as war medicine, and placed them at crossroads for veneration, dotting the landscape and creating a spirit-infused topography.

The Health-Seeking Process

As we have seen, healing options were plentiful in precolonial Atlantic Africa. One could utilize African women expert healers, casual herbalists with adequate everyday knowledge, and indigenous priests who summoned the spirit world when sickness ravaged bodies and weakened the community's collective life. When suffering from a malady an individual might consume herbal remedies in the home or adorn the body with sacred power objects. A sick patient in precolonial Atlantic Africa often participated in divinatory consultation

[1003] Barbot, *Barbot on Guinea*, I:221-222.

[1004] Ibid., 222. See also Winterbottom, *An Account*, I:99.

[1005] Atkins, *A Voyage to Guinea*, 56.

[1006] Ibid., 38, 56.

[1007] Isert, *Letters on West Africa*, 176.

sessions and visited ancestral shrines. Indigenous priests could perform sacrificial offerings to a deity on one's behalf, or Christian ministers could pray for healing. Precolonial West Africans adopted a pluralistic approach to health and healing centuries before the arrival of Western biomedicine. Herbalists worked alongside priests, diviners, mediums, blacksmiths, and surgeons in a continually evolving therapeutic context.[1008]

There was likely great diversity of approaches in how individuals and families managed medical care in precolonial Atlantic Africa, defying any easy characterization. However, the evidence suggests that herbalism was often the therapy of first resort. In the middle of the seventeenth century, on the Gold Coast, Michael Hemmersam recorded that in the case of stomach aches, the residents first tried natural remedies, both internal and external. Then, they visited "their soothsayers" and if no cure had been found they believed death was inevitable.[1009] In the late seventeenth century, in the Sestos River area, in present-day Liberia, Jean Barbot learned that the indigenous priest in the village was knowledgeable in medicinal plants and served as a doctor to his community; however, individuals "only employed him on occasions when they felt great peril."[1010]

Herbalism was the first choice for many in the management of illness, and indigenous priests were often sought if a condition became desperate, intractable, unmanageable, or beyond the abilities of an herbalist to cure. Time was a critical metric. As an illness progressed from one week to six weeks to six months, the causes attributed to the unfolding malady shifted and

[1008] I have not discussed the healing roles played by blacksmiths, but this is present in the sources. For an overview see for example Patrick R. McNaughton, *The Mande Blacksmiths: Knowledge, Power, and Art in West Africa* (Bloomington, IN: Indiana University Press, 1988). African surgery is discussed in Chapter 4.

[1009] Hemmersam, "Description of the Gold Coast," 122.

[1010] Barbot, *Barbot on Guinea*, I:275. See also Barbot, "Description of the Coasts," 134-135.

became infused with new cultural and social meanings.[1011] Rather than attributing illness to drinking bad water, for example, witchcraft or other spiritual or moral forces might be operative, which required the specialized skills of a diviner-healer to diagnose and cure.

Scholars have noted similar patterns in African societies in more recent times. "If somebody has pains in any part of the body," writes David Westerlund, "and if these pains do not disappear through ordinary medical treatment, indigenous or biomedical, there is reason to suspect that there are spirits involved."[1012] In Nigeria, ailments were first attended to by a family healer, and if the condition lingered, other specialists were sought.[1013] Writing about southern Malawi, Brian Morris observed that ordinary illnesses were first treated with herbal cures, and the causal agent would be redefined if the ailment became chronic or resistant to cure.[1014] Serious and chronic physical and mental illnesses are typically understood to have metaphysical dimensions that require the services of an indigenous priest.[1015]

Utilizing an indigenous priest, however, was costly; whereas, gathering healing flora,

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[1011] Steven Feierman, "Struggles for Control: The Social Roots of Health and Healing in Modern Africa," *African Studies Review* 28, no. 2/3 (June 1985): 77.

[1012] David Westerlund, *African Indigenous Religions and Disease Causation: From Spiritual Beings to Living Humans* (Boston, MA: Brill, 2006), 80.

[1013] Dennis A. Ityavyar, "Background to the Development of Health Services in Nigeria," *Social Science & Medicine* 24, no. 6 (January 1987): 488.

[1014] Morris, *Chewa Medical Botany*, 106; and Morris, "Herbalism and Divination in Southern Malawi," *Social Science & Medicine* 23, no. 4 (January 1986): 367. See also John M. Janzen and Edward C. Green, "Continuity, Change, and Challenge in African Medicine," in *Medicine Across Cultures: History and Practice of Medicine in Non-Western Cultures*, ed. Helaine Selin and Hugh Shapiro (New York: Kluwer Academic Publishers, 2003), 7.

[1015] Chioma Obijiofor, "Integrating African Ethnomedicine into Primary Healthcare: A Framework for Southeastern Nigeria," in *Ethnomedicine and Drug Discovery*, ed. M. M. Iwu and J. Wootton (New York: Elsevier, 2002), 74; Kodgo Amedjorteh Senah, *Money be Man: The Popularty of Medicines in a Rural Ghanaian Community* (Amsterdam: Het Spinhuis, 1997), 59; and Feierman, "Struggles for Control," 78. For a discussion of the use of traditional healers in treating mental illness see Elialilia Okello and Seggane Musisi, "The Role of Traditional Healers in Mental Health Care in Africa," in *The Culture of Mental Illness and Psychiatric Practice in Africa*, ed. Emmanuel Akyeampong, Allan G. Hill, and Arthur Kleinman (Bloomington, IN: Indiana University Press, 2015), 249-261.

employing common foodstuffs for the cure, and following well-established remedies to recover one's health did not exact the same kind of strain on a family's resources. Herbalism was embedded in the economics of African indigenous medicine, and was likely a therapy of first resort in part due to economic considerations. Economics, as Steven Feierman writes, is inseparable from histories of healing.[1016]

The sacred power objects crafted by indigenous priests could be quite costly, and allowed purchasers to engage in a spectacular form of conspicuous consumption. Obtaining these ritual protections allowed individuals to assert their status, social prestige, and economic power. In Senegambia this took vivid form with *gris-gris*. Jean Barbot wrote that people purchased as many as they could afford. They "take a great pride in them. Some will give two or three slaves for one *Grigri*; others two, three, or four oxen, answerable to the virtues or qualities assign'd to it."[1017] One African nobleman wore *gris-gris* equal to the value of thirty slaves, and he was not alone.[1018] Barbot emphasized that the nobles' expenditure on sacred medicines "serve[s] to distinguish them from commoners."[1019] Wealth and power was on display as the upper classes wore them all over their bodies. *Gris-gris* were also attached to hats and waistcoats, adorned hair, graced necks, and provided ornamentation for horses.[1020]

Rather than the fine leather workmanship used to create *gris-gris* for the nobility, the sacred medicines worn by the common people were made from cloth "cover'd with some red

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[1016] Steven Feierman, "Struggles for Control: The Social Roots of Health and Healing in Modern Africa," *African Studies Review* 28 no. 2/3 (June 1985): 73.

[1017] Barbot, "Description of the Coasts," 61.

[1018] Barbot, *Barbot on Guinea*, I:86.

[1019] Ibid.

[1020] Barbot, "Description of the Coasts," 61-62.

stuff."[1021] It was not simply that the *gris-gris* crafted for the common people varied in appearance. The power of the sacred medicines and their ability to protect and heal was also of lesser value.[1022] The nature of medical provision and its quality reflected the distribution of wealth, and rank structured one's therapeutic options.[1023]

Beyond purchasing sacred power objects, utilizing the services of a diviner-healer to diagnose and cure a malady was also costly.[1024] Patients not only paid priests but were required to perform sacrificial offerings to appease the deities. A family's resources could be severely strained in the face of a dangerous illness.[1025] Europeans across precolonial Atlantic Africa observed the expenses that attended sickness. In the Kingdom of Kongo, Lorenzo da Lucca wrote that during an illness, the sick person convalesced in the priest's home and had to provide for the living expenses of the priest and his family during the period of recovery.[1026] In the case of an extended malady, da Lucca stated that patients might lose their lives as well as their money. Those who did not have enough money to pay would make an initial visitation to a priest, acquire the prescribed medicines, and return home.

For those of lesser means, therefore, the expenses that accrued to priestly therapeutic services could be managed and were accessible to varying degrees. From an economic

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[1021] Ibid; and Jobson, *Discovery of the River Gambra*, 161.

[1022] Barbot, "Description of the Coasts," 61. See also Dapper's account in Dapper [Ogilby], *Africa*, 353. For a similar example on the Gold Coast using African indigenous ritual power objects rather than Islamic sacred medicines see Isert, *Letters on West Africa*, 176.

[1023] Ityavyar, "Background to the Development of Health Services in Nigeria," 488; and, Tola Olu Pearce, "Political and Economic Changes in Nigeria and the Organisation of Medical Care," *Social Science & Medicine*, Part B: Medical Anthropology 14, no. 2 (1980): 92.

[1024] Ibid.

[1025] For an example of these offerings see Willem Bosman, *A New and Accurate Description*, 222-223.

[1026] Da Lucca, *Relations sur le Congo*, 131. See also Ityavyar, "Background to the Development of Health Services in Nigeria," 488; and Pearce, "Political and Economic Changes in Nigeria," 92.

standpoint, however, the choice to rely on herbalism as a remedy of first resort reveals that there were likely pragmatic considerations embedded in the health-seeking process. Herbalism, from this perspective, privileged the poor. In the mid-twentieth century, Eva Gillies described how consulting diviners was expensive and following the diviner's recommendations was often quite complex. As a result, a natural classification system emerged which separated maladies that required priestly intervention from those that did not.[1027] When an illness lingered, became chronic, or seemed intractable, the spirit world was often implicated as a causative factor, and the services of an indigenous priest were sought. Spiritual disharmony, moral disorder, and witchcraft dominate understandings of African theories of illness causation in historical and contemporary literature; however, precolonial Atlantic Africans had diverse etiological theories which did not always foreground the spiritual realm, although they were, and are, remarkably entangled.

Theories of Disease Causation

The Guinea worm (*Dracunculus medinensis*) plagued Europeans and Africans in precolonial Atlantic Africa. If you travel to Elmina Castle on the Gold Coast, wrote Michael Hemmersam, individuals were often "tormented by worms" all over their bodies.[1028] One individual was plagued with thirty of these creatures, and was laid up for six months with worms that could be several feet long.[1029] Everywhere except your eyes and tongue was vulnerable to infestation, including your scrotum, breasts, thighs, and upper arms.[1030] At first, the skin would

[1027] Eva Gillies, "Causal Criteria in African Classification of Disease," in *Social Anthropology and Medicine*, ed. Joseph Buist Loudon (New York: Academic Press, 1976), 379.

[1028] Hemmersam, "Description of the Gold Coast," 121.

[1029] Brun, "Samuel Brun's Voyages," 91; and, Hemmersam, "Description of the Gold Coast," 122.

[1030] Brun, "Samuel Brun's Voyages," 91; and Barbot, "Description of the Coasts," 278.

get itchy, typically on your arms or feet, and then blisters the sizes of small peas formed.[1031] When Hemmersam was afflicted, the worms burrowed underneath the sole of his foot, below his ankle, and into his toes, making it impossible for him to walk.[1032] The pain "is sometimes unspeakable. People who get them suffer great pains: some can neither walk nor stand, others neither lie down nor sit; others lie down in despair as if they were senseless, and must be well tied down from time to time."[1033]

Europeans were at a loss to understand where the Guinea worm came from, and why people became infested. Wilhelm Müller believed that bad water, bad air, and divine punishment were the only reasonable causes. He wrote that "several English and Dutch doctors agree with me about this."[1034] Dapper recorded the theory that unhealthy rains were to blame for the vermin.[1035] Pieter de Marees, however, captured a variety of West African perspectives on worm infestation. He wrote, "the Negroes themselves do not know from where they come and on what they live: they do make some suggestions, but they cannot validate them. I think they are as well informed as ourselves, because they say so many different things."[1036]

Some Africans on the Gold Coast believed worms could be transmitted through sexual contact, and others discussed ideas related to food and drink. Certain kinds of fish contained worms which infested humans when eaten. A more likely culprit according to others was the abundant consumption of palm wine and cankey (unleavened bread made from corn). Some

[1031] Hemmersam, "Description of the Gold Coast," 121.

[1032] Ibid., 121.

[1033] De Marees, *Description and Historical Account*, 198.

[1034] Müller, "Description of the Fetu Country," 151-152.

[1035] Dapper [Ogilby], *Africa*, 355, 372.

[1036] De Marees, *Description and Historical Account* , 197.

advocated that the disease was caused by spending too much time on land and away from water, while others countered that worm infestation occurred by spending too much time swimming, and the discussions continued. "Thus everybody has his own opinion, thinking that his own guess is right, the Negroes as well as the Dutch themselves, but they are not able to produce convincing proof [of any of these contentions]."[1037]

The portrait de Marees offered regarding the lively nature of etiological debate occurring among Africans and Europeans concerning worm infestation provides a rare glimpse into how medical knowledge was produced outside of the priestly realm. The debate over worms reveals that "empirical-rational" approaches to therapeutic knowledge existed in tandem with systems of divination and mediumship.[1038] In the epistemological logic of the worms debate, West Africans isolated specific behaviors and elements in the natural world to structure their experimental inquiry into illness causation.[1039]

A similar process occurred in regard to other maladies. Overindulgence in palm wine was identified as a possible cause of genital swelling on the Gold Coast.[1040] When Thomas Winterbottom encountered the Fula in Sierra Leone, they believed their high incidence of tapeworm was due to dairy products. Winterbottom wrote, "they attribute this to their living so much upon milk, which, as it is very plentiful among them, constitutes a larger portion of their diet."[1041] Diseases like elephantitis were believed to occur, in part, through hereditary

[1037] Ibid.

[1038] Baronov, *African Transformation of Western Medicine*, 130.

[1039] Ibid., 133.

[1040] Bosman, *A New and Accurate Description*, 287. See also Barbot, "Description of the Coasts," 203.

[1041] Winterbottom, *An Account*, II:26.

transmission.[1042] On the Gold Coast, Europeans admired African theories about the role of weather in the maintenance of health. The role of the aerial environment in states of unwellness was consonant with European etiology. Dapper wrote, "Some of the most Ingenious Blacks attribute the cause [of their health] thereof to the multiplicity of Lightning and Thunder; whose frequency diffuseth the Infection, as the two sorts of Winds from Sea and Land, dissipate unhealthy Fogs and Vapors."[1043] A host of environmental, dietary, and lifestyle factors threaded through precolonial Atlantic African knowledge about the causes of health and illness.

Illness causation has been one of the more contested and vigorously debated aspects of African indigenous medicine. Distinguishing between "personalistic" causes of illness, such as witchcraft, ancestors, or deities, and "naturalistic" or empirical causes of illness has been an overarching priority in anthropological studies of African therapeutic systems.[1044] Anthropologists remain locked in a decades long debate over whether "in the final instance everything boils down to witchcraft," which remains a widely held belief among researchers.[1045] Evidence from the precolonial record reveals that not everything was a matter of witchcraft. In 2008, Kwasi Konadu argued, "in reducing African medicinal systems to 'witchcraft,' global

[1042] Ibid., II:56.

[1043] Ogilby, *Africa*, 449.

[1044] Janzen and Green, "Continuity, Change, and Challenge," 10. See George Foster's 1976 essay which laid out the personalistic/naturalistic framework to better enable the cross-cultural comparison of non-Western medical systems in George M. Foster, "Disease Etiologies in Non-Western Medical Systems," *American Anthropologist* 78, no. 4 (December 1976): 773-782. For overviews of the debate from different perspectives see for example, Janzen and Green, "Continuity, Change, and Challenge," 9-13; Edward C. Green, *Indigenous Theories of Contagious Disease* (Walnut Creek, CA: AltaMira Press, 1999), 72-75; and, PRobert Pool, "On the Creation and Dissolution of Ethnomedical Systems in the Medical Ethnography of Africa," *Africa* 64, no. 1 (March 1994): 1-20; and Kwasi Konadu, "Medicine and Anthropology in Twentieth Century Africa: Akan Medicine and Encounters with (Medical) Anthropology, *African Studies Quarterly* 10, no. 2 & 3 (2003): 45-69. E. E. Evans Pritchard is a lightning rod for the debate. See John Janzen's excellent rereading of Pritchard in John M. Janzen, "The Need for a Taxonomy of Health in the Study of African Therapeutics," *Social Science & Medicine*, Part B: Medical Anthropology 15, no. 3 (July 1981): 185-194.

[1045] Pool, "On the Creation and Dissolution of Ethnomedical Systems in the Medical Ethnography of Africa," *Africa* 64, no. 1 (March 1994): 12; and, Konadu, "Medicine and Anthropology in Twentieth Century Africa," 48-54.

readers and Africans consume such anthropological or colonial renderings of those systems and, invariably, fail to appreciate the layers of indigenous (medicinal) knowledge possessed by various members of a community."[1046] Herbalism in precolonial Atlantic Africa foregrounds the abundance of botanical, therapeutic, and etiological knowledge held during these largely overlooked centuries. Edward Green asks, "why can't nonpersonalistic explanations of illness be of indigenous African origin" rather than a Western biomedical imposition?[1047] Why, indeed; African ideas about illness and disease predated Western biomedicine by millennia.

Precolonial African indigenous medical knowledge and practice was epistemologically dynamic, complex, and flexible. All states of unwellness may have spiritual, social, or moral dimensions in Atlantic Africa, however, their role and significance in an illness event was elastic and unfixed. Moral disorder and spiritual disharmony *may* be in the foreground when someone falls ill requiring divination and specific otherworldly directives. However, moral, social, or spiritual factors may be "accessory conditions," requiring only an invocation to the ancestors for assistance as one rubs a well-known poultice made of powdered *tóma* bark onto a painful, swollen limb.[1048] The level of influence environmental, dietary, behavioral, moral, social, and spiritual factors had in diagnosing and curing disease in precolonial Atlantic Africa varied, and did not always exist in the same relationship at the sick bed of a suffering patient.

West African herbalism allows us to bear witness to a form of medicine that privileged the poor and served as a therapy of first resort. Herbalism unveils African women's expert labor,

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[1046] Konadu, "Medicine and Anthropology," 54.

[1047] Green, *Indigenous Theories of Contagious Disease*, 73.

[1048] I borrow "accessory conditions" from Lester S. King, *Medical Thinking: A Historical Preface* (Princeton, NJ: Princeton University Press, 1982), 188. For the use of *tóma* bark on oedematous swelling see Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, II:25. See also Brian Morris, "The Powers of Nature," *Anthropology & Medicine* 5, no. 1 (April 1998): 81, 88; and, J. Kwabena Asamoah-Gyadu, "Therapeutic Strategies in African Religions," 73.

observation, experimentation, and insight. Leaf doctoring is an inquiry into the ordinary, a study of mundane, daily rhythms and quotidian practices carried out in homes, villages, and communities. The often public, spectacular performativity of divination and spirit possession gives way to private spaces where 'some old woman' boils plants, creates poultices for headaches, and spoons *flatta* into the mouths of the sick for their recovery.

A vast repository of herbal knowledge was held by precolonial West Africans, and the tables in the Appendix show but a tiny sliver of it. This weighty evidence of the complex nature of precolonial African indigenous therapeutic knowledge and practice was never static but adaptive, always sensitive and responsive to change. One of the greatest changes to challenge West African indigenous medicine during these centuries was the transatlantic slave trade. As slave traders forcibly relocated millions of children, women, and men in their unquenchable thirst for laboring bodies, new lifeways were erected in the volatile slave trading zones. Herbalists like Amenah and indigenous priests like Deddie practiced medicine alongside European surgeons, physicians, nurses, and botanists. It was a cauldron of terror, debility, morbidity, and death.

We begin in the slave dungeon at Cape Coast Castle where vulnerability shaped the world.

Chapter Five: A Vulnerable Place

On January 25, 1721, death hung heavily in the air. For several weeks, lifeless bodies were removed day after day from the underground prison at Cape Coast Castle and thrown into a field to be devoured by wild animals.[1049] Only forty captives remained alive, however, the "great mortality" had not yet ended. The forty children, women, and men were slowly and painfully dying from dropsy.[1050] During the eighteenth century, drospy was considered a dangerous, chronic, and often incurable disease in West African and British medicine.[1051] In southwestern Nigeria, the Ijebu-born Osifekunde recounted "Il n'est pas de remède," there is no remedy.[1052] Famous Scottish physician William Cullen concurred writing, dropsical conditions "do not seem curable by our arts."[1053] Dropsy was characterized by an excessive accumulation of fluid which engorged the whole body or would be localized in specific regions. Brain, abdomen, thorax, scrotum, ovaries, and joints, could all be affected by the excess fluid. The two most common forms of dropsy were anasarca and ascites.[1054] In anasarca, the entire body was compromised.

[1049] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Phipps, Dodson and Boye, 25 January 1721, f. 8r; James Houstoun, *Some New and Accurate Observations Geographical, Natural and Historical* (London: Printed for J. Peele, 1725), 35; Barbot, "A Description of the Coasts," 283.

[1050] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Phipps, Dodson and Boye, 23 February 1721, f. 10r.

[1051] Donald Monro, *An Essay on the Dropsy and Its Different Species*, 3rd ed. (London: Printed for A. Millar, D. Wilson, T. Durham, 1765), 193; William Cullen, *First Lines of the Practice of Physic*, vol. 4 (Edinburgh: Printed for C. Elliot, 1789), 297; Brookes, *An Introduction to Physic and Surgery*, 1754, 42; Buchan, *Domestic Medicine*, 1769, 453. See also Isert, *Letters on West Africa and the Slave Trade*, 194.; Richard Brookes, *An Introduction to Physic and Surgery*, 2nd ed. (London: Printed for J. Newbery, 1763), 84.

[1052] Armand d'Avezac, *Notice sur le Pays et le Peuple des Yebous en Afrique* (Paris: Librairie Orientale de Mme Ve Dondey-Dupré, 1845), 63. See also P. C. Lloyd, "Osifekunde of Ijebu," in *Africa Remembered: Narratives by West Africans from the Era of the Slave Trade*, ed. Philip D. Curtin (Madison, WI: University of Wisconsin Press, 1967), 217–88.

[1053] Cullen, *First Lines of the Practice of Physic*, 1789, 4:276.

[1054] Ibid.

Swelling began in the lower extremities and steadily progressed upwards affecting legs, thighs, hips, groin, abdomen, hands, head, and face.[1055] Ascites, in contrast, resulted in a severely distended abdomen.[1056]

As a captive community newly bound together through the terror of enslavement, the enslaved were alienated not only from their kin, but from their bodies which had become painfully swollen, enlarged, and unrecognizable.[1057] The most severely afflicted would have been rendered immobile, debilitated, and barely able to move. Chronically thirsty and feverish, the captives' pulses grew weaker each day.[1058] Many gallons of extra fluid flowed beneath their skin, and the children, women, and men would have felt the waters rumbling within them.[1059] Because their thoraxes, lungs, and diaphragms were compromised, the captives were on the verge of suffocation, gasping for breath in the subterranean prison, and slowly drowning from

[1055] Ibid., 4:277–78; Monro, *An Essay on the Dropsy and its Different Species*, 97.

[1056] William Northcote, *The Marine Practice of Physic and Surgery*, vol. 2 (Printed by W. and J. Richardson, 1770), 340–41.

[1057] Cullen, *First Lines of the Practice of Physic*, 1789, 4:283. For the experience of social alienation in the slave trade and slavery see for example Brown, *The Reaper's Garden*, 31; Smallwood, *Saltwater Slavery*, 60; Byrd, *Captives and Voyagers*, 22; Hartman, *Lose Your Mother*, 110–11; Jon F. Sensbach, "Born on the Sea of Guinea: Women's Spiritual Middle Passages in the Early Black Atlantic," in *Toward an Intellectual History of Black Women*, ed. Mia Bay et al. (Chapel Hill, NC: University of North Carolina Press, 2015), 24. See also the classic text *Orlando Patterson, Slavery and Social Death : A Comparative Study* (Cambridge, MA: Harvard University Press, 1982) and critical responses to the concept of social death in Brown, "Social Death and Political Life in the Study of Slavery"; James H. Sweet, "Defying Social Death: The Multiple Configurations of African Slave Family in the Atlantic World," *The William and Mary Quarterly* 70, no. 2 (April 1, 2013): 251–72, doi:10.5309/willmaryquar.70.2.0251.

[1058] Brookes, *An Introduction to Physic and Surgery*, 1754, 84; Cullen, *First Lines of the Practice of Physic*, 1789, 4:283; Thomas Sydenham, "A Treatise of the Gout and Dropsy," in *The Works of Thomas Sydenham, M.D. on Acute and Chronic Diseases*, ed. George Wallis, vol. 2 (London: Printed for G. G. J. and J. Robinson, W. Otridge, S. Hayes, E. Newbery, 1788), 263.

[1059] Brookes, *An Introduction to Physic and Surgery*, 1763, 84; Cullen, *First Lines of the Practice of Physic*, 1789, 4:277–83; Sydenham, "A Treatise of the Gout and Dropsy," 262–63; Northcote, *The Marine Practice of Physic and Surgery*, 2:340–41..

within.[1060] Soon they would be "overwhelmed with the deluge."[1061] The dungeon had turned into a living tomb of drowning souls. The rough seas of the Atlantic Ocean were not the only fatal waters the enslaved confronted during the slave trade.[1062]

The medical crisis alarmed James Phipps, General of Cape Coast Castle, and his chief slave trading merchants. In a quickly composed letter to the Royal African Company, the merchants explained that they had run out of medicines and were quickly running out of food. The only drugs on hand were "quite damnifyed & altogether unserviceable."[1063] They knew the store ship *Hannibal* had sailed from London with food and medicines, but the vessel had not yet

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[1060] Monro, *An Essay on the Dropsy and its Different Species*, 5, 97; Buchan, *Domestic Medicine*, 450; Cullen, *First Lines of the Practice of Physic*, 4:283; Sydenham, "A Treatise of the Gout and Dropsy," 262. See also John Quincy, *Pharmacopœia Officinalis & Extemporanea* (London: Printed for A. Bell, T. Varnam, J. Osborn, and W. Taylor, 1718), 190.

[1061] Monro, *An Essay on the Dropsy and Its Different Species*, 100; Society of Gentlemen, *A New and Complete Dictionary of Arts and Sciences*, 2nd ed., vol. 2 (London: Printed for W. Owen, 1763), 996.

[1062] Today, dropsy is referred to as edema and represents abnormal accumulation of fluid in the tissues. Anasarca continues to be understood as a massive, generalized edema, and ascites continues to refer to the accumulation of fluid in the abdominal cavity. The presentation of fluid retention is understood to be a clinical manifestation of heart failure, liver failure, or renal disease. Kenneth Kiple associates many instances of dropsy among the enslaved in the Caribbean as wet beriberi (or cardiac beriberi), a disease caused by thiamine (vitamin B1) deficiency. The swelling of lower limbs, hands, trunk and face are characteristics of the disorder, and cardiac failure is a frequent outcome. Kiple writes it was "capable of killing vast numbers of the very young." See Kiple, *The Caribbean Slave*, 96–100, 103. For more see the pathophysiology of edema formation in Joshua Scallan, Virginia Heathorn Huxley, and Ronald J. Korthuis, *Capillary Fluid Exchange: Regulation, Functions, and Pathology* (San Rafael, CA: Morgan & Claypool Publishers, 2010), 47–62; Arnold M. Katz and Marvin A. Konstam, *Heart Failure: Pathophysiology, Molecular Biology, and Clinical Management*, 2nd ed. (Philadelphia: Lippincott Williams & Wilkins, 2009), 95–96; Steven J. Peitzman, *Dropsy, Dialysis, Transplant : A Short History of Failing Kidneys*, Johns Hopkins Biographies of Disease (Baltimore: Johns Hopkins University Press, 2007). For the discovery of foxglove (*Digitalis purpurea*) as a treatment for dropsy, including William Withering's clinical trials in Britain during the 1780s Walter H. Lewis, *Medical Botany: Plants Affecting Human Health* (Malden, MA: John Wiley & Sons, 2003), 268; Mannfred A. Hollinger, *Introduction to Pharmacology*, 3rd ed. (New York: CRC Press, 2007), 247; J. Worth Estes, "The Therapeutic Crisis of the Eighteenth Century," in *The Inside Story of Medicines: A Symposium*, ed. Gregory Higby and Elaine Condouris Stroud (Madison, WI: American Institute of the History of Pharmacy, 1997), 40–44.see Lewis, *Medical Botany* page 268; Hollinger, Introduction to Pharmacology, page 247; Estes, "Therapeutic Revolution," pages 40-44.

[1063] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter from Mssrs. Phipps, Dodson, Boye, 25 January 1721, f. 8v.

arrived.[1064] Was the ship delayed? Was it still coming? Had it been attacked by pirates or wrecked at sea? The slave trade merchants eagerly requested news of the *Hannibal*'s safety, but weeks dragged on without a word.

Thomas Price, the surgeon, had given up; he believed there was no hope of recovering the dropsical slaves without British medicine.[1065] A hydragogue would be ideal – a class of purgatives which specifically drew out water.[1066] Price may have wished for the very popular buckthorn syrup (*Syrupus de Spina Cervina*) — a purge many believed to be unequalled "in the whole Republick of Physick."[1067] The mixture of buckthorn berries, cinnamon, nutmeg, and sugar was considered a powerful hydragogue.[1068] Yet even if the surgeon had managed to find a bit of serviceable syrup in the doctor's stores at Cape Coast Castle, he needed over eleven pounds of the medicine per week to administer even the minimum recommended dosage to forty individuals.[1069] With several weeks of treatment necessary to attempt the cure, the sheer volume of drugs needed to manage the crisis required intervention from London.

Price could have attempted non-pharmaceutical interventions such as paracentesis, but declined. The procedure involved draining abdominal fluid by puncturing the swollen abdomen

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[1064] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Phipps, Dodson, Boye, 25 January 1721, f. 8v.

[1065] Ibid., Letter from Mssrs. Phipps, Dodson, Boye, 23 February 1721, f. 9r.

[1066] Herman Boerhaave, *A Treatise on the Powers of Medicines*, trans. John Martin (London: Printed for John Wilcox and James Hodges, 1740), 212.

[1067] William Salmon, *Pharmacopœia Londinensis: or, the New London Dispensatory*, 8th ed. (London: Printed by J. Dawks, 1716), 533.

[1068] Sydenham, "A Treatise of the Gout and Dropsy," 272; Quincy, *Pharmacopœia Officinalis & Extemporanea*, 188.

[1069] Quincy, *Pharmacopœia Officinalis & Extemporanea*, 381.

with a lancet or trocar.[1070] Alternatively he could have made small incisions in the captives' anasarcous limbs while attempting to manage the gangrene that threatened in the wake of such an intervention. [1071] Price's reluctance to attempt more invasive interventions was certainly for the best. The surgeon buried most of his patients at Cape Coast Castle, and few survived his medical care.[1072]

Over the next month, the forty dropsical slaves continued to deteriorate. In the dank darkness of the slave hole, those who were Fetu or Fante perhaps wished that a local healer would create a poultice from the boiled leaves of *attrow* — a treatment proven to abate swelling.[1073] Those from Sierra Leone knew their distended stomachs and tumescent limbs could be rubbed with heated leaves from the plum tree to reduce dropsical symptoms.[1074] Many of the enslaved across West Africa steeped leaves from the castor oil plant in hot water, and then carefully wrapped the leaves around swollen limbs to induce perspiration, which provided some relief.[1075] With no help in sight, perhaps, instead, the captives longed for a quicker, less painful death.

[1070] Trocar, from the French "*trois-carré*" means three-sided and during the eighteenth century referred to a silver instrument with a triangular point and attached to a cannula, or thin tube, to evacuate bodily fluids. Elisabeth Bennion, *Antique Medical Instruments* (Berkeley, CA: University of California Press, 1979), 108–9; John Kirkup, "The History and Evolution of Surgical Instruments, V: Needles and Their Penetrating Derivatives," *Annals of The Royal College of Surgeons of England* 68, no. 1 (1986): 32.

[1071] Edward Dunn, *A Compendious and New Method of Performing Chirurgical Operations, Fit for Young Surgeons* (London: Printed for Charles Rivington, 1724), 40; Cullen, *First Lines of the Practice of Physic*, 4:288.

[1072] TNA, T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, Boye, 28 June 1721, f. 14v.

[1073] James Petiver, "A Catalogue of Some Guinea-Plants, with Their Native Names and Virtues," *Philosophical Transactions* 19, no. 215–235 (1697 1695): 680.

[1074] Afzelius, *Sierra Leone Journal 1795-1796*, 8.

[1075] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:24. For more on African indigenous treatments for dropy, see Appendix Three of the dissertation.

As weeks continued to pass, the lack of food at Cape Coast Castle reached a point of crisis and the merchants became hungry and desperate.[1076] Before the suffocating waters drowned the enslaved from within, Phipps and his chief merchants found another use for the dying commodities, and decided to sell the dropsical slaves for food.[1077] Since their chronic and possibly fatal condition precluded them from being herded onto Royal African Company ships to feed plantation complexes in the Americas, the diseased slaves could instead be sold to feed and nourish their captors. The severely misshapen and painfully swollen bodies of these children, women, and men still retained economic value. The Portuguese only traded tobacco for sick slaves.[1078] However, a Bristol slave trader, Captain Harris of the *Tryton*, was shown the diseased captives and agreed to purchase four men. The gold the merchants received allowed them to acquire foodstuffs, including beef, pork, and butter. Captain Morgan of the *Tunbridge* also purchased sickly slaves whose lives were used to physically feed their captors.[1079] Even in the midst of sickness and on the journey to death, the enslaved body could be a tool for trade, a good to be bartered, or "cannibalized" to fill the hungry bellies of slave traders. The debilitated slaves were fungible goods – interchangeable and replaceable for other objects of value.

Merchants were regularly concerned with ridding themselves of sick children, women, and men because they represented a "Dead Charge" according to the company since they were

[1076] TNA, T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, Boye, 25 January 1721, f. 10r.

[1077] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Phipps, Dodson, Boye, 23 February 1721, f. 9v.

[1078] TNA, T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, Boye, 28 June, 1721, f. 22.

[1079] Ibid., 25 January 1720, f. 10r.

worth less than the resources required to keep them alive.[1080] They were referred to as a "Dead Charge" because with limited physical capacities they represented a financial liability. Rather than being turned into capital, these sickly, meagre, and maimed captives would merely consume capital. They were "dead" in that they were no longer relevant to the market economy that gave human commodities life.[1081] Yet, as human beings, they still drew breath. From an accounting perspective, the suffering children, women, and men were in fact the living dead. They haunted the pages of slave traders' ledgers, and brought chastisement from London about the loss of profit and the ongoing expenditures required to keep the "unfitt" slaves alive.[1082] As surgeon James Houstoun wrote, the chief factor at Cape Coast Castle believed "a dead slave was better in his Pocket than a living one" who was unvendible.[1083] To avoid having to record these living dead in the castle's accounting journal, commodity exchange was preferable. And so, in the profound vulnerability of illness the enslaved were poked, prodded, and examined for any signs of life, so that some use could be made of their vanishing lives.

This chapter explores the fragility of life and the precariousness of health in British settlements in the slave trading zones where vulnerability and violence structured the social world. The enslaved who were slowly dying from dropsy and the slave traders who "consumed" the dying for lack of food and medicines represent a significant event. The episode draws our attention to how health challenges in the slave trading zones were not only defined by vectors,

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[1080] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from General Phipps, 23 February 1721 f. 18r.

[1081] For a discussion of the process of commodification in the slave trade see chapter two "Turning African Captives into Atlantic Commodities," in Smallwood, *Saltwater Slavery*, 25–56. For an essay that critiques prevailing approaches in the historiography of slavery and the slave trade to the commodified status of enslaved people see Rinehart, "The Man That Was a Thing."

[1082] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from General Phipps, 23 February 1721, f. 18r.

[1083] James Houstoun, *Some New and Accurate Observations Geographical, Natural and Historical* (London: Printed for J. Peele, 1725), 29.

parasites, and infectious disease, but were enmeshed in a much broader socio-spatial world. The dungeon that the dropsical slaves were dying in, as well as the drought-ridden soil and political upheaval that made food acquisition so challenging, foregrounds how sick, dying, and desperate bodies cannot be understood apart from the social, natural, and built environments that they inhabit.

In providing an overview of British slave factories on the West African coast, this chapter is particularly interested in how these spaces were shaped by vulnerability. The wastage of human life permeated the landscape as evidenced by the well-fed wild animals in the fields around Cape Coast Castle who regularly feasted on the dead. Sickness, near starvation, poverty, and deprivation were a normal part of the rhythm of life. Health was compromised by food scarcity and homesickness. Observers intoned that African and British health was undermined by fear, violence, and the constant presence of death. Land clearance created new breeding grounds for disease vectors, while dank dungeons contributed to respiratory ailments, swollen limbs, and madness. Despair and grief, loss of kin and social isolation provoked violent rebellion and suicidal desire in millions of captive Africans incarcerated in the slave trading zones.

I suggest that the concept of vulnerability holds explanatory power in rereading the pathogenic landscape of British slave factories in West Africa. Vulnerability is a "conceptual nexus that links the relationships that people have with their environments to social forces and institutions."[1084] From a health perspective, British slave factories were not only sites containing a dizzying array of injuries, debilities, and disease. Slave factories were also laboratories of

[1084] Anthony Oliver-Smith, "Mapping Vulnerability: Disasters, Development, and People," in *Mapping Vulnerability: Disasters, Development, and People*, ed. Greg Bankoff, Georg Frerks, and Dorothea Hilhorst (Sterling, VA: Earthscan, 2013), 10.

vulnerability, polysemic spaces of disorder "through which large-scale social forces crystallize into the sharp, hard surfaces of individual suffering."[1085] The concept of vulnerability thus broadens pathogenic factors beyond the biological to include other destabilizing phenomenon in the social, cultural, and environmental realm and which become embodied in the lives of individuals.

White Mountains and Black Holes: An Enslaved Landscape

In the 1550s when the Portuguese first encountered Oguaa, a small Fetu fishing village and coastal market town on the Gold Coast, they dubbed it Cabo Corso, meaning "short cape" in Portuguese.[1086] Cabo Corso, which would eventually be known in English as Cape Coast, was strategically located on a short rocky cape, whose sheltered bay served as an ideal location to beach boats and carry on trade.[1087] Various European nations fought to establish themselves in the quickly growing fishing village, which steadily prospered through involvement in the Atlantic trade.[1088] The Swedish African Company built the first European slave trading settlement at Cape Coast in 1653 by establishing Fort Carolusburg, which was named after King

[1085] Paul Farmer, "On Suffering and Structural Violence: A View from Below," *Daedalus* 125, no. 1 (January 1, 1996): 23.

[1086] A. D. C. Hyland, "The Architectural History of Cape Coast," *Transactions of the Historical Society of Ghana* 16, no. 2 (1995): 164; Bayo Holsey, *Routes of Remembrance: Refashioning the Slave Trade in Ghana* (Chicago, IL: University of Chicago Press, 2008), 30; Ty M. Reese, "Philip Quaque (1741-1816): African Anglican Missionary on the Gold," in *The Human Tradition in the Black Atlantic, 1500-2000*, ed. Beatriz Gallotti Mamigonian and Karen Racine (Ne w York: Rowman & Littlefield, 2010), 39.

[1087] Hyland, "The Architectural History of Cape Coast," 164; Holsey, *Routes of Remembrance*, 30.

[1088] Hyland, "The Architectural History of Cape Coast," 165; Reese, "Philip Quaque (1741-1816): African Anglican Missionary on the Gold," 39; Holger Weiss, "The Entangled Spaces of Oddena, Oguaa and Osu: A Survey of Three Early Modern African Atlantic Towns, ca. 1650-1850," in *Ports of Globalisation, Places of Creolisation: Nordic Possessions in the Atlantic World during the Era of the Slave Trade*, ed. Holger Weiss (Boston, MA: Brill, 2015), 49.

Charles X of Sweden.[1089] During the ensuing decade, the settlement changed hands frequently as the Dutch, Danish, and English engaged in armed skirmishes to win control of the site.[1090] Eventually, in 1664, the English successfully wrested control of the fort away from the Dutch and built Cape Coast Castle, which became the administrative headquarters for the British in West Africa.

Cape Coast Castle was a fortress constructed from whitewashed stone. The quadrangular structure had high, fourteen feet thick walls, a courtyard, and raised battlements with mounted cannons.[1091] During the eighteenth century it was described as stately, beautiful, and awe-inspiring.[1092] European slave factories like Cape Coast Castle resembled chalky white mountains luminously rising upon the horizon.[1093] As chaplain Hans Christian Monrad explained, "Since several of the forts lie on high ground, from a great distance, and when they have been newly whitewashed, they look like chalk mountains, especially when the sun shines directly on them."[1094] The structures physically dominated the landscape through their bold architectural

[1089] Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa*, 24; Harms, *The Diligent*, 126; Christopher R. DeCorse, "The Danes on the Gold Coast: Culture Change and the European Presence," *The African Archaeological Review* 11 (January 1, 1993): 153–55; Holsey, *Routes of Remembrance*, 30; Newman, *New World of Labor*, 110; Mai Palmberg, "The Nordic Colonial Mind," in *Complying With Colonialism: Gender, Race and Ethnicity in the Nordic Region*, ed. Salla Tuori et al. (New York: Routledge, 2016), 44. See also Steen Christensen, "Denmark and Africa - Past and Present Relations," in *The Nordic Countries and Africa: Old and New Relations*, ed. Lennart Wohlgemuth (Göteborg: Nordic Africa Institute, 2002), 5–14.

[1090] Wilhelm Johann Müller, "Description of the Fetu Country, 1662-1669," in *German Sources for West African History, 1599-1669*, ed. and trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 142–48; Davies, *The Royal African Company*, 41; Harms, *The Diligent*, 126; Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa*, 24.

[1091] Newman, *New World of Labor*, 44, 108–9; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 96.

[1092] Barbot, "A Description of the Coasts," 169–70.

[1093] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 258; Jonathan Roberts, "Castles: Slave Forts, Tourist Resorts, and the Burden of the Past," *Transition* 114, no. 1 (2014): 90.

[1094] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 258.

power.[1095]

As the British headquarters for slave trading in West Africa, Cape Coast Castle was a distribution center, or "export enclave," that helped manage the flow of enslaved laborers being shipped to the Americas.[1096] The site included generous lodgings for British employees and barracks for soldiers. Large storehouses held trading goods and supplies, while workshops and offices were occupied by artisans, factors, accountants, and writers as they performed their daily labor on behalf of the slave trade. The castle's medical and religious needs were housed in the doctor's room, infirmary, chapel, library, and extensive gardens.[1097] The captive African children, women, and men who were at the center of the human commodities marketplace were chained underground, held deeply within the castle's substructure, and provided the factory with its purpose. Their whipped flesh, gagged mouths, and desperate longing to return home articulated the logic of the castle's existence.[1098] The white mountains themselves housed human cruelty.

In the 1680s, the Royal African Company constructed underground slave containment cells that were built into the castle's rock foundation.[1099] Although the subterranean prisons

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[1095] Louis P. Nelson, "Architectures of West African Enslavement," *Buildings & Landscapes* 21, no. 1 (Spring 2014): 98.

[1096] Edward B. Barbier, *Scarcity and Frontiers: How Economies Have Developed Through Natural Resource Exploitation* (New York: Cambridge University Press, 2011), 263; Louis P. Nelson, *Architecture and Empire in Jamaica* (New Haven, CT: Yale University Press, 2016), 12.

[1097] Barbot, "A Description of the Coasts," 169–70; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 98–99; Marcus Rediker and Peter Linebaugh, *The Many-Headed Hydra: Sailors, Slaves, Commoners, and the Hidden History of the Revolutionary Atlantic* (Boston, MA: Beacon Press, 2000); Travis Glasson, *Mastering Christianity: Missionary Anglicanism and Slavery in the Atlantic World* (New York: Oxford University Press, 2011), 173; Nelson, "Architectures of West African Enslavement," 97.

[1098] Tiffany Lethabo King, "The Labor of (Re)Reading Plantation Landscapes Fungible(Ly)," *Antipode*, January 1, 2016, 13; Darell Wayne Fields, *Architecture in Black* (New Brunswick, NJ: Athlone Press, 2000), xxvii.

[1099] Nelson, *Architecture and Empire in Jamaica*, 17; Harms, *The Diligent*, 139; Smallwood, *Saltwater Slavery*, 36–37.

swarmed with vermin that nibbled upon the captives' flesh, one slave trader whimsically described the prisons as "spacious mansions...cut out of the rocky ground."[1100] Observers praised their ingenious construction because it made slave insurrections and escape more difficult.[1101] "The keeping of the slaves thus under ground, is a good security to the garison against any insurrection," remarked French slave trader Jean Barbot.[1102] The barrel-vaulted dungeons could warehouse over one thousands slaves, and were fitted with a trap door in the roof through which the enslaved were forcibly raised and lowered.[1103] Although smaller British factories also contained prisons for enslaved Africans, these were smaller spaces, which at times functioned as holding cells from which the enslaved would be transferred for incarceration at Cape Coast Castle.[1104]

By the time slave traders forced African children, women, and men into the subterranean dungeons, the captives found themselves in the midst of an unimaginable ordeal that had already lasted months if not years. Displaced and vulnerable populations were thrust into the Atlantic human commodities marketplace.[1105] Across West Africa, these individuals were the victims of warfare, kidnapping, debt, trickery, or punishment for real or imagined crimes.[1106] Working on the Gold Coast in the mid-seventeenth century, Michael Hemmersam observed masters who

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[1100] Barbot, "A Description of the Coasts," 170; Houstoun, *Some New and Accurate Observations*, 30.

[1101] Barbot, "A Description of the Coasts," 170.

[1102] Ibid.

[1103] Ibid., 99; Royal African Company, *A Particular Valuation of the Company's Forts, Castles and Factories in Africa: As the Same Was Made Out in the Year 1713*, 1730, 1; Nelson, "Architectures of West African Enslavement," 99.

[1104] Nelson, *Architecture and Empire in Jamaica*, 17. For a description of other dungeons at British slave factories see Smallwood, *Saltwater Slavery*, 37–39.

[1105] Smallwood, *Saltwater Slavery*, 24.

[1106] Brown, *The Reaper's Garden*, 30.

tricked their enslaved laborers to go to the forts so they could be captured, placed in chains, and sold.[1107] Overwhelming levels of despair led some to starve themselves to death, Hemmersam explained.

A significant number brought to Cape Coast Castle for export arrived due to political upheaval and warfare as Gold Coast states expanded their territory.[1108] The captives had been forcibly removed from their communities and were now virtually kinless and stigmatized as "captive outsiders."[1109] Yet this was no straightforward journey. Captured individuals were often sold multiple times and trafficked long distances from home, traveling "during the revolution of several moons," some testified.[1110] Children, women, and men were dragged into unfamiliar surroundings and subjected to new disease environments, all while being undernourished and sometimes on the brink of starvation, which left them severely weakened.[1111] The physical labor the captive women and men performed during the passage to the waterside further drained their strength.[1112] They were used as chained pack animals, carrying goods that weighed up to thirty pounds for women and up to fifty-five pounds for men.

[1107] Hemmersam, "Description of the Gold Coast, 1639-45," 113.

[1108] Smallwood, *Saltwater Slavery*, 23; Shumway, *The Fante and the Transatlantic Slave Trade*, 88–131; Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800*, 91–94; Suzanne Miers and Igor Kopytoff, "African 'Slavery' as an Institution of Marginality," in *Slavery in Africa : Historical and Anthropological Perspectives*, ed. Suzanne Miers and Igor Kopytoff (Madison, WI: University of Wisconsin Press, 1977), 13–14.

[1109] James Sidbury and Jorge Cañizares-Esguerra, "Mapping Ethnogenesis in the Early Modern Atlantic," *The William and Mary Quarterly* 68, no. 2 (2011): 185; Smallwood, *Saltwater Slavery*, 61; Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 15.

[1110] Falconbridge, *An Account of the Slave Trade on the Coast of Africa*, 12.

[1111] Lovejoy, *Transformations in Slavery*, 61–62; Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 12–13.

[1112] Klein, *The Atlantic Slave Trade*, 91.

Their serial dislocation, however, did not end upon reaching the waterside. As described earlier those dying in the black hole might be sold for food, which set in motion another series of purchases because refuse slaves were of little lasting value in the human commodities market. British merchants were instructed to rid themselves of sickly slaves to any European who would take them.[1113] In 1721, fifteen men and five women were sold for 2,250 gallons of rum which would be used to purchase more valuable human property.[1114] Small children, in particular, were considered disposable human beings. They could easily be "disposed of to the Portuguese" wrote one British factor, so merchants attempted to rid themselves of the undesirable youngsters.[1115] In exchange they were able to obtain commodities that could purchase more valuable commodities. Thirteen small boys and three small girls were sold for goods to trade with the Asante, for example.[1116]

Enslaved children, women, and men were chained and kept in darkness, with no natural light except for narrow iron grates that let in snippets of air and fragments of light.[1117] These incarceration units were commonly referred to as "the Black Hole."[1118] Women, in particular, had to be violently dragged into the cells, which Hans Christian Monrad observed at nearby

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[1113] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, May 26, 1704, f. 30; T70/53, Letters Sent to Africa, 1720-1728, Letter to Phipps, Dodson, Boye, Stevenson, February 27, 1721, f. 48.

[1114] Ibid., T70/386, Accounts, Journals, Cape Coast Castle (GG), 1720, April 22, 1720, f. 93.

[1115] Ibid., T70/387, Cape Coast Castle Journal (KK), 1722-1723, June 1723, f. 225.

[1116] Ibid., T70/6, Abstracts of Letters Received from Africa, 1714-1719, Letter Abstract from Cape Coast Castle, March 23, 1715, f. 6.

[1117] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 98.

[1118] For references to the "Black Hole" see for example, TNA, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council of Cape Coast Castle, December 22, 1787. f. 160; CO/267/1, Sierra Leone Original Correspondence, 1 November 1765-10 June 1776, The Depositions of Louison Chakko, January 27, 1776; and, CO/267/3, Sierra Leone Original Correspondence, 4 July 1777-6 December 1777, Deposition of Alexander McDowell, January 27, 1777. See also Morgan, *Laboring Women*, 54.

Christiansborg Castle. The women "throw themselves to the ground, shriek, stretch their hands over their heads and turn their eyes to heaven," he wrote.[1119] The women were held down, their mouths were forced open, and gags were shoved inside to prevent them from shouting.[1120] While in the black hole, some of the mourning women starved themselves to death despite being violently beaten.[1121] The brutal violations the women had already endured during their excruciating trek to the coast were likely fresh in their minds, as was their uncertain future. Some women thrust into the underground dungeons were pregnant and would later give birth on slave ships, on the bare decks.[1122] Nursing babies were a common feature on slave ships and some babies were born in slave factory dungeons and nursed on board a floating dungeon. When William Dove worked on board the slave ship *Lilly* as a cooper he recounted that there were roughly thirty or forty children on board, "both boys and girls, some sucking at their mothers breasts; there were four or five born on board of our ship during the voyage."[1123]

While incarcerated in darkness, enslaved children, women, and men were forced into a state of perpetual vulnerability, what Stephanie Smallwood describes as "an interminable purgatory."[1124] In the black hole the captives dwelled in marginality as they no longer possessed their social identities, which in West African communities were lodged within one's kin group.[1125] Kin groups and communities provided individuals were their sense of being.[1126]

[1119] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 221.

[1120] Ibid., 220–21.

[1121] Ibid., 221.

[1122] Barbot, "A Description of the Coasts," 242.

[1123] HCPP, Testimony of William Dove, 103.

[1124] Smallwood, *Saltwater Slavery*, 61.

[1125] Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 14, 17.

One's life was understood in relationship to these corporate bodies, which offered "the fundamental social, legal, political, and ritual protective unit."[1127] While being enslaved in Africa held possibilities of being incorporated into new communities, being sold for export to the Americas was akin to being murdered wrote one observer on the Gold Coast.[1128] Some who were tricked into traveling to the white mountains starved themselves to death when they realized their fate.[1129] Runaways and escapes occurred and in one instance 105 enslaved men rose up on James Island. "They all tooke an Oath to rebell & Drinke the bloud of the White Men." They were in battle that lasted throughout an entire afternoon into the next morning.[1130] The threat of social annihilation would have overwhelmed some as their worlds were shattered and they were passed from person to person, dungeon to dungeon, ship to ship, wallowing in liminality, neither here nor there, not quite dead but subverting the meaning of life as all they knew was stripped away.[1131] If social death held claim, it was here in the black hole.[1132]

Across West Africa, slave dungeons represented spaces of profound shame. Louison Chakko was a free African woman, community leader, and merchant in Senegambia. She owned land, slaves, and ships and was frequently in conflict with the governor Charles O'Hara. After O'Hara insulted her through an interpreter, she declared her equality with him stating, "my blood

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[1126] Segun Gbadegesin, "Origins of African Ethics," in *The Blackwell Companion to Religious Ethics*, ed. William Schweiker (Malden, MA: John Wiley & Sons, 2008), 420.

[1127] Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 17.

[1128] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 216; Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 18–22.

[1129] Hemmersam, "Description of the Gold Coast, 1639-45," 114.

[1130] TNA, T70/16, Abstracts from Africa & Indies, 1681-1684, f. 20v; Smallwood, *Saltwater Slavery*, 40–43.

[1131] Brown, *The Reaper's Garden*, 31.

[1132] Patterson, *Slavery and Social Death*.

is as good as his," after which O'Hara "ordered her to the Black Hole." Chakko lunged at a soldier, grabbed his bayonet, and tried to kill herself with it, saying that she would rather die than be confined in that space. The leader was imprisoned in the black hole for a short while before her adult children negotiated her release.[1133] Most who were held in slave dungeons, however, existed in an alternative reality.

The black hole was notorious for killing those who were long contained within it. [1134] Penned in like captive beasts and fighting off rodents and vermin, the enslaved were fed out of troughs and had to defecate in tubs that overflowed, causing a suffocating stench from urine and feces.[1135] They lay naked on the damp ground with little air, surrounded by darkness. Thirteen-year old Ottobah Cugoano never forgot the cacophonous groans and cries that echoed through the cells of the slave dungeon he inhabited for three days; the aural memory was permanently imprinted upon his young mind as his fearful cries blended with those of the other bereft captives

[1133] TNA, CO 261/1, Sierra Leone Original Correspondence, 1 November 1765-10 June 1776, The Depositions of Louison Chakko, January 27, 1776. Chakko brought charges against O'Hara and her deposition was submitted to the Secretary of State, the Earl of Dartmouth. What transpired and the redress she may have received is unknown.

[1134] For attempts to improve conditions in the black hole at Cape Coast Castle and Gambia by building platforms eighteen inches off the ground so the incarcerated were not always on the wet ground, lining the walls with board, cleaning it each day, and fumigating it each week see TNA, T70/27, Abstracts of Letters Received from Africa and the Indies by the Committee of Shipping, 1720-1724, Letter Abstract from Cape Coast Castle, January 25, 1724, f. 8r; T70/66, Instructions to Chief Agents in Africa, 1720-1737, Letter to David Dunbar, October 6, 1720, f. 10v; Letter to James Phipps, Cape Coast Castle, 1720, f. 5r; T70/53, Letters Sent to Africa, 1720-1728, Letter to Phipps, Dodson, Boye, and Stevenson, July 25, 1721, f. 84; T70/1185, Account Books, Miscellaneous Entries (3), 1720-1744, Late Surgeon of Cape Coast Opinion, Regulations Necessary to be Made at Cape Coast for the Preservation &c. of the Shipping Slaves, unpaginated). It is unclear whether these directives were carried out. In 1730, the black hole was still damp and causing great mortality and accusations about the dirty, unhealthy state of the black hole continued throughout the century. See T70/54, Letters Sent to Cape Coast Castle, 1728-1740, Letter to Cape Coast Castle, July 9, 1730, f. 21; T70/31, Inward Letter Books, 1762-1773, Letter from John Grossle, April 16, 1770, f. 375.

[1135] TNA, T70/1185, Accounts Books, Miscellaneous Entries (3), 1720-1744, "Late Surgeon of Cape Coast Opinion, Regulations Necessary to be Made at Cape Coast for the Preservation &c of the Shipping Slaves," unpaginated; T70/66, Letters Sent, Instructions to Chief Agents in Africa, 1720-1737, Letter to David Dunbar, October 6, 1720, f. 10v; Monrad, "A Description of the Guinea Coast and Its Inhabitants," 221–22; James Anquandah, "Researching the Historical Slave Trade in Ghana - An Overview," in *The Transatlantic Slave Trade: Landmarks, Legacies, Expectations*, ed. James Anquandah, Michel Doortmont, and Naana Jane Opoku-Agyemang (Accra, Ghana: Sub-Saharan Publishers, 2007), 42. For vermin swarming in the dungeon see Houstoun, *Some New and Accurate Observations*, 30.

in the black hole.[1136] One and half centuries after Britain abolished the transatlantic slave trade, the slave dungeon at Cape Coast Castle still retained material traces of the captives who inhabited its shadowy recesses; it was an archival repository of human remains. Eighteen inches of urine, feces, blood, sweat, and skin were ground into its floor, and the stench of decayed flesh and excrement lingers to this day.[1137] "If you picture to yourself the deed which is committed in these forts, then the friend of mankind must, indeed, turn his eye away in horror," wrote H. C. Monrad in the early nineteenth century.[1138]

While hundreds of captives languished in these living tombs, the vulnerability they endured was profoundly aggravated by their hungry captors who wallowed above ground as dependent outsiders in a feverish world.

British Slave Traders as Dependents: An Outsider's Landscape

In the 1660s, when the English permanently settled at Cape Coast Castle, West African coastal societies reflected over one hundred and fifty years of cultural and commercial interchange with Europeans, beginning with the Portuguese in the middle of the fifteenth century.[1139] International trading networks, cultural hybridity, linguistic creolization, and

[1136] Ottobah Cugoano, *Thoughts and Sentiments on the Evil and Wicked Traffic of the Slavery and Commerce of the Human Species* (London, 1787), 9.

[1137] Holsey, *Routes of Remembrance*, 159; Hartman, *Lose Your Mother*, 115; Theresa A. Singleton, "The Slave Trade Remembered on the Former Gold and Slave Coasts," *Slavery & Abolition* 20, no. 1 (April 1, 1999): 156; Coleman A. Jordan, "Rhizomorphics of Race and Space: Ghana's Slave Castles and the Roots of African Diaspora Identity," *Journal of Architectural Education* 60, no. 4 (2007): 56. For an excellent historical study that offers a methodological and ethical intervention by re-reading the textual archive to examine the traces left by enslaved women in the Caribbean see Marisa J. Fuentes, *Dispossessed Lives: Enslaved Women, Violence, and the Archive* (Philadelphia, PA: University of Pennsylvania Press, 2016).

[1138] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 259.

[1139] See for example Toby Green, "Building Slavery in the Atlantic World: Atlantic Connections and the Changing Institution of Slavery in Cabo Verde, Fifteenth–Sixteenth Centuries," *Slavery & Abolition* 32, no. 2 (June 2011): 227–45; DeCorse, "The Danes on the Gold Coast"; George E. Brooks, *Eurafricans in Western Africa: Commerce, Social Status, Gender, and Religious Observance from the Sixteenth to the Eighteenth Century* (Athens, OH: Ohio

communities of mixed race Eurafricans existed on the Gold Coast.[1140] In this cosmopolitan milieu, British merchants carried out their mercantile activities at the pleasure of African leaders, and efforts to conquer and colonize lands along the littoral met with limited success.[1141] Instead, "commercial exploitation with the minimum of settlement" was the most effective strategy Europeans pursued in West Africa.[1142] Throughout the late seventeenth and eighteenth centuries, compromise, accommodation, and interdependence characterized relations between African and British elites.[1143] British merchants, for example, functioned as "tenant-patrons" in West African

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University Press, 2003); Jarvis L. Hargrove, *The Political Economy of the Interior Gold Coast: The Asante and the Era of Legitimate Trading, 1807–1875* (Lanham, MD: Lexington Books, 2015), 22–30; Gerhard Seibert, "Creolization and Creole Communities in the Portuguese Atlantic: Sao Tome, Cape Verde, the Rivers of Guinea and Central Africa in Comparison," in *Brokers of Change: Atlantic Commerce and Cultures in Precolonial Western Africa*, ed. Toby Green, Proceedings of the British Academy; 178 (New York: Oxford University Press, 2012), 29–52.

[1140] Rebecca Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," *Slavery & Abolition* 35, no. 1 (2013): 90. For the development of Gold Coast polities in relation to international trade with an Atlantic outlook see for example Chrisophter R. DeCorse and Sam Spiers, "A Tale of Two Polities: Socio-Political Transformation on the Gold Coast in the Atlantic World," *Australasian Historical Archaeology* 27 (2009): 29–42; Henige, "John Kabes of Komenda"; Shumway, *The Fante and the Transatlantic Slave Trade*. For Gold Coast trading languages and commercial pidgins see Isert, *Letters on West Africa and the Slave Trade*, 136; Fayer, "African Interpreters in the Atlantic Slave Trade"; Huber, *Ghanaian Pidgin English in Its West African Context*, 9–58. For Eurafricans on the Gold Coast see Natalie Everts, "A Motley Company: Differing Identities among Euro-Africans in Eighteenth-Century Elmina," in *Brokers of Change: Atlantic Commerce and Cultures in Precolonial Western Africa*, ed. Toby Green, Proceedings of the British Academy; 178 (New York: Oxford University Press, 2012), 53–69; Pernille Ipsen, "'The Christened Mulatresses': Euro-African Families in a Slave-Trading Town," *The William and Mary Quarterly* 70, no. 2 (April 1, 2013): 371–98; Pernille Ipsen, *Daughters of the Trade: Atlantic Slavers and Interracial Marriage on the Gold Coast* (Philadelphia, PA: University of Pennsylvania Press, 2015).

[1141] Davies, *The Royal African Company*, 4; Christopher Leslie Brown, "Empire without America: British Plans for Africa in the Era of the American Revolution," in *Abolitionism and Imperialism in Britain, Africa, and the Atlantic*, ed. Derek R. Peterson (Athens, OH: Ohio University Press, 2010), 85–87; Barbier, *Scarcity and Frontiers*, 264. The Crown colony of Senegambia lasted only eighteen years, from 1765 to 1783, and beginning in 1787, the Sierra Leone colony struggled, often desperately, to survive. For the Senegambia colony see Christopher Leslie Brown, *Moral Capital: Foundations of British Abolitionism* (Chapel Hill, NC: University of North Carolina Press, 2006), 274–77. For the Sierra Leone colony see Stephen J. Braidwood, *Black Poor and White Philanthropists: London's Blacks and the Foundation of the Sierra Leone Settlement, 1786-1791* (Liverpool: Liverpool University Press, 1994); Byrd, *Captives and Voyagers*, 200–243.

[1142] Davies, *The Royal African Company*, 4.

[1143] Eltis, *The Rise of African Slavery in the Americas*, 138; Hernæs, "Fort Slaves at Christiansborg," 197–98.

communities.[1144] As tenants, Britons paid ground rents and water customs as well as fees for access to other local resources, such as timber.[1145] As patrons, they distributed luxury goods to local residents to remain in their favor and participated in political and social affairs. However, the British remained dependent outsiders in West Africa, and their presence had to be sanctioned by the ruling elite.[1146] African leaders wielded control over vast supplies of global luxury imports brought from Europe and had the upper hand over the foreigners who supplied them.[1147]

To remain in good standing, British merchants were required to cultivate commercial alliances through lucrative gift giving, honoring customary rights, and granting prestigious company roles to African partners.[1148] The company directors in London warned their employees to never willfully wrong or abuse African allies and in the case of conflict to always seek "Amicable accommodation, rather than Use force."[1149] When disputes arose, at times African rulers seized forts, captured goods, and detained and imprisoned British merchants, and,

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[1144] Reese, "Wives, Brokers, and Laborers," 292.

[1145] Ty M. Reese, "Controlling the Company: The Structures of Fante-British Relations on the Gold Coast, 1750–1821," *The Journal of Imperial and Commonwealth History* 41, no. 1 (March 1, 2013): 105. For example, in 1760, Cape Coast Castle paid £6 per month ground rent to the King of Fetu. TNA, T70/1015, Cape Coast Castle Day Book, 1760, July 22, 1760, f. 22r.

[1146] Sparks, *Where the Negroes Are Masters: An African Port in the Era of the Slave Trade*, 17; Reese, "Controlling the Company," 105; Reese, "Wives, Brokers, and Laborers," 292. See also Henige, "John Kabes of Komenda."

[1147] Brown, "Empire without America: British Plans for Africa in the Era of the American Revolution," 87; Ty M. Reese, "'Eating' Luxury: Fante Middlemen, British Goods, and Changing Dependencies on the Gold Coast, 1750-1821," *The William and Mary Quarterly* 66, no. 4 (2009): 855; Reese, "'We Must Keep Black Men of Power in Our Pay,'" 60; David Henige, "'Companies Are Always Ungrateful': James Phipps of Cape Coast, a Victim of the African Trade," *African Economic History*, no. 9 (January 1, 1980): 28.

[1148] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, February 5, 1705, f. 88; T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkett and Abraham Knox, September 29, 1720, f. 22. Reese, "'We Must Keep Black Men of Power in Our Pay,'" 52–53; Reese, "'Eating' Luxury," 855–56; Pettigrew, *Freedom's Debt*, 15. See also Thornton, *Africa and Africans in the Making of the Atlantic World, 1400-1800*, 66–71.

[1149] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkett and Abraham Knox, September 29, 1720, f. 22.

in rare instances killed them.[1150] A conflict over ground rent owed could mean the closure of an entire factory as happened at Dixcove in 1704 after the local rulers held one of the British officials, Mr. Colbourne hostage forcing British compliance.[1151] The very spaces Britons' erected to carry out the business of empire were always vulnerable to external West African influences and demands. In a company memorandum drafted in 1781, the Council at Cape Coast Castle wrote, "It is necessary from our present Weakness to keep Black Men of power in our pay, that through their Influence, we may live in peace and amity with the Natives who would otherwise molest us, knowing we have not a sufficient Force to protect ourselves."[1152] In 1783, John Roberts wrote from Cape Coast Castle in frustration, "we have no Power over [the Negroes]...we are their Servants."[1153]

As dependents and cultural outsiders in West Africa, the British had to adapt to, and at times adopt, West African lifeways. Building trading posts to facilitate the slave trade forced merchants to negotiate the sacred geographies that surrounded them. The land, rocks, trees, rivers, and forests were populated by spiritual entities, and nature shrines dotted the Gold Coast.[1154] When necessary, the British showed respect toward West African deities and ritual practices in order to build good relations with the inhabitants. To construct and fortify settlements, slave trade merchants could not fell trees without first determining which were

[1150] Thomas, *The Slave Trade*, 405. See also for example T70/1516, Detached Papers 1750-1751, Letter from the Principal Caboseers & Inhabitants of the Town of Cape Coast in Africa and the Kingdom of Fetua," February 10, 1750 which requested that merchant Richard Stockwell be reinstated as Governor of Cape Coast Castle. The local community was highly influential in the Royal African Company's affairs, including their internal employment decisions.

[1151] TNA, T70/1187, Miscellaneous Entries (2), 1702-1719, April 1, 1704, f. 1.

[1152] TNA, T70/152, Acts of Council, 1770-1781, Memorandum, Cape Coast Castle, October 10, 1781, f. 52r.

[1153] TNA, T70/32, Inward Letter Books, 1773-1781, Letter from John Roberts, July 11, 1783, f. 122.

[1154] Shumway, "The Fante Shrine of Nananom Mpow and the Atlantic Slave Trade in Southern Ghana," 30.

venerated and forbidden to touch.[1155] In Ouidah (present-day Benin), one of the most powerful deities was the gentle and slow moving royal python (*Python regius*), referred to locally as Dangbe.[1156] When William Smith, a Royal African Company employee almost killed a royal python, he wrote, "if I had kill'd it, all the Goods in his Fort, and our Ship would not be sufficient to ransom my Life."[1157] British workers learned how to distinguish between the different species of snakes they encountered in West Africa.[1158] Cape Coast Castle was itself part of the sacred landscape as it was home to Taberah, the chief god of the sea in the region, who inhabited a rock that jutted out prominently into the ocean from the bottom of the cliff that the castle was built upon.[1159] As a result, although Anglican worship occurred in the castle's chapel, indigenous priests also performed weekly offerings to the marine god.[1160]

In order to make contracts, seal oaths, and rectify conflicts with their African business

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[1155] Letters from Richard Thelwall, 10 March 1682 and 13 March 1682 in Law, *The English in West Africa 1681-1683*, I:108–9.

[1156] Robin Law, "Religion, Trade and Politics on the 'Slave Coast': Roman Catholic Missions in Allada and Whydah in the Seventeenth Century," *Journal of Religion in Africa* 21, no. 1 (February 1991): 51; Law, *Ouidah*, 23–24; S. R. Mishra, *Morphology of Plants* (New Delhi, India: Discovery Publishing House, 2004), 128; D. R. Khanna, *Biology of Reptiles* (New Delhi, India: Discovery Publishing House, 2004), 347; Mark O'Shea, *Boas and Pythons of the World* (London: New Holland Publishers, 2007), 101–4.

[1157] William Smith, *A New Voyage to Guinea* (London: Printed for John Nourse, 1744), 197. For more on the snake deity in West Africa and the Americas see James Lorand Matory, *Black Atlantic Religion: Tradition, Transnationalism, and Matriarchy in the Afro-Brazilian Candomblé* (Princeton, N.J.: Princeton University Press, 2005), 78–102.

[1158] Houstoun, *Some New and Accurate Observations*, 39–40; Law, "Religion, Trade and Politics on the 'Slave Coast,'" 51–52.

[1159] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 102. See also Müller, "Description of the Fetu Country, 1662-1669," 160, 160, n. 103; Thompson, *An Account of Two Missionary Voyages*, 38–39; Reese, "'Sheep in the Jaws of So Many Ravenous Wolves,'" 365; Reese, "Philip Quaque (1741-1816): African Anglican Missionary on the Gold," 46–47.

[1160] Thompson, *An Account of Two Missionary Voyages*, 38–39; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 102; Reese, "'Sheep in the Jaws of So Many Ravenous Wolves,'" 365.

partners, British slave traders adopted the practice of eating or drinking "fetish."[1161] Britons also quickly became versed in the West African commercial interlanguage, or 'pidgin' which served as the commercial trading lexicon on the coast, while also making ample use of African interpreters and linguists.[1162] Some improved their chances for commercial success by marrying into African families and even these couplings were built upon and structured by African institutions.[1163] The importance of learning West African languages and customs had life and death consequences in the minds of some slave trade merchants. Writing from James Island in the Sherbro River, factor John Kastill advised that all merchants live in the region for six months before conducting business. "To send him abroad without the Language is the same thing as to kill him, for the Natives will Soon doe it for the Goods he carryes with him as soon as they find he doth not understand them, nor the Customes of their Countreys."[1164]

Thus, while the tall, thick walls of slave factories and their spatial design gave the appearance of European strength and power in West Africa, imperial might was merely a mirage.

[1161] For the practice of eating and drinking fetish see Shumway, *The Fante and the Transatlantic Slave Trade*, 114–15; Sparks, *Where the Negroes Are Masters: An African Port in the Era of the Slave Trade*, 26; Matthew David Mitchell, "The Fetish and Intercultural Commerce in Seventeenth-Century West Africa," *Itinerario* 36, no. 01 (April 2012): 7–21; Judith Spicksley, "Pawns on the Gold Coast: The Rise of Asante and Shifts in Security for Debt, 1680–1750," *The Journal of African History* 54, no. 02 (2013): 155; Reese, "Controlling the Company," 105, 108–12. See also William Pietz's trio of essays regarding the development and usage of "fetish" in European and West African contexts during the era of the slave trade. Pietz, "The Problem of the Fetish, I"; "The Problem of the Fetish, IIIa"; "The Problem of the Fetish, II."

[1162] John Trimbur, "Linguistic Memory and the Uneasy Settlement of U.S. English," in *Cross-Language Relations in Composition*, ed. Bruce Horner, Min-Zhan Lu, and Paul Kei Matsuda (Carbondale, IL: Southern Illinois University Press, 2010), 26–29; Joan M. Fayer, "Pidgins as Written Languages: Evidence from 18th Century Old Calabar," *Anthropological Linguistics* 28, no. 3 (1986): 313–19; Fayer, "African Interpreters in the Atlantic Slave Trade."

[1163] Ipsen, *Daughters of the Trade*, 7–12; Weiss, "The Entangled Spaces of Oddena, Oguaa and Osu: A Survey of Three Early Modern African Atlantic Towns, ca. 1650-1850," 48–49; Michel R. Doortmont, "The Dutch Atlantic Slave Trade as Family Business: The Case of the Van Der Noot de Gietere - Van Bakergem Family," in *The Transatlantic Slave Trade: Landmarks, Legacies, Expectations*, ed. James Anquandah, Michel Doortmont, and Naana Jane Opoku-Agyemang (Accra, Ghana: Sub-Saharan Publishers, 2007), 92–137.

[1164] TNA, T70/16, Abstracts from Africa & the Indies, 1681-1684, Letter Abstract from John Kastill, October 14, 1682, f. 43v.

The European companies had little political power and no formal authority beyond the walls of the fort.[1165] As vulnerable outsiders, British employees of the Royal African Company struggled to rely on the company to meet their basic needs. The white mountains and black holes refracted the densely entangled layers of vulnerability that structured political, social, and biological realities on the West African coast. Slave trading entrepôts like Cape Coast Castle had thin walls that were in fact poorly fabricated and constructed from rubble and mud.[1166] The buildings frequently succumbed to the corrosive effects of the turbulent coastal surf, storm surges, salty sea air, and torrential rains that eroded and destabilized buildings.[1167] Gold Coast forts at Anomabu and Dixcove were plagued with insufficient lodgings that flooded during the rainy season.[1168] In 1720, Anomabu was in such poor repair it was described by chief merchant James Phipps as "perfectly Ruinous there being Little more remaining good of ye Building than the Out Walls."[1169] Simply keeping Cape Coast Castle standing and in reasonably good repair was a challenging task for the British.[1170]

It was equally challenging for the forts to provide enough food to sustain slave traders and their captives. Provisions from Britain often arrived moldy, sour, or damaged from the sea

[1165] Dantzig, "Willem Bosman's 'New and Accurate Description of the Coast of Guinea,'" 103–4; Shumway, *The Fante and the Transatlantic Slave Trade*, 61–64.

[1166] Harms, *The Diligent*, 139; Nelson, "Architectures of West African Enslavement," 97.

[1167] Newman, *New World of Labor*, 113, 145; Gregory D. Cook, Rachel Horlings, and Andrew Pietruszka, "Maritime Archaeology and the Early Atlantic Trade: Research at Elmina, Ghana," *International Journal of Nautical Archaeology*, July 1, 2016, 4.

[1168] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 92; Newman, *New World of Labor*, 109.

[1169] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from James Phipps, February 3, 1720, f. 2r.

[1170] Newman, *New World of Labor*, 109. See for example, TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from James Phipps, January 12, 1720, f. 1v; February 3, 1720, f. 2r; T70/90, Minute Books, Court of Assistants, 1720-1721, Letter from Mssrs. Phipps and Stephenson, February 3, 1702, f. 2r; T70/37, Letters Received and Sent, Fort Lewis, 1763-1766, Letter from John Barnes, June 11, 1762, f. 12-13; March 3, 1764, f. 17.

voyage.[1171] Food scarcity on the coast due to drought or poor harvests was an ongoing concern. The much-needed rains however could cause further agricultural crises. Writing from Anomabu in 1774, Richard Brew wrote that they had an extended rainy season "which was a great hurt to the Harvest, Vast Quantitys of Corn Rotted in the Ear &the Yambs were Eat up before they were half Grown so that provisions of Every Kind are still very scarce & likely to be much more so."[1172] Lack of sufficient food on slave ships while they collected human cargo during the long and excruciating "coasting period" caused a great deal of illness. The enslaved had to be fed and the lack of food stifled merchants' activities to procure children, women, and men. "Dare buy none for want of Corne," wrote one merchant.[1173] "Could buy some Slaves, but are not in a Capacity to look after them," wrote another.[1174] Throughout the eighteenth century, some slave ships were prevented from timely departures because forts were unable to provide adequate nourishment to the captives on board.[1175] Ships were instructed when necessary to take on rice instead of corn. In 1720, Captain Samuell Barlow of the slave ship *Whydah Frigate* was told, "Having been informed that there has been a very great Drought upon the Gold Coast & that in

[1171] Rönnbäck, *Labour and Living Standards in Pre-Colonial West Africa*, 24. For the arrival of moldy, sour, or damaged food provisions see for example TNA, T70/21, Abstracts of Letters Received from Africa and the Indies by the Committee of Goods, 1697, 1702-1714, Letter Abstract from Cape Coast Castle, July 30, 1697, f. 9; October 18, 1697, f. 11; November 19, 1704, f. 45; April 22, 1705, f. 45; and, T70/23, Abstracts of Letters Received from Africa by the Committee of Goods, 1719-1724, Letter Abstract from Cape Coast Castle, November 2, 1720, f. 5; and, T70/32, Inward Letter Books, 1773-1781, Letter from David Mill, May 19, 1774, f. 13; July 29, 1774, f. 16; and T70/33, Inward Letter Books, 1781-1799, Letter from Jeremiah Bernard Weuves, June 29, 1791, f. 10; October 1, 1781, f. 17.

[1172] TNA, T70/1532, Detached Papers, 1771-1774, Letter from Richard Brew to Thomas Eagles, November 10, 1774.

[1173] TNA, T70/10, Abstracts from Africa & Indies, 1678-1682, May 3, 1680, Letter Abstract from Cape Coast Castle, f. 45r.

[1174] Ibid., T70/6, Abstracts of Letters Received from Africa, 1714-1719, Letter Abstract from Captain William Cook and Mr. Murdo Mackenzie, October 20, 1714, f. 1a.

[1175] Ibid., T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Cape Coast Castle, August 2, 1720, f. 10; T70/53, Letters Sent to Africa, 1720-1728, Letter to Cape Coast Castle, September 12, 1721, f. 104; T0/32, Inward Letter Books, 1773-1781, Letter from David Mill, September 19, 1774, f. 18.

all likelyhood Corn may be very scarce there, you are in your way thither to call into Windward to take on board your Ship 10 Tun of Rice, as as much as you conveniently can, for the use of the Negroes which you are to receive on board."[1176] We are exceedingly grieved to receive so many complaints as every day come to the African house concerning the Scarcity & dear prices of provisions," wrote company officials from their London offices.[1177] The health of British employees was also compromised due to food scarcity. Merchants at Cape Coast Castle reiterated that their sickness and mortality was often due to the "Scarcity of Provisions."[1178] The "Poor People Dye Dayly" for want of provisions, wrote Thomas Dalby in 1704.[1179] Slave trader Jean Barbot remarked that Cape Coast Castle employees looked "poor and thin...whose countenances are shrivel'd and dismal, through ill diet."[1180] One British factor was forced to eat rats and mice.[1181] One young Englishman stole a plantain from an African woman because he had gone without food for three days.[1182]

At Fort Saint Louis in Senegal in 1776 soldiers were forced to eat green and putrid meat that they boiled for two or three days to make more palatable — the entire event leading to a

[1176] T70/64, Instructions to Captains and Mates, 1719-1744, Letter to Captain Samuell Barlow from the RAC, December 7, 1720, f. 35.

[1177] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to James Phipps, Henry Dodson, Francis Boye and John Stevenson at Cape Coast Castle, London, September 7, 1721, 50r.

[1178] Ibid., T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Cape Coast Castle, July 28, 1721, f. 17r; Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 90, 92.

[1179] TNA, T70/1184, Miscellaneous Entries (2), 1702-1719, April 1, 1704, f. 1.

[1180] Barbot, "A Description of the Coasts," 171.

[1181] Houstoun, *Some New and Accurate Observations*, 36.

[1182] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 93.

mutiny among the soldiers.[1183] In 1725, surgeon James Houstoun remarked that some of Britain's West African forts "more resemble Haunted Houses than garrison'd Forts, having one Ghost above Stairs, and perhaps 2 or 3 at most below, spinning out a Life that is a real Burden to them, in a miserable Condition," starved and then blamed for poorly carrying out the trade.[1184]

British Slave Traders as Invalids: A Morbid Geography

The most significant factor impacting British health was their status as biological outsiders in a merciless disease environment. On March 6, 1679, the merchants at Cape Coast Castle articulated what would be the overarching problem for the British in West Africa – remaining healthy enough to conduct the company's commerce in African people. "For what by sickness & mortallty (in this damn'd cursed Country) we have hardly any People that are able to put Penn to Paper that understand any thing," wrote the merchants in frustration.[1185] The following year, in 1680 the merchants wrote, "Sickly time many dead" which became a constant refrain, a futile repetition of four words that invoked an unalterable reality.[1186]

Located three thousand miles away from London, British slave trade merchants and their employees formed a dying European diaspora in West Africa where life was not only short but brutal.[1187] Britain's slave traders fought a losing battle with micro-organisms that got "in their

[1183] TNA, CO 267/1, Sierra Leone Original Correspondence, November 1 1765 – June 10, 1776, Letter from Matthew McNamara to the Earl of Dartmouth, January 26, 1776.

[1184] Houstoun, *Some New and Accurate Observations*, 25–26.

[1185] TNA, T70/15, Abstracts of Letters Received from Africa and the Indies by the Committee of Accounts, 1678-1681, Letter Abstract from Cape Coast Castle, March 6, 1679, f. 10r.

[1186] TNA, T70/10, Abstracts of Letters Received from Africa and the Indies by the Committee of Correspondence, 1678-1682, Letter Abstract from Cape Coast Castle, April 20, 1680, f. 45r.

[1187] Newman, *New World of Labor*, 108, 113.

hair, on their breath, in their blood, saliva, and bowels."[1188] They simply could not overcome the "microscopic armies" that fueled biological catastrophe through complex interactions among microbes, human hosts, climate, and environment.[1189] Populations inhabit different epidemiological regions, which allow them to inherit or acquire immunities to endemic diseases due to their prolonged exposure to disease-causing pathogenic organisms.[1190] Often in response to patterns of immunity, new strains of bacteria or virus appear while old ones die out. As a result, immunity patterns in a host population and the range of endemic diseases to which individuals are susceptible exist in a constantly shifting state of equilibrium.[1191] Migrants who enter a new disease environment are more susceptible to the endemic diseases of the new homeland because they do not possess the same degree of immunity as the locally-born population.

When European slave traders arrived on the African coast, they lacked immunological defenses to an assortment of deadly tropical diseases such as yellow fever, *Plasmodium falciparum* malaria, yaws (*frambesia*), sleeping sickness (African *trypanosomiasis*), and bilharzia

[1188] Kiple, *The Caribbean Slave*, 3.

[1189] Emmanuel Le Roy Ladurie, *The Mind and Method of the Historian*, trans. S. Reynolds and B. Reynolds (Chicago: University of Chicago Press, 1981), 30, 71; Roy M. MacLeod, ed., "Introduction," in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion* (New York: Routledge, 1988), 6; Peter A. Coclanis, *The Shadow of a Dream: Economic Life and Death in the South Carolina Low Country, 1670-1920* (New York: Oxford University Press, 1991), 38. For a general historical overview of infectious diseases see Magner, *A History of Infectious Diseases and the Microbial World*.

[1190] Coclanis, *The Shadow of a Dream*, 39. The British came from the North African-Eurasian disease environment, an epidemiological region that stretched from Europe to North Africa and across the north Atlantic to China. Vast trade networks led to intense interchanges among diseases and people in this broad zone. As a result, by the sixteenth century most temperate diseases were endemic in Europe and North Africa. Europeans possessed a wide range of immunities to diseases that included smallpox, chicken pox, whooping cough, influenza, measles, tuberculosis, diptheria, and a mild form of malaria (*Plasmodium vivax*). Sheridan, *Doctors and Slaves*, 2; Curtin, "Epidemiology and the Slave Trade," 199.

[1191] Curtin, "Epidemiology and the Slave Trade," 195.

(*schistosomiasis*).[1192] Moreover, Europeans confronted dangerous, new strains of familiar diseases.[1193] Between twenty-five and seventy-five percent of all new European arrivals to the African coast died within the first year of their residence largely due to European vulnerability to yellow fever and malaria.[1194] Royal African Company records in the late eighteenth century indicate that half the Britons sent to West Africa perished within one year and only one in ten ever set foot in the British Isles again.[1195]

Desperate letters poured into the slave factories. "People's Lives are so precarious," wrote David Mill from Cape Coast Castle in 1774.[1196] "Every person in your Service were more or less afflicted with Sickness...most of your Officers are laid up, which retards greatly the public Business," wrote Jerome Weuves in 1781.[1197] "Should we unfortunately (which we pray Heaven to avert) be deprived by Death of any more, our Situation will be distressing to a degree…indeed in short our Situation for want of Officers, is truly deplorable, and unless speedy Succour soon arrives, the Service will be quite depopulated," wrote officials at Cape Coast Castle in 1791.[1198] Ten days later another missive was scribbled, "Our Situation now is deplorable in the

[1192] Ibid., 199. One qualification is worth noting. Kenneth Kiple writes that the Iberian peninsula had contact with sub-Saharan African tropical diseases like *Plasmodium falciparum* malaria and perhaps also yellow fever prior to the Columbian voyages. However, such exposure did not significantly shift mortality levels although the Spanish may have fared slightly better. See Kiple, *The Caribbean Slave*, 8–9. For an overview of these diseases see Curtin, "Disease Exchange Across the Tropical Atlantic," 329–56; Akyeampong, "Disease in West African History," 186–107.

[1193] Curtin, "Epidemiology and the Slave Trade," 199, 210.

[1194] Curtin, *The Image of Africa: British Ideas and Action, 1780-1850*, 71; ""The White Man's Grave," 95; Kiple and Kiple, "The African Connection," 212.

[1195] Kiple, *The Caribbean Slave*, 13.

[1196] TNA, T70/32, Inward Letter Books, 1773-1781, Letter from David Mill, July 29, 1774, f. 15.

[1197] TNA, T70/33, Inward Letter Books, 1781-1799, Letter from Jerome Weuves, October 1, 1781, f. 16.

[1198] TNA, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council of Cape Coast Castle, June 20, 1791, f. 279-280, 286.

Extreme…Officers daily dropping off…In short unless Relief speedily arrives, I tremble for the Consequences."[1199] The threat of hyper-endemic malaria and yellow fever in West Africa was a more dangerous epidemiological environment than anywhere else in the world for new arrivals.[1200] Mortality in Africa was four times higher than it was in India or the Caribbean.[1201] Yellow fever and malaria formed a "pathogenic barricade" that thwarted European efforts to explore beyond the African coastal perimeter for over four hundred years.[1202]

Death haunted British slave traders so profoundly that the moment they fell ill, they believed their demise was inevitable. The crumbling walls of slave factories were filled not only with hungry invalids but those who could not escape the stench of death and saw themselves in death's grip. At Gambia on September 17, 1722, Henry Glynn and Joseph Willey remarked that this fatal mode of thinking was a causal factor in mortality. The merchants explained, "the latter part of this rainy Season has been very fatal to our people...wch [which] with the death of all our Surgeons, strikes such a damp upon all our People that they give themselves up for dead as soon as they are taken ill, wch no doubt contributes must towards it, for it has been often observed that few people Escape in this Country who believe they shall dye in it."[1203] In keeping with eighteenth-century physiology, body and mind, soma and psyche were intricately related; thoughts and emotions, particularly anger, grief, and fear, played an important

[1199] Ibid., 288. See also T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Tinker, Rice, and Wingfield, March 5, 1724, f. 31r.

[1200] Curtin, "Epidemiology and the Slave Trade," 210.

[1201] Curtin, *The Image of Africa: British Ideas and Action, 1780-1850*, 71.

[1202] Kiple, *The Caribbean Slave*, 13. Surgeon James Boyle wrote in 1831 that diseases "have hitherto proved one of the greatest barriers against the civilization of this portion of the world." See James Boyle, *A Practical Medico-Historical Account of the Western Coast of Africa* (London: S. Highley, 1831), v.

[1203] TNA, T70/27, Abstracts of Letters Received from Africa and the Indies by the Committee of Shipping, 1720-1724, Letter from Henry Glynn and Joseph Willey, September 17, 1722, f. 26v.

role in disease etiology.[1204] "There is nothing that disposes the Body to receive the Plague and other contagious Diseases so much as Fear," wrote Richard Brookes in his well-known medical text in 1763.[1205] When chaplain Hans Christian Monrad was stationed at Christiansborg Castle on the Gold Coast he remarked that Europeans who succumbed to fever typically suffered from "homesickness which, to a great extent has its basis in the weakened condition of the body. The poor homesick individual goes around as if in a dream...A violent fever silences his heart's fervent longing. On the whole, any fixed and mournful idea can be fatal."[1206] Former slave ship surgeon Thomas Trotter agreed, writing in 1797 that fear "favor[s] the action of contagion" and the imagination can make disease a reality.[1207] British employees had the power to bring on fatal disorders by their thoughts and longings.

Melancholy, madness, and alcohol abuse led to the discharge or death of many Britons.[1208] Surgeon Thomas Morpheu "lost his senses" in Sierra Leone and surgeon's mate

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[1204] The relationship between emotion and health had long been part of the Western medical tradition. Humoral pathology and therapeutics based on Galenic principles counted the passions among the six "non-naturals" that were central to the prevention and cure of disease. The other non-naturals were air, food and drink, sleeping and waking, evacuation and retention, and movement and rest. First elaborated in Galen's *Ars Medica* (The Medical Art), the non-naturals became "canonical categories." These were understood in the eighteenth century as part of lifestyle therapeutics, hygiene, or regimen. See John Burton, *A Treatise on the Non-Naturals* (London: Printed by A. Staples, 1738); Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 156–57; E. C. Spary, "Health and Medicine in the Enlightenment," in *The Oxford Handbook of the History of Medicine*, ed. Mark Jackson (New York: Oxford University Press, 2011), 86; Antoinette Emch-Dériaz, "The Non-Naturals Made Easy," in *The Popularization of Medicine*, ed. Roy Porter (New York: Routledge, 1992), 134–59; Saul Jarcho, "Galen's Six Non-Naturals: A Bibliographic Note and Translation," *Bulletin of the History of Medicine; Baltimore, Md.* 44, no. 4 (July 1, 1970): 372–377; Louis C. Charland, "Alexander Crichton on the Psychopathology of the Passions," *History of Psychiatry* 19, no. 3 (2008): 275–96; C. E. Rosenberg, "Body and Mind in Nineteenth Century Medicine: Some Clinical Origins of the Neurosis Construct," *Bulletin of the History of Medicine* 63, no. 2 (1989): 185–197; Deborah Lupton, *Medicine as Culture: Illness, Disease and the Body in Western Societies* (Thousand Oaks, CA: Sage Publications, 2003), 88–89; Fay Bound Alberti, ed., *Medicine, Emotion and Disease, 1700-1950* (New York: Palgrave Macmillan, 2006).

[1205] Brookes, *An Introduction to Physic and Surgery*, 1763, 63.

[1206] Monrad, "A Description of the Guinea Coast and Its Inhabitants," 204–5.

[1207] Trotter, *Medicina Nautica*, 1797, 1:206.

[1208] Thomas, *The Slave Trade*, 347.

Findlay went mad and exhibited "riotous and indecent behavior."[1209] British factor Cochrane died from melancholy, whereas others drowned their sorrows in liquor.[1210] When Thomas Buchanan was chief of Appolonia fort, he was frequently drunk and constantly beat and flogged the soldiers under his command when they refused to drink with him. Mr. Lysaght head of Commenda fort was ""from Morning to Evening in a continual State of Drunkenness," quarrelsome and violent to those under his command, abusive the Dutch chief, to the Commenda townspeople.[1211] In response the townspeople refused to bring any provisions into the fort. He threatened to murder his inferiors, so often that it compromised his health and he ended up dying.[1212]

Writer Thomas Smith was in a general state of "stupefaction occasioned by drunkenness" ever since he arrived, wrote the merchants at CCC. When not incapacitated his drunkenness instead took the form of riotous, mutinous disorderly behavior full of abusive language to all, including his superiors.[1213] Chief Surgeon Mr. Thomas Wallace was dismissed for being too frequently incapacitated with drunkenness to carry out his medical duties.[1214] His behavior was often factious and riotous and in his drunken state he wrote "inpertinent Letters to the

[1209] TNA, T70/6, Abstracts from Africa, 1714-1719, Letter Abstract from Robert Plunkett, June 16, 1718, f. 79; T70/32, Inward Letter Books, 1773-1781, Letter from David Mill, Cape Coast Castle, September 12, 1773, f. 1r.

[1210] Ibid., T70/7, Abstracts from Africa, Letter Abstract from Cape Coast Castle, June 28, 1721, f. 21.

[1211] Ibid., T70/153, Acts of Council, Cape Coast Castle, 1782-1799; May 21, 1787, f. 84-85.

[1212] Ibid., T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council CCC, 15 September 1788, f. 191.

[1213] TNA, T70/33, Inward Letters Books, 1781-1799, Letter from the Governor and Council CCC, 20 November 1788, f. 192; T70/152, Acts of Council, CCC, Feb 28, 1771, f. 3r-3v.

[1214] T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council, November 20, 1788, f. 192; T70/70, Outwards Letter Books, 1787-1793, Letter to the Governor and Council, April 1789, f. 87-88; T70/146, Minute Books, 1787-1792, Minutes March 25, 1789, f. 105.

Governor."[1215] The head of Dixcove fort, Basil Werner as so frequently intoxicated that he was unable to command the fort or carry out any of his basic duties. Depression seems to have set in for William Andrew Armstrong, a new sergeant with the company who had such an unhappy appearance having experienced such a change of fortunes that landed him in Africa, he began drinking the moment he arrived and drank himself to death within six weeks.[1216]

Many wished to flee before they succumbed to madness or death. At York Island in 1697, Agent Thomas Corker discovered that most of his employees desired to return home. Corker was well-positioned having married into a powerful West African ruling family in Sherbro, but his employees were desperately unhappy.[1217] Corker wrote, "would I discharge as many as would willingly depart I should depopulate the Factory for not only Such whose times are expired but others whose times are not expired all alike aspire to be gone."[1218] Almost one hundred years later, in 1790, the company summed up the situation. The African Service was "universally disliked."[1219]

By 1764, a new order was enacted that no one would be discharged early from their three-year contracts or granted a leave of absence "except in the case of ill Health, wch [which]

[1215] T70/ 153, Acts of Council, Cape Coast Castle, 1782-1799, November 11, 1788, f. 113.

[1216] T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council, March 1, 1791, f. 256.

[1217] Thomas Corker married Yema, also known as Señora Doll. She was "duchess of Sherbro," a member of the Ya Kumba family who were local African royalty in Sherbro. Their descendants became the Caulker family and were rich, powerful slave trading force between the Sierra Leone peninsula and Sherbro, as well as controlling trade on the Plantain and Banana Islands. For more on the rise of the Corker/Caulker family see Walter Rodney, *A History of the Upper Guinea Coast, 1545-1800* (New York: Oxford University Press, 1970), 219–22; Thomas, *The Slave Trade*, 344, 687; Imodale Caulker-Burnett, *The Caulkers of Sierra Leone: The Story of a Ruling Family and Their Times* (Xlibris Corporation, 2010); Darrell Reeck, *Deep Mende: Religious Interactions in a Changing African Rural Society* (Leiden: E. J. Brill, 1976), 11–15.

[1218] TNA, T70/21, Abstracts of Letters Received from Africa and the Indies by the Committee of Goods, 1697, 1702-1714, Letter Abstract from Agent Thomas Corker, June 21, 1697, f. 7.

[1219] TNA, T70/146, Minute Books, Company of Merchants Trading to Africa, 1787-1792, Minutes, September 1, 1790, f. 195.

shall be certified by the Surgeon."[1220] However, before and after such order was put into effect, many family members of company employees urged their loved ones to return and implored the company to release them early from their contracts. Henry Grey's family requested he be sent home, and John Coats' mother desired to see her son again. Roger Heath's mother Dorothy wanted her son home, and James Smith's family desired he leave the Gambia River and come home.[1221] Daniell Vanchester's mother wanted her son home, and Elizabeth Bell asked that her husband come home.[1222] Two black tradesmen from England had a "violent inclination to return home."[1223]

If we add to this litany, every ache experienced by a missing family member for an enslaved person trafficked to the coast during the eighteenth century, the torrent of letters inquiring after the millions of disappeared would fill countless rooms. As Laura Murphy writes, "the extraction of twelve million people from a continent and the displacement of hundreds of thousands of others surely did not go unmourned in West African cultures."[1224] During the 1760s and 1770s, prominent ruler and slave trader merchant Grandy King George of Old Town in Calabar wrote about the loss of four of his sons and other family members who had been kidnapped and sold in the Americas. "I dont want any more of them caried of by any other

[1220] TNA, T70/69, Outwards Letter Books, 1764-1787, Letter to the Governor and Council at Cape Coast Castle, October 17, 1764, f. 34.

[1221] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, August 3, 1704, f. 33; T70/55, Letters Sent to Gambia, 1720-1737, Letter to Thomas Whitney, Henry Glynn, and William Ramsey, December 1, 1720, f. 2.

[1222] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, February 5, 1705, f. 86; T70/53, Letters Sent to Africa, 1720-1728, Letter to the Governor and Council of Cape Coast Castle, July 1, 1702, f. 2.

[1223] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to the Governor and Council of Cape Coast Castle, July 1, 1702, f. 2.

[1224] Murphy, *Metaphor and the Slave Trade in West African Literature*, 171.

vausell," he wrote on January 13, 1773.[1225] In a letter to Bristol merchant Thomas Jones the King asked him to "Look for my son is Named Asworea and Young Ephraim."[1226] The West African landscape was filled with those who had been left behind. It was a landscape overflowing with lamentation.[1227] This was the landscape that medical laborers found when they arrived on the coast.

The Organization of British Medical Labor

In 1725, when slave factory surgeon James Houstoun described his work for the Royal African Company, he wrote that his "principal Business and Care" was "the Preservation of your Servants Health Abroad, and that the Company was not imposed on by their Agents purchasing sickly and disabled Slaves."[1228] When the Royal African Company, and its successor, the Company of Merchants Trading into Africa, hired surgeons for their West African settlements these two objectives were certainly in mind. The health of the slave trade required the health of British employees necessary to carry out their commercial activities, and the bodies of the human commodities at the center of the enterprise were ideally meant to be young, strong, sound, and able-bodied. Although slave ship surgeons were also tasked with the health of slaves, mariners, and landmen on board slaving vessels, their working lives were spent in a very different manner. While ship surgeons dominate current understandings of surgical labor in the Atlantic slave

[1225] Williams, *History of the Liverpool Privateers and Letters of Marque*, 544.

[1226] Paul E. Lovejoy and David Richardson, "Letters of the Old Calabar Slave Trade, 1760-1789," in *Genius in Bondage: Literature of the Early Black Atlantic*, ed. Vincent Carretta and Philip Gould (Lexington, KY: University Press of Kentucky, 2001), 103.

[1227] For a poetic rendering of family loss and the struggle of being left behind, see Ghanaian poet Kwadwo Opoku-Agyemang's "Supplication: Equiano's Mother" in Kwadwo Opoku-Agyemang, *Cape Coast Castle* (Accra, Ghana: Afram Publications, 1996), 25–26.

[1228] Houstoun, *Some New and Accurate Observations*, 5.

trade, factory surgeons offer a different perspective on what it meant to practice medicine in the context of the trade in human flesh.

Slave ship surgeons' labor was oriented around the tightly packed, wooden world of the slave ship and the need to fill it with captive bodies. Spending limited time on shore, slave ship surgeons visited dungeons and slave pens in bustling human commodities marketplaces or conducted their trade shipboard.[1229] In contrast to these four- to ten-month visits to the coast, slave factory surgeons practiced medicine largely on dry ground as resident outsiders in a chaotic social world. These men were required to provide medical assistance across hundreds of miles of the West African littoral at British forts as well as to European and African allies when the need arose. Slave factory surgeons also functioned as governing officials who were involved in the imperial administration of British affairs in West Africa. Such status might be conferred informally because high mortality rates required individuals to take on multiple roles; however, factory surgeons were often appointed to serve on the governing councils at various forts.[1230] Councils were made up of a select group of high-ranking employees who managed the

[1229] As discussed in the previous chapter, there were two modes of trade, and these have been described as "shore trade" and "ship trade." For captains who engaged in "shore trade," they came on shore to purchase human beings from Europeans at forts and factories like Cape Coast Castle. The "ship trade" was conducted in regions without British settlements. Captains dealt directly with African merchants who ferried captives in canoes and longboats to slave ships, or captains and surgeons took smaller craft to the coast to examine and purchase African people. See Rediker, *The Slave Ship*, 78; Rawley and Behrendt, *The Transatlantic Slave Trade*, 138; Morgan, *Laboring Women*, 54; John K. Thornton, *A Cultural History of the Atlantic World, 1250-1820* (New York: Cambridge University Press, 2012), 248–49.

[1230] It was common for individuals who remained alive to be promoted to other positions out of necessity. In 1679, the merchants complained that most of those who were literate had died and "we have hardly any People that are able to put Penn to Paper that understand any thing." See T70/15, Abstracts from Africa, 1678-1681, Letter Abstract from Cape Coast Castle, March 6, 1679, f. 10r. Whoever managed to remain alive would need to be utilized. A soldier was promoted to a bookkeeper in 1681 for example, and in 1787, merchants complained that due to mortality, forts were being led by people with no experience. See T70/10, Abstracts from Africa & the Indies, 1678-1682, Letter Abstract from Cape Coast Castle, April 6, 1681, f. 47v; and T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, December 22, 1787, f. 160.

company's daily civil and military affairs.[1231] Slave factory surgeons' medical labor was thus embedded in the company's broader strategic imperatives, and they were needed to adjudicate conflict among company employees, engage in diplomatic relations with West Africans and Europeans, as well as determine methods for improving the trade.

Surgeon George Grant was chief surgeon and served on the council at Fort St. Lewis in Senegal.[1232] In 1765, a crisis erupted in the region as factions of the semi-nomadic emirate of Brakna went to war. Brakna was a desert state that controlled much of the gum trade in the region, and commercial relations became completely destabilized.[1233] Some of the Brakna attacked British vessels, and African and British crewmen were killed in the conflict. Hostile relations continued when British ships, personnel, and goods were held ransom, negotiations deteriorated, and more armed skirmishes resulted. The fort was being continually fired upon and all was in a state of confusion.[1234] Grant was chosen to embark on a diplomatic mission to reconcile commercial relations between the British and the Brakna. After Grant "procured a

[1231] For a late seventeenth-century description of the role of fort councils and their members in the administration of British forts in West Africa see TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, Minutes January 25, 1676, f. 67v. See also T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkettand Abraham Knox, September 29, 1720, f. 19. Kenneth Davies writes that in many respects companies like the Royal African Company and other regulated companies established during the seventeenth century to orchestrate the slave trade functioned as "quasi-state institutions" as they negotiated with foreign powers, managed the defense of overseas territories, maintained forts and settlements, and oversaw employees. See Davies, *The Royal African Company*, 57–59; Elizabeth Mancke, "Chartered Enterprises and the Evolution of the British Atlantic World," in *The Creation of the British Atlantic World*, ed. Elizabeth Mancke and Carole Shammas (Baltimore, MA: Johns Hopkins University Press, 2005), 237–62.

[1232] TNA, T70/37, Letters Sent and Received , Fort Lewis, 1763-1766, Letter from John Barnes, February 21, 1764, f. 15.

[1233] For more on the Brakna and trading practices in the region see James L. A. Webb, Jr., *Desert Frontier: Ecological and Economic Change Along the Western Sahel, 1600-1850* (Madison, WI: University of Wisconsin Press, 1995), 13–23; James F. Searing, *West African Slavery and Atlantic Commerce: The Senegal River Valley, 1700-1860* (New York; Cambridge University Press, 1993), 72, 153–56; Boubacar Barry, *Senegambia and the Atlantic Slave Trade* (New York: Cambridge University Press, 1998), 53–69.

[1234] TNA, CO 267/1, Sierra Leone Original Correspondence, November 1, 1765 – June 10, 1776, Letter from John Barnes, August 21, 1765.

proper person to take care of the Sick" during his absence, he traveled with a Brakna messenger who had been sent by the emir and an Arabic linguist. Unfortunately, the surgeon's efforts to restore peace failed, and in the process Grant fell sick with a debilitating fever.[1235]

Slave factory's surgeons' position as company officials also meant that they were particularly vulnerable to the exigencies of coastal conflict including inter-European war, West African military incursions, piracy, and kidnapping. Surgeon John Constantine was taken prisoner by the French in 1688.[1236] In 1720, Cape Coast Castle surgeon John Labat went on board a Portuguese vessel to render medical assistance and was kidnapped by the Portuguese captain, Joseph de Torres. In an angry letter to the captain, castle officials wrote, "your daring boldness this Voyage is insufferable, in carrying away Mr. Labatt Surgeon of this Castle, who is the only one skill'd in administering Physick to the Sick, in the Companys employ on the Gold Coast, so that the ill consequence attending his absence is unknown."[1237] The castle has been "left Destitute through your Villainy," they wrote a few weeks later.[1238] If Labat was not returned, castle officials demanded one thousand pounds sterling for the damages caused and threatened to "seize, arrest, and lay hold, on all, and every, or any Portugueze Vessel, that shall or may come within my reach, till the said sum of £1000 is paid to the Royall Affrican

[1235] TNA, CO 267/1, Sierra Leone Original Correspondence, November 1, 1765 – June 10, 1776, Orders of the Governor and Council, July 23, 1765.

[1236] TNA, T70/319, Journal, Home, 1689, February 27, 1688, f. 29.

[1237] TNA, T70/54, Letters Sent to Cape Coast Castle, 1728-1740, Letter from Cape Coast Castle to Captain Joseph Di Torres, August 22, 1720, f. 5v. See also T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, and Stevenson, September 16, 1720, f. 7r.

[1238] TNA, T70/54, Letters Sent to Cape Coast Castle, 1728-1740, Letter from Cape Coast Castle to Captain Joseph Di Torres, September 14, 1720, f. 6r.

Company."[1239]

In the daily social world of the slave trading zones, however, the biggest challenge for factory surgeons was that British settlements were chronically understaffed. As the British headquarters in West Africa, Cape Coast Castle was also the medical headquarters for the Gold Coast as well as for Ouidah in the Bight of Benin. For the majority of the eighteenth century, the African Company hired one surgeon and one or two surgeon's mates to reside at the castle, and these individuals represented the entire British medical presence at the company's factories on the Gold Coast and in the Bight of Benin. The smaller outforts, also referred to as "dependencies" or "out factories," were allocated medicines but were not typically provided with medical personnel.[1240] If an ill person at an outfort required a doctor, a medical transport system was in place which conveyed the sick to Cape Coast Castle by canoe, or, if the patient's condition precluded such a journey, canoemen ferried medical practitioners from the castle to the

[1239] Ibid., Letter from Cape Coast Castle to Captain Joseph Di Torres, August 22, 1720, 5v-6r. See also T70/53, Letters Sent to Africa, 1720-1728, Letter to James Phipps, Henry Dodson, Francis Boye, and John Stevenson, February 27, 1721, f. 26r.

[1240] Lawrence, *Trade Castles & Forts of West Africa*, 57. On a smaller scale, a similar administrative structure occurred at the Royal African Company's settlements in Sierra Leone and Senegambia where one fort functioned as the medical headquarters and smaller trading posts in the region were not provided with medical practitioners but relied on medical personnel from the principal fort. For example, James Fort in the Gambia River was supplied with surgeons, while the factories at Joar, San Domingo, and Jufure were not. See TNA, T70/136, Minute Books, Committee of Shipping, Orders of Court, 1720-1721, "Establishment for Gambia as Settled by the Court of Assistants 30 June 1720," unpaginated; T70/93, Minute Books, Court of Assistants, 1728-1735, Minutes, July 25, 1728, f. 6; Minutes June 12, 1729, f. 44; T70/1516, Detached Papers, 1750, 1751, "A List or Indent of Goods, Stores and Recruits, Which are Necessary for the Support of James Fort Gambia and its Dependencies," January 24, 1750. See also Francis Moore, *Travels into the Inland Parts of Africa* (London: Printed by Edward Cave, 1738), 19–20. For more on British factories and trading posts in the Senegambia regions see Barry, *Senegambia and the Atlantic Slave Trade*, 47–49, 61–80. Fort St. Louis in Senegal became another medical headquarters that was regularly supplied with surgeons after the British wrested control of the fort away from the French in 1758 during the Seven Years' War, along with the island of Gorée. See TNA, T70/37, Letters Received & Sent, Fort Lewis, 1763-1766, Letter to John Barnes, August 17, 1763, f. 7; Letter from John Barnes, February 21, 1764, f. 15; Letter to John Barnes, October 11, 1764, f. 35; Letter to John Barnes, November 17, 1764; Letter to John Barnes, August 27, 1764, f. 40.

outfort.[1241]

When George Hardie was hired to serve as the surgeon for Cape Coast Castle in 1730, he and his surgeon's mate were responsible for the castle's medical needs, while also managing medical care at seven outforts – Dixcove, Sekondi, Komenda, Tantumkweri, Winneba, Accra, and Williams Fort in Ouidah.[1242] There were 447 castle slaves and British employees at Cape Coast Castle, and 372 at the out factories. The two medical practitioners were expected to attend to the medical needs of 819 enslaved and free individuals scattered across over three hundred miles. Moreover, these numbers do not include the "shipping slaves" who were being held in castle dungeons awaiting transport to the Americas, which means that over one thousand people were under their care. As was frequently the case, Hardie's labor as chief surgeon at Cape Coast

[1241] See for example, Letter from Mark Bedford Whiting, July 9, 1683 in Robin Law, ed., The English in West Africa 1681-1683: The Local Correspondence of the Royal African Company of England 1681-1699, Part 1, vol. I (New York: British Academy, 1998), 8; TNA, T70/1026, Cape Coast Castle Day Book, 1768, February 6, 1768, f. 16v; T70/32, Inward Letter Books, 1773-1781, Letter from Jerome Barnard Weuves, October 26, 1781, f. 19. See also Lawrence, *Trade Castles & Forts of West Africa*, 62. For more on the role of West African canoemen in the slave trade see for example Robert Smith, "The Canoe in West African History," *The Journal of African History* 11, no. 4 (January 1, 1970): 515–33; Peter C. W. Gutkind, "The Canoemen of the Gold Coast (Ghana): A Survey and an Exploration in Precolonial African Labour History (Les Piroguiers de La Côte de l'Or (Ghana): Enquête et Recherche d'histoire Du Travail En Afrique Précoloniale)," *Cahiers d'Études Africaines* 29, no. 115/116 (January 1, 1989): 339–76; Robin Law, "Between the Sea and the Lagoons: The Interaction of Maritime and Inland Navigation on the Precolonial Slave Coast," *Cahiers d'Études Africaines* 29, no. 2 (1989): 209–37; Reese, "Facilitating the Slave Trade," 367–68; Reese, "Class at an African Commercial Enclave," 80–82; Silke Strickrodt, *Afro-European Trade in the Atlantic World: The Western Slave Coast, C.1550-c.1885* (Rochester, NY: Boydell & Brewer Ltd, 2015), 68–75.

[1242] TNA, T70/54, Letters Sent to Cape Coast Castle, 1728-1740, Letter to John Brathwaite, Robert Cruikshank, and Benjamin Peake, July 9, 1730, f. 18v; BRO, SMV/7/2/1/1, Records of the Society of Merchant Venturers, 1493-2003, Overseas Trade, Africa and the West Indies, The Royal African Company of England, 1730-1731, Account of Trade and Castle Charges for the Year 1730, February 22, 1730, f. 1-7. At Cape Coast Castle there were a total of 447 individuals (134 free Europeans and Africans and 313 castle slaves). Dixcove had a total of 56 people (16 free Europeans and Africans and 40 castle slaves). Sekondi had a total of 35 people (15 free Europeans and Africans and 20 castle slaves). Komenda had a total of 39 people (19 free Europeans and Africans and 20 castle slaves). Tantukweri had a total of 32 people (12 free Europeans and Africans and 20 castle slaves). Winnebah had a total of 34 people (14 free Europeans and Africans and 20 castle slaves). Accra had a total of 48 people (18 free Europeans and Africans and 30 castle slaves). Williams Fort in Ouidah had a total of 128 people (34 free Europeans and Africans and 94 castle slaves). The distance from Ouidah to Cape Coast was approximately three hundred miles, which does not include the forts located west of Cape Coast Castle. See also Lawrence, *Trade Castles & Forts of West Africa*, 57.

Castle lasted little more than one year before his untimely death.[1243]

British surgeons and other employees of the African Company died at a dizzying pace.[1244] Royal African Company records in the late eighteenth century indicate that half the Britons sent to West Africa perished within one year and only one in ten ever set foot in the British Isles again. [1245] "They have never a Surgeon," wrote the chief merchants stationed in the Gambia in 1714.[1246] "All their Surgeons dead," wrote Cape Coast Castle merchants in 1722, and they lamented that these deaths dampened the spirits of all in the Company's service.[1247] High numbers of surgeons "have found their Graves on the Coast of Guinea," wrote the chief merchant from Bance Island in 1727.[1248] A two-person or even three-person medical unit was far from adequate, and the length of time it took to notify London officials of a surgeon's death and for a replacement to be hired and conveyed to West Africa, took nearly a year or more.[1249]

For example, on February 8, 1720, James Phipps wrote the African Company's London office, "We are again of Our surgeon and Lieutenant whome it has pleased God to remove out of this world, and we pray that your Honours will take into Consideraton [Consideration] the psent

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[1243] Charles Napper was hired to replace George Hardie in 1732. See TNA, T70/93, Minute Books, Court of Assistants, 1728-1735, Minutes February 17, 1732, f. 170; Minutes June 22, 1732, f. 188.

[1244] Newman, *New World of Labor*, 114–15.

[1245] Kiple, *The Caribbean Slave*, 13.

[1246] TNA, T70/6, Abstracts of Letters Received from Africa, 1714-1719, Letter Abstract from Captain William Cook and Mr. Murdo Mackenzie, October 20, 1714, f. 1a.

[1247] TNA, T70/7, Abstracts of Letters Received from Africa, 1720-1732, Letter Abstract from Henry Glynn and Joseph Willey, September 17, 1722, f. 34v; TNA, T70/27, Abstracts from African, 1720-1724, Letter Abstract from Henry Glynn and Joseph Willey, September 17, 1722, f. 26v.

[1248] TNA, T70/1465, Private Books, Sierra Leone, 1727-1728, f. 28r.

[1249] Carlos, "Agent Opportunism and the Role of Company Culture: The Hudson's Bay and Royal African Companies Compared," 142.

[present] Misfortune of your servants on this Coast."[1250] Four months later, on June 21, 1720, Phipps' letter was received and read before the company's Court of Assistants.[1251] It then took three months for the company to hire surgeon Thomas Price, which occurred on September 13, 1720. Price then boarded the slave ship *Sarah* on September 29th to travel to the West African coast.[1252] However, nearly one month later, Price had still not departed British waters because the *Sarah* was forced to shelter in Plymouth harbor due to contrary winds and the vessel was running out of food. An appeal was made to Mrs. Addis, a local victualler, to supply the ship's company with fresh provisions.[1253] After attempting another departure, the *Sarah* finally brought Thomas Price to Cape Coast Castle on December 9, 1720, and the captain began purchasing his enslaved cargo.[1254] Ten months had transpired between James Phipps' initial letter alerting the company to the death of their chief surgeon and the arrival of his replacement, Thomas Price.[1255] With persistent repetition this scenario repeated itself countless times during the era of the slave trade, and a year or more could pass with no trained British medical practitioners available to

[1250] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter from Mssrs. James Phipps & Stevenson, February 8, 1720, f. 2r – 2v.

[1251] TNA, T70/90, Minute Books, Court of Assistants, 1720-1721, Minutes June 21, 1720.

[1252] Ibid., Minutes, September 13, 1720; TNA, T70/1439, List of Passengers and Crew, 1720-1729, Muster Roll of the Ship Sarah, September 29, 1720.

[1253] TNA, T70/46, Letters Sent from Home, 1720-1729, Letter to Mrs. Addis from Francis Lynn, October 25, 170, f. 18.

[1254] See *TSTDB*, Slave Ship *Sarah*, Voyage ID# 76147.

[1255] Klas Rönnbäck researched the length of time it took correspondence to reach the London office of the Royal African Company from various parts of West Africa. He found that letters sent from Gambia took an average of 174 days. Letters from Sierra Leone took an average of 201 days. Letters from the Gold Coast were shorter, taking less than 161 days; whereas, from Ouidah, the average was 210 days. The total average comes to 172 days for letters to reach London from West African forts and factories. The length of time reflected the circuitous route by which letters sent from West Africa were routed through the Caribbean; whereas, letters from London were more direct. See Klas Rönnbäck, "Transaction Costs of Early Modern Multinational Enterprise: Measuring the Transatlantic Information Lag of the British Royal African Company and Its Successor, 1680–1818," *Business History*, April 10, 2016, 6–7.

attend to the health needs present at the slave factories.[1256]

British merchants in West Africa expressed their discontent over the company's practice of hiring so few surgeons in an environment perpetually plagued by illness and mortality, but for the Royal African Company and its successor, the Company of Merchants Trading to Africa, economic considerations drove their hiring practices. On April 22, 1705, Dalby Thomas, who was the chief merchant of Cape Coast Castle, wrote the London office that there should be "6 Good Surgeons for this Coast," and that supplies should be more regularly sent to help prevent the great mortality which had recently plagued the castle.[1257] Without sufficient medical personnel, Thomas argued, it was impossible to hope for a profitable trade.

Thomas's request was met with stern resistance because of the company's shortage of liquid capital.[1258] The slave trade had a naturally slow turnover of capital due to voyage lengths and due to extending sometimes years-long credit to slave purchasers in the Americas.[1259] Years could pass before returns arrived from the colonies, and this "under-capitalization" meant that the sums the company raised were insufficient to support the demands placed upon it, including the large permanent investments of funds required to maintain West African slave factories.[1260] In order to remain operational, the company fell into debt, which further exacerbated the company's financial obligations because paying interest on debt became another major

[1256] See also TNA, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council of Cape Coast Castle, June 20, 1791, f. 142v.

[1257] TNA, T70/21, Abstracts from Africa, 1697, 1702-1714, Letter Abstract from Dalby Thomas, April 22, 1705, f. 46.

[1258] Davies, *The Royal African Company*, 44.

[1259] Ibid., 75.

[1260] Ibid., 44–45, 75.

expenditure.[1261] This situation is captured in the company secretary's reply to Thomas which is worth quoting at length:

> "You take notice what great Mortallity hath happened at our Castle both of whites & blacks & of the Concernes you have because unless you Can have ships at the Coast more certaine, more Hospitall Phisitians [Physicians] Surgeons & Apothecaryes, you can never hope for success in Negroes. We must owne our selves well sattisfyed [satisfied] in yor [your] great Zeale for our Wellfare & we would as willingly Comply on our Parts to furnish You with a Ship every month as you desire, laden with Servants, Goods, Stores, and all Other Necessaryes, but wee must remind you, that we have runn our selves very much in Debt for those large Cargoes we have allready sent out to Cape Coast Castle, & have not received any thing as yett in return...which makes us very uneasy at home & so far dispiritts our Adventurers for fear of Calling in more money upon our Stock."[1262]

The only solution offered from London was that their employees conduct a more lucrative trade in Africa even if death decimated their ranks periodically. A later proposal which indicated that eight surgeons was the appropriate number of medical personnel to meet the health needs on the Gold Coast and in the Bight of Benin also appears to have been given little consideration.[1263]

When the company was financially stable enough to increase medical staffing levels, they appeared willing to do so. The number of British surgical posts in West Africa fluctuated as the company's economic well-being rose and fell, and the two were closely aligned. At various points during the century, particularly when there was a fresh infusion of funds, which was often accompanied by managerial reorganization, the African Company temporarily increased medical

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[1261] Ibid., 45. See also Keirn, "Monopoly, Economic Thought, and the Royal African Company," 432.

[1262] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, August 2, 1705, f. 90-91.

[1263] In "A Scheme of Persons Necessary for Carrying on the Trade," which was unsigned and undated, but was likely written sometime between 1702 and 1719, the author suggested that one surgeon be shared between Sekondi and Dixcove. Cape Coast Castle should have a physician, one surgeon, and two surgeons' mates. One surgeon should be shared between Accra and Winnebah. The author also recommended that Ouidah have its own surgeon and surgeon's mate. What is interesting about this scheme is that although the Cape Coast Castle medical staff only gained one additional laborer, the addition was a physician meaning that the author believed an increase of knowledge and experience would be more valuable than just adding additional surgeons' mates who tended to be younger in the profession and less knowledgeable practitioners. See T70/1184, Miscellaneous Accounts, (2), 1702-1719, "A Scheme of Persons Necessary for Carrying on the Trade," f. 45-47.

staffing levels. The financial restructuring that occurred in 1720 and the replacement of the majority of members who sat on the Court of Assistants, which was the company's governing body, was one such instance.[1264] In 1720 surgeon Thomas Coggan and his wife traveled to West Africa in order to be posted at either Sekondi or Winnebah because both outforts were being assigned surgeons, and the company also allocated funds for surgeons at their factories in Sierra Leone and Ouidah.[1265] Additionally, Cape Coast Castle's British medical staff was increased to have one surgeon and three surgeons' mates, rather than two.[1266] In order for vacancies to be filled with well-qualified and trained practitioners, the Court of Assistants solicited help from St. Bartholomew's resident physician, Henry Levett, and surgeons Robert Kelway and Samuel Palmer.[1267]

[1264] In the spring of 1720, the Royal African Company was recapitalized with a new engraftment of stock, in what Gary Shea calls an "underappreciated example of precocious financial engineering." One of the results was a change in governance, and new members were elected to the Company's Court of Assistants. James Brydes, Duke of Chandos, and the cohort that surrounded him, initiated and designed the company's financial restructuring, gained controlling shares in the company's stock, and wrested governance away from the managing body that had directed the company's affairs for the greater part of its existence. For the list of new appointments to the Court of Assistances see *Evening Post*, Issue 1689, May 26, 1720 – May 28, 1720; *Weekly Packet*, Issue 413, May 28 – June 4, 1720; *Weekly Packet*, Issue 420, July 16 – July 30 1720. For the debt problems of the company see TNA, T70/101, Minutes of the General Court of the Adventurers, 1678-1720, April 8, 1720, f. 196v. See also Gary S. Shea, "(Re)Financing the Slave Trade with the Royal African Company in the Boom Markets of 1720," Working Paper Series (University of St. Andrews: Centre for Dynamic Macroeconomic Analysis, October 2011), 4; Mitchell, "'Legitimate Commerce' in the Eighteenth Century," 550–51; Pettigrew, *Freedom's Debt*, 165–70.

[1265] TNA, T70/90, Minute Books, Court of Assistants, 1720-1721, Minutes August 18, 1720; T70/46, Letters Sent from Home, 1720-1729, Letter to Mssrs. Levet, Kelway, and Palmer, August 4, 1720, f. 3; Letter to Mssrs. Levett, Kelway, and Palmer, August 20, 1720, f. 6r; T70/53, Letters Sent to Africa, 1720-1728, Letter to James Phipps, Henry Dodson, Francis Boye, and John Stevenson, August 18, 1720, f. 12. Regarding Thomas Coggan's wife see T7046, Letters Sent from Home, 1720-1729, Letter from Francis Lynn to Captain Ousley, October 27, 1720, f. 21; Letter from Francis Lynn to Thomas Coggan, October 27, 1720, f. 21.

[1266] TNA, T70/46, Letters Sent from Home, 1720-1729, Letter to Mssrs. Levet, Kelway, and Palmer, August 4 1720, f. 3.

[1267] TNA, T70/90, Minute Books, Court of Assistants, 1720-1721, Minutes August 4, 1720; Minutes August 18, 1720; Minutes August 23, 1720; Minutes September 13, 1720; T70/91, Minute Books, Court of Assistants, 1721-1723, Minutes August 29, 1721; Minutes September 7, 1721; Minutes September 12, 1721; T70/46, Letters Sent from Home, 1720-1729, Letter to Mssrs. Levet, Kelway, and Palmer, August 4, 1720, f. 3; Letter to Mssrs. Levett, Kelway, and Palmer, August 20, 1720, f. 6r; Letter to Mr. Kelway, December 28, 1721, f. 110; T70/135, Minute Books, Committee of Shipping 1720-1721, Minutes August 23, 1720; T70/91, Minute Books, Court of Assistants, 1721-1723, Minutes August 29, 1721; T70/136, Minute Books, Committee of Shipping, Orders of Court, 1720-

Initiatives to increase British medical practitioners in West Africa were short-lived, however, and in the 1720s, the company's finances remained unstable. In 1723, the company exported goods valued at £102,560, only to dwindle down to £2,943 just three years later.[1268] In 1727 new stock had to be issued, efforts were made to raise £400,000 of new capital, and the company returned their West African settlements to previous medical staffing levels.[1269] This meant that the London office allocated funds to hire only one surgeon and one surgeon's mate, and no medical practitioners were assigned to any of the outforts on the Gold Coast or the Bight of Benin.[1270]

The lack of British medical personnel was further compounded by a lack of imported medicines, which often left company employees with no surgeon and no medical supplies.

1721, Minutes September 7, 1721; Minutes September 28, 1721; T70/297, Waste Book, Home, 1721, December 13, 1721, f. 175.

St. Bartholomew's Hospital had a long history with the Royal African Company and later the Company of Merchants Trading to Africa – a relationship that extended from the late seventeenth century through the eighteenth century. In this particular moment, the medical managerial responsibilities that the company delegated to the hospital pivoted around physician Henry Levett, who was physician to James Brydges, Duke of Chandos, who became one of the most significant figures in the company's new Court of Assistants. Henry Levett was described as the "Companys Physitian" in 1720. See TNA, T70/46, Letter to Mr. Gray, November 9, 1720, f. 27. For more on Henry Levett see Munk, *The Roll of the Royal College of Physicians of London*, 2:22.

[1268] Davies, *The Royal African Company*, 344.

[1269] TNA, T70/92, Minute Books, Court of Assistants, 1723-1728, Minutes, March 30, 1727, f. 269; Minutes May 11, 1727, f. 274-275; Minutes May 18, 1727, f. 277; Shea, "(Re)Financing the Slave Trade with the Royal African Company in the Boom Markets of 1720," 53; Pettigrew, *Freedom's Debt*, 171–72.

[1270] TNA, T70/92, Minute Books, Court of Assistants, 1723-1728, Minutes June 8, 1727, f. 281-284. For a late seventeenth century example of medical staffing on the Gold Coast see T70/76, Minute Books, Court of Assistants, 1673-1676, Minutes January 26, 1676, f. 67v – f. 68v. The staffing of medical personnel in the late eighteenth century remained just as fluid. For example, in 1778, no medical personnel were posted at the Gold Coast outforts, however, the company stated they would make an exception in the case of Ouidah only after Cape Coast Castle and the forts in the Upper Guinea region were supplied. See BRO, SMV/7/2/1/5, Records of the Society of Merchant Venturers, 1493-2003, Overseas Trade, Africa and the West Indies, Annual Accounts of the Company Trading to Africa, 1778, Accounts Received and Expended, f. 6. However, ten years later in 1788, the company added assistant surgeons to Sekondi and Winneba because it was determined "Medical Assistance cannot at all Times be afforded from Cape Coast Castle." See BRO SMV/7/2/1/6, Records of the Society of Merchant Venturers, 1493-2003, Overseas Trade, Africa and the West Indies, Annual Accounts of the Company Trading to Africa, 1785-1797, Accounts Received and Expended, f. 2; Committee Minutes, September 17, 1788, f. 2.

Despite efforts made by the company, the alarming numbers of sick, wounded, and dying quickly exhausted their drug supplies. As one Dutch official described it, two hundred white men on the Gold Coast needed more medicines in one year than three thousand in Europe.[1271] Medicines, moreover, were made from perishable substances as discussed in Chapter One, and spoilage occurred quickly in the tropical heat. The African Company's London office frequently received letters stating "wee are also destitute of Medicines, the few we have being Old & decay'd and have Lost their Vertue."[1272] After being stationed on the Gold Coast naval surgeon John Atkins wrote that due to the rapid decay of medicines, "All large Quantities are Impositions."[1273] Also writing from the Gold Coast, Dutch slave trader Willem Bosman concurred. "But alas!" he exclaimed, "our Medicines, as I have before told you, are most of them spoiled."[1274] French slave trader Jean Barbot remarked similarly that often the drugs sent from Europe "have lost most of their virtue before they reach the coast, and are commonly corrupted."[1275]

Merchants offered suggestions to ameliorate the drug supply problem at British slave factories. In 1679, Nathaniel Bradley and Maccabees Hollis requested that just four ounces of rhubarb be sent on every ship, and in 1721, James Phipps requested "only a Small Supply of Medicines at a time but often."[1276] Small supplies of medicine "which often renewed will be

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[1271] Rutten, *Dutch Transatlantic Medicine Trade in the Eighteenth Century Under the Cover of the West India Company*, 95.

[1272] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from James Phipps, February 8, 1720, f. 2v.

[1273] Atkins, *The Navy-Surgeon*, v.

[1274] Bosman, *A New and Accurate Description of the Coast of Guinea*, 106.

[1275] Barbot, "A Description of the Coasts," 198.

[1276] TNA, T70/20, Abstracts of Letters Received from Africa and the Indies by the Committee of Goods, 1678-1681, Letter from Agent Nathaniel Bradley and Maccabees Hollis, March 29, 1679, f. 9; T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, and Boye, January 25, 1721, f. 16.

much proper than a large quantity at once."[1277] However, just as requests for additional surgical support went unheeded, more frequent drug supplies were unfeasible and shiploads of provisions were typically sent every six months.[1278] If even one of those two annual drug deliveries arrived damaged from the hazards of the sea voyage, as occurred in 1751, the slave factories were at an even greater deficit for medicines.[1279] Relying solely on medicines and medical labor from Britain was clearly impractical; however, as with all other aspects of the African Company's slave trading operation, the slave forts and factories were never meant to rely solely on British resources.

Thus, health was a precarious commodity in the slave trading zones. Such zones were infused with fragility, cultural rupture, and loss. An intercultural medical world developed within British slave factories and was shaped by the conditions herein described – a cosmopolitan coastal region, a dying European diaspora, hundreds of incarcerated Africans languishing in the black hole, and the necessity of adapting to West African lifeways to survive as dependent outsiders. A system was required to keep enough African and British bodies alive to carry out the "unhallowed trade."

[1277] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter Abstract from Mssrs. Phipps, Dodson, and Boye, January 25, 1721, f. 8v.

[1278] Similar to the temporary increases in surgical personnel when the company's finances improved, there were brief periods when the company determined to send supplies every three months, but this, too, was short-lived. See TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Mssrs. Phipps, Dodson, Boye, and Stevenson, February 27, 1721, f. 50.

[1279] In 1751, depositions and affidavits were produced concerning the damaged medicines indicating that the company took the loss of their drugs seriously and were determined to identify the specific reasons for the occurrence. See TNA, T70/143, Minute Books, 1750-1751, Minutes December 4, 1751, f. 114; Minutes January 29, 1752, f. 126; T70/1517, Detached Papers, 1751, Memorandum for A. Johnston, July 10, 1751; Letter from Matthew Mackaile, July 22, 1751; Affidavit of Mr. Johnson's Servants Relating to the Goodness of the Medicines for the Out Forts," November 29, 1751. For an example from St. Domingue see Schiebinger, *Plants and Empire*, 74, 253 n. 4.

Chapter Six: Doctoring a Broken World

In 1752, a young enslaved boy named Jack, who was approximately eight years old, served as a medical apprentice at Cape Coast Castle.[1280] His enslavement involved observing, learning, and practicing the healing arts in both British and West African medical traditions. Known only in documentary sources as "Jack" and later as "John," his region of origin and parentage are not known, and neither is there evidence of how he came to be enslaved at the castle.[1281] Jack may have been born at the slave factory where he would have spent the past eight years growing up amidst overlapping African and European diasporas characterized by diverse languages, customs, and cultures. The child may, instead, have been trafficked from Senegambia after having survived the sometimes deadly fifteen hundred mile sea journey to Cape Coast Castle.[1282] When needed, the African Company obtained enslaved castle workers

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[1280] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, January 18, 1752, f. 6v

[1281] It is possible that Jack was at the castle prior to 1752. Recordkeeping at British forts changed after 1750 when the Company of Merchants replaced the Royal African Company upon the passage of the African Trade Act ("An Act for Extending and Improving the Trade to Africa," 23 Geo. II, c. 31). The Act allowed all Britons access to trade in West Africa; placed the management of the Company in the hands of nine elected members taken equally from London, Bristol, and Liverpool; and preserved the forts through an annual parliamentary subsidy. Membership to the Company of Merchants was open to any who were willing to pay the forty shillings fee. During this shift in governance, the older accounting journals fell out of use, which did not include regular muster rolls of the enslaved listing their names and occupations, although these do appear periodically. See for example TNA, T70/405, Cape Coast Castle Journal, (HH), (NN), 1736, December 1736, f. 125. After 1750, however, day books were kept at the forts, and government officials instructed merchants to keep a regular muster roll, ideally every two months, of all personnel, white and black, enslaved and free at forts and settlements listing their names and their occupations. See for example, TNA, T70/37, Letters Received and Sent from Fort Lewis, Senegal 1763-1766, Letter to John Barnes, August 17, 1763, f. 7.

For more on the Company of Merchants see for example John Patterson Davis, *Corporations: A Study of the Origin and Development of Great Business Combinations and of Their Relation to the Authority of the State*, vol. 2 (New York: G. P. Putnam's Sons, 1905), 144–45; David Hancock, *Citizens of the World: London Merchants and the Integration of the British Atlantic Community, 1735-1785* (New York: Cambridge University Press, 1995), 182–85; Reese, "The Drudgery of the Slave Trade: Labor at Cape Coast Castle, 1750-1790," 277; Newman, *New World of Labor*, 260–61, n. 12; Mancke, "Chartered Enterprises and the Evolution of the British Atlantic World," 262. There is little evidence that the new company implemented any significant or long-lasting changes related to the medical management of the forts and settlements. As discussed in the previous chapter, problems of food shortages, lack of medical supplies, mortality, crumbling buildings, and an inadequate labor supply from Britain were consistent features across the eighteenth century.

[1282] See for example, on March 23, 1715, the merchants at Cape Coast Castle noted the arrival of a ship from the

from the Senegambian region to labor on the Gold Coast. Merchants were instructed to obtain "Gambia slaves" who could "be bred to such Trades as are most useful," and to do so annually.[1283] As a young medical apprentice, Jack was indeed being "bred" for one of the most useful occupations. His appearance in castle records coincided with a prolonged period of drought in Senegambia that occurred between 1747 and 1754, as well an unusually harsh famine in 1752.[1284] Crises of food shortages and rampant starvation consistently swelled the numbers of available captives during the era.[1285] Jack may have been sold to the British at that time, his young life sacrificed for his family's or community's sustenance and survival.[1286] Alternatively,

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Gambia containing sixty African captives along with ivory, deer skins, and cow hides. The merchants reported that 4 of the Gambian slaves perished in the passage and half of the remaining are "not worth their provisions and they believe will not live till the Royal Africa can take them in." TNA, T70/6, Abstracts from Africa, 1714-1719, Letter Abstract from Mssrs. Gore, Phipps, and Bleau, March 23, 1715, f. 6.

[1283] TNA, T70/29, Inward Letter Books, 1751-1763, Letter to Nassau Senior and the Council at Cape Coast Castle, January 18, 1759, f. 165. The frequency of utilizing enslaved labor from Senegambia at Gold Coast slave factories declined over the course of the eighteenth century; however, the practice continued. In 1759, the company insisted that Joseph Debat immediately purchase "Gambia Slaves for Tradesmen." Ten were to remain in Gambia at the company's fort and ten were to be sent to Cape Coast Castle on the next available ship to work as masons, bricklayers, and carpenters. See TNA, T70/29, Inward Letter Books, 1751-1753, Letter to Joseph Debat, January 13, 1759, f. 162. For later in the century see for example, T70/31, Inward Letter Books, 1762-1773, Letter from John Grossle to the African Committee, April 16, 1770, f. 375; and T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, September 15, 1788, f. 186, f. 190.

[1284] Lovejoy, *Transformations in Slavery*, 69–70; Barry, *Senegambia and the Atlantic Slave Trade*, 110; Stefan Norrgård, "Practising Historical Climatology in West Africa: A Climatic Periodisation 1750–1800," *Climatic Change* 129, no. 1–2 (December 12, 2014): 140.

[1285] Ogilby, *Africa*, 346; Barbot, *Barbot on Guinea*, 1992, I:76–77; Barbot, "A Description of the Coasts," 33; J. E. Inikori and Stanley L. Engerman, *The Atlantic Slave Trade : Effects on Economies, Societies, and Peoples in Africa, the Americas, and Europe* (Durham: Duke University Press, 1992), 39; Patrick Manning, *Slavery and African Life: Occidental, Oriental, and African Slave Trades* (New York: Cambridge University Press, 1990), 57, 90; Judith Carney and Richard Nicholas Rosomoff, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Berkeley, CA: University of California Press, 2011), 59; Barry, *Senegambia and the Atlantic Slave Trade*, 108–11; Diptee, "African Children in the British Slave Trade During the Late Eighteenth Century," 186–87. See also Joseph C. Miller, "The Significance of Drought, Disease and Famine in the Agriculturally Marginal Zones of West-Central Africa," *The Journal of African History* 23, no. 1 (January 1, 1982): 17–61.

[1286] It is worth noting that while some of the documentary evidence describes the sale of individuals for provisions in the case of famine, war, or starvation, in some instances, at least initially, the individual may have been sold as a pawn rather than a slave. See Paul E. Lovejoy and David Richardson, "The Business of Slaving: Pawnship in Western Africa, c. 1600-1810," *The Journal of African History* 42, no. 1 (January 1, 2001): 71. Pawns served as credit instruments in which people functioned as collateral for a debt until the debt was paid. In order to function, the slave trade relied heavily on credit mechanisms in Europe, Africa, and the Americas. In West and West Central

the child may have been a war survivor, a witness to the brutal and bloody realities of increasing militarization among coastal and hinterland polities along the Gold Coast, which sent a steady stream of prisoners and refugees to the waterside.[1287] Or, like so many young ones he may have been kidnapped by marauding bandits who preyed on vulnerable children, at times ripping them right from their mother's arms as one eight-year-old girl recounted after being sold in Anomabu.[1288] Such practices created an escalating crisis in waterside communities on the Gold Coast as children and others disappeared in increasing numbers over the course of the eighteenth century.[1289] What we do know is that Jack's enslavement did not involve being exported overseas to the Americas on the wooden decks of a slave ship. Instead, Jack was one of thousands of largely invisible children held captive at European slave factories across West Africa, a population little studied or known.[1290]

Africa, the institution of pawnship was recalibrated in the context of the slave trade to protect African and European merchants from financial losses when goods or other forms of currency were advanced during the slave procurement process, for example. Many pawns were sold into the Atlantic slave trade. For more on pawnship see for example Paul E. Lovejoy and David Richardson, "Trust, Pawnship, and Atlantic History: The Institutional Foundations of the Old Calabar Slave Trade," *The American Historical Review* 104, no. 2 (April 1, 1999): 333–55; Lovejoy and Richardson, "The Business of Slaving"; Paul E. Lovejoy and Toyin Falola, eds., *Pawnship, Slavery, and Colonialism in Africa* (Trenton, NJ: Africa World Press, 2003); Kwabena Adu-Boahen, "Friendly Assistance: Archetypal Pawnship in Pre-Colonial Akan Society," *African Journal of History and Culture* 5, no. 8 (2013): 160–170; Sparks, "Gold Coast Merchant Families, Pawning, and the Eighteenth-Century British Slave Trade"; Spicksley, "Pawns on the Gold Coast"; Paul E. Lovejoy, "Pawnship, Debt, and 'Freedom' in Atlantic Africa During the Era of the Slave Trade: A Reassessment," *The Journal of African History* 55, no. 01 (2014): 55–78.

[1287] Joseph E. Inikori, "The Struggle against the Transatlantic Slave Trade: The Role of the State," in *Fighting the Slave Trade: West African Strategies*, ed. Sylviane A. Diouf (Athens, OH: Ohio University Press, 2003), 184–86; Shumway, *The Fante and the Transatlantic Slave Trade*, 56–61, 93–106; Hargrove, *The Political Economy of the Interior Gold Coast*, 74–85.

[1288] HCPP, House of Commons Sessional Papers of the Eighteenth Century, Minutes of Evidence on the Slave Trade 1790, vol. 73, Testimony of Thomas Trotter, 84.

[1289] Shumway, *The Fante and the Transatlantic Slave Trade*, 59.

[1290] Children remain an under-explored population in the context of the Atlantic slave trade. Among those exported to the Americas, children represented a sizeable, population. Children and women together represented the majority of individuals trafficked to the Americas during the transatlantic slave trade. Although their numbers fluctuated over time and varied by region, the trend over time exhibits a marked increase of enslaved children being exported across the Atlantic. During the last quarter of the eighteenth century, approximately 22.2 per cent of individuals shipped to the Americas were children, and that number almost doubled by the first quarter of the nineteenth

Although merchants were often warned against exporting "small slaves" because they were worth less in American slave markets than adults, a different dynamic was at work in the context of castle slavery. The Royal African Company believed that boys like Jack held promise for the slave trade.[1291] Jack's youthful presence among the enslaved and free, West African and British, medical staff was part of an over fifty-year-old labor management strategy. British merchants desired enslaved boys to work as apprentices in specialized trades in order to reduce

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century.

For children in the transatlantic slave trade see for example, Morgan, *Laboring Women*, 50; G. Ugo Nwokeji, "African Conceptions of Gender and the Slave Traffic," *The William and Mary Quarterly*, Third Series, 58, no. 1 (January 1, 2001): 47; Geggus, "Sex Ratio, Age and Ethnicity in the Atlantic Slave Trade"; Eltis and Engerman, "Fluctuations in Sex and Age Ratios in the Transatlantic Slave Trade, 1663-1864"; Diptee, "African Children in the British Slave Trade During the Late Eighteenth Century"; Lovejoy, "The Children of Slavery – the Transatlantic Phase"; Richard B. Allen, "Children and European Slave Trading in the Indian Ocean during the Eighteenth and Early Nineteenth Centuries," in *Children in Slavery through the Ages*, ed. Gwyn Campbell, Suzanne Miers, and Joseph C. Miller (Athens, OH: Ohio University Press, 2009), 35–54; Fred Morton, "Small Change: Children in the Nineteenth-Century East African Slave Trade," in *Children in Slavery through the Ages*, ed. Gwyn Campbell, Suzanne Miers, and Joseph C. Miller (Athens, OH: Ohio University Press, 2009), 55–70; Benjamin N. Lawrance, "'All We Want Is Make Us Free': The Voyage of La Amistad's Children through the Worlds of the Illegal Slave Trade," in *Child Slaves in the Modern World*, ed. Gwyn Campbell, Suzanne Miers, and Joseph C. Miller (Athens, OH: Ohio University Press, 2011), 13–36; Benjamin N. Lawrance, *Amistad's Orphans: An Atlantic Story of Children, Slavery, and Smuggling* (New Haven, CT: Yale University Press, 2015); Audra A. Diptee, "'A Great Many Boys and Girls': Igbo Youth in the British Slave Trade, 1700-1808," in *Igbo in the Atlantic World: African Origins and Diasporic Destinations*, ed. Toyin Falola and Raphael Chijioke Njoku (Bloomington, IN: Indiana University Press, 2016), 112–22. See also the special volume in *Atlantic Studies*, "Atlantic Childhoods: Global Context," Volume 11, no. 4 (2014), which examines Atlantic childhood in mainly colonial contexts during the nineteenth and twentieth centuries.

[1291] Although children were sold for lower prices than adults, merchants also indicated that they preferred children, even those below thirty-one feet tall, in preference to older, sickly captives. See for example, TNA, T70/51, Letters Sent to Africa, 1698-1703, Letter to the King of Ouidah, August 12, 1701, f. 202. Children were difficult to categorize in the context of the Atlantic slave trade, partly due to merchants' inability to determine the ages of the enslaved with any level of exactitude. As a result, slave traders used height, along with other physical characteristics such as teeth, stubble for the boys, and breast development for girls to determine whether a child was pre- or post-pubescent. These medical inspections are discussed in chapter 3. Height, however, represented a widely used metric across the various national carriers, although the heights and the age-ranges the various heights were meant to represent varied. In 1701, the Royal African Company, for example, used 4 ½ feet and above as the height of a child. See TNA, T70/51, Letters Sent to Africa, 1698-1703, Letter to the King of Ouida, August 12, 1701, f. 202. For the Royal African Company, it seems that individuals under 4 ½ feet tall were believed to be aged thirteen and younger. See TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Dalby Thomas, September 6, 1705, f. 102; Letter to John Tozer, April 4, 1706, f. 127. For more concerning how different heights and age specifications were used throughout the late seventeenth and eighteenth centuries across various European slave trades see Geggus, "Sex Ratio, Age and Ethnicity in the Atlantic Slave Trade"; Rawley and Behrendt, *The Transatlantic Slave Trade*, 52; Lovejoy, "The Children of Slavery – the Transatlantic Phase," 199–200; Silva, *The Atlantic Slave Trade from West Central Africa, 1780–1867*, 112–21; Sasha Turner, *Contested Bodies: Pregnancy, Childrearing, and Slavery in Jamaica* (Philadelphia, PA: University of Pennsylvania Press, 2017), 211–14.

the number of skilled male artisans, craftsmen, soldiers, and sailors needed from Britain.[1292] In this highly gendered labor structure, the economic value placed upon training enslaved boys to eventually replace British men meant that the company was willing to invest significant short-term resources in the process.[1293] In 1705, an enslaved cooper who had been kidnapped was redeemed by the Royal African Company for the value of two enslaved men. However, the merchants believed such a high payment was worth the investment because the cooper could "gett more Blacks Instructed in that Trade."[1294] Boys as young as Jack began their occupational training under English and West African instructors, learning how to be seafarers and soldiers, blacksmiths and carpenters, coopers and sawyers, and even doctors.[1295]

By 1702, for example, many boys were being "bred up as Seamen."[1296] In the early eighteenth century, London officials required every Royal African Company slave ship captain to identify several boys from each cargo who would be trained as sailors and branded with an "S."[1297] Seafaring boys were also culled from among enslaved castle children and adolescents at

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[1292] Newman, *New World of Labor*, 124–31.

[1293] The gender implications of this labor structure and the devaluing of African girls' and women's work is discussed later in the chapter.

[1294] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to Richard Willis, Ouidah, 24 August 1705, f. 95.

[1295] Apprenticeship was rooted in the medieval guild structure and served as the formal educational institution that governed vocational training in Britain throughout the eighteenth century. See Chapter Three for how medical apprenticeships in Britain functioned. For more on apprenticeship see Forbes, "Apprentices in Trouble"; Lane, "The Role of Apprenticeship"; Joan Lane, *Apprenticeship in England, 1600-1914* (London: University College of London Press, 1996); Deborah Simonton, "Apprenticeship: Training and Gender in Eighteenth-Century England," in *Markets and Manufacture in Early Industrial Europe*, ed. Maxine Berg (New York: Routledge, 1991), 227–58; John E. Murray and Ruth Wallis Herndon, "Markets for Children in Early America: A Political Economy of Pauper Apprenticeship," *The Journal of Economic History* 62, no. 02 (June 2002): 356–382; Brian P. Luskey, "'What Is My Prospects?': The Contours of Mercantile Apprenticeship, Ambition, and Advancement in the Early American Economy," *The Business History Review* 78, no. 4 (2004): 665–702; Minns and Wallis, "Rules and Reality"; Chris Minns and Patrick Wallis, "The Price of Human Capital in a Pre-Industrial Economy: Premiums and Apprenticeship Contracts in 18th Century England," *Explorations in Economic History* 50, no. 3 (2013): 335–350.

[1296] TNA, T70/87, Minute Books, Court of Assistants, 1702-1705, August 18, 1702, f. 26.

[1297] Ibid. See also Ray Costello, *Black Salt: Seafarers of African Descent on British Ships* (New York: Oxford

British forts and settlements, as it became the standard practice by 1706 to place as many as four enslaved boys on board all Royal African Company ships that traveled between Britain and West Africa and between Britain and the West Indies. [1298] In 1706, four African boys ranging in age from twelve to seventeen labored on board the *Dorothy*. Appearing in the muster roll as "Black Peter," "Black Joe," "Black Tom," and "Black Harry," they worked alongside a fourteen-year-old English boy named Daniell Garrett and fourteen other seamen from Sweden, Holland, England, and Scotland.[1299] While in port, the enslaved sailor boys labored in the London shipwright's yard, received medical attention from apothecaries like Mary Meazy, and had their food and clothes provided by men like John Tasker before departing again for the African coast.[1300] Although most enslaved boys at the castle did not become overseas travelers who

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University Press, 2012), 8–10.

[1298] TNA, T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson & Boye, June 28, 1721, f. 13r; September 30, 1721, f. 194; T70/64, Instructions to Captains & Mates, 1719-1744, Letter to James Kettle, February 28, 1721, f. 46. Instructions given to John Tozer in 1706 in Gambia indicated that the boys should be between the ages of sixteen and twenty; however, the evidence suggests that they were often much younger. See TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to John Tozer, April 4, 1706, f. 124.

[1299] TNA, T70/1438, List of Passengers and Crews, 1700-1719, A List of Officers and Seamen Abord ye Dorothy, Aril 30, 1706. See also T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson & Boye, June 28, 1721, f. 13r; September 30, 1720, f. 19r; T70/64, Instructions to Captains & Mates, 1719-1744, Letter to James Kettle, February 28, 1721, f. 46; T70/53, Letters Sent to Africa, 1720-1728, Letter to Mssrs. Phipps, Dodson, Boye, & Stevenson, February 27, 1721, f. 51.

[1300] TNA, T70/137, Minute Books, Committee of Shipping, Orders of Court, 1722-1724, February 22, 1722; T70/258, Clerks to the Committee of Shipping, 1716-1720, October 8, 1716, f. 5r; T70/304, Waste Book Home, 1738-1744, f. 111. For more on enslaved and free African and African American seamen in the Atlantic world see Julius S. Scott, "Afro-American Sailors and the International Communication Network: The Case of Newport Bowers," in *Jack Tar in History: Essays in the History of Maritime Life and Labour*, ed. Colin D. Howell and Richard J. Twomey (Fredericton, New Brunswick: Acadiensis Press, 1991); David S. Cecelski, *The Waterman's Song: Slavery and Freedom in Maritime North Carolina* (Chapel Hill, NC: University of North Carolina Press, 2001); Rediker and Linebaugh, *The Many-Headed Hydra*; Michael J. Jarvis, "Maritime Masters and Seafaring Slaves in Bermuda, 1680-1783," *The William and Mary Quarterly*, Third Series, 59, no. 3 (July 1, 2002): 585–622; Michael J. Jarvis, *In the Eye of All Trade: Bermuda, Bermudians, and the Maritime Atlantic World, 1680-1783* (University of North Carolina Press, 2010), 104–9, 147–56; W. Jeffrey Bolster, *Black Jacks : African American Seamen in the Age of Sail* (Cambridge, MA: Harvard University Press, 1997); Charles R. Foy, "Ports of Slavery, Ports of Freedom: How Slaves Used Northern Seaports' Maritime Industry to Escape and Create Trans-Atlantic Identities, 1713-1783" (Ph.D., Rutgers The State University of New Jersey - New Brunswick, 2008); Christopher, *Slave Ship Sailors and Their Captive Cargoes, 1730-1807*, 51–90; Candido, "Different Slave Journeys"; Arne Bialuschewski, "Black People under the Black Flag: Piracy and the Slave Trade on the West Coast of Africa, 1718-1723," *Slavery & Abolition* 29, no. 4 (December 2008): 461–75; Arne Bialuschewski, "Pirates, Black Sailors and

developed fluency in the lifeways of various locales around the Atlantic world, the intelligence the boys brought back from their oceanic travels must surely have made an impression on their fellow captives.[1301]

By 1720, the practice of utilizing enslaved boys as apprentices was so longstanding that it had become "custom."[1302] "The Custom of putting Blacks apprentices, is what the Compa [Company] think a thing of very great use; and benefit, and earnestly recommend it to be your Constant practice," wrote company officials from London.[1303] The labor strategy was codified in the standard instructions given to all slave factories alongside requests to submit written accounts detailing how the enslaved apprentices were developing, their level of proficiency, and an assessment of how many fewer Englishmen would need to be sent to West Africa as a result.[1304]

Seafaring Slaves in the Anglo-American Maritime World, 1716-1726," *Journal of Caribbean History* 45, no. 2 (2011): 143–58; Costello, *Black Salt*; Kevin Dawson, "Enslaved Ship Pilots in the Age of Revolutions: Challenging Notions of Race and Slavery between the Boundaries of Land and Sea," *Journal of Social History* 47, no. 1 (September 1, 2013): 71–100; Charles R. Foy, "The Royal Navy's Employment of Black Mariners and Maritime Workers, 1754–1783," *International Journal of Maritime History* 28, no. 1 (February 1, 2016): 6–35.

[1301] For an excellent discussion of the fluidity of identity among African travelers who crisscrossed continents see Sweet, "Mistaken Identities?"

[1302] Apprenticeship determined entry into the many trades and guilds that structured much of the English labor market, and the Royal African Company also took on apprentices from charitable institutions in London with some regularity. In 1675, lads from Christ Church Hospital, which was a charitable institution for poor youth, were placed on board Royal African vessels to be bred to the sea. See TNA, T70/76, Minute Books, Court of Assistants, 1673-1676, January 20, 1676, f. 66v. In 1704, the Royal African Company put boys, who were approximately twelve years old, on board Royal African Company vessels. They indicated that they desired "hail lusty healthy boys fitt for Sea Service," and needed to receive the consent of either the children's parents or parish officials. See TNA, T70/43, Letters Sent from Home, 1700-1706, Letter to Captain Bartlett, June 27, 1704, f. 228. The Company also desired to use boys from the Blue Coat Hospital in Liverpool to serve as writers in West Africa. The argument was that the typical young men sent to Africa had few skills, hoped to get "great Estates soon," and dreamed of getting rich on the Gold Coast. Company officials hoped that poor apprentices would be more diligent and capable laborers. Before sending them to Africa, the Company decided to try the boys out first as apprentices in the London office "to acquaint them wth [with] the business & then to Send them over as Writers, being perswaded they will prove of good Service to Us." See T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Phipps, Dodson, Boye, 18 Nov 1721, f. 20r; T70/53, Letter to Phipps, Dodson, Boye, Stevenson, September 7, 1721, f. 49r.

[1303] TNA, T70/53, Letters Sent to Africa 1720-1728, Letter to James Phipps, Henry Dodson, Francis Boye, and John Stevenson, July 1, 1720, f. 4.

[1304] TNA, T70/66, Instructions to Chief Agents in Africa, 1720-1737, Letter to David Dunbar, October 6, 1720, f. 9r. Whether progress reports of enslaved apprentices were ever produced is unclear.

Thus, in the 1750s, Jack was one among several apprentices at Cape Coast Castle. While Jack was a "Doctor's Boy," Quamino and Quashee were Labourer's boys, Quow was a "Cook's boy," Coffee was a "Carpenter's boy," a second boy named Coffee was a "Smith's Boy," Quobino was a "Cooper's Boy," Cudjoe was a "Bricklayer's Boy," and a second boy named Quamino was an "Armourer's Apprentice."[1305]

Jack, however, was in a different situation as a doctor-in-training. Although his apprenticeship followed the general economic logic that determined the use of other apprentices, London officials drafted a special set of directives governing enslaved "doctors' boys." In 1706 regulations were sent to all slave factories enjoining surgeons to identify enslaved boys who could function as medical apprentices. Any "young Lad in ye Garrison that delights in Phisick & surgery" was sought and surgeons were "to breed them up in the Art."[1306] As was the case in Britain, girls were excluded from formal medical apprenticeships.[1307] When the company made efforts to produce medicines in Africa, enslaved doctors' apprentices were expected to contribute and they likely brought their valuable, but young, botanical knowledge of West African plants to the surgeons in order to help develop the physic garden.[1308] After 1706, the utilization of enslaved medical apprenticeships became part of the standard instructions sent to British forts and settlements for decades, and young enslaved boys continued to serve in medical roles long

[1305] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, August 31, 1753, f. 36 – 37.

[1306] See for example TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to John Tozer, April 4, 1706, f. 123.

[1307] In eighteenth-century Britain, although women practiced medicine, they were prohibited from formal medical apprenticeships and were barred from entry to the medical guilds and corporations. See Fissell, *Patients, Power and the Poor*, 64. See also S. D. Smith, "Women's Admission to Guilds in Early-Modern England: The Case of the York Merchant Tailors' Company, 1693–1776," *Gender & History* 17, no. 1 (April 1, 2005): 99–126.

[1308] TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to John Tozer, April 4, 1706, f. 123.

past Jack's tenure as an apprentice and later as a doctor.[1309]

Thus, in 1752, when Jack and his fellow apprentices labored at Cape Coast Castle, they were part of a significant enslaved workforce whose intellectual capabilities, technical skills, and leadership potential were highly sought because if they could attain a level of mastery in their respective fields, the boys would eventually train others in their occupations. While Coffee learned woodworking and helped repair buildings, and Quamino cleaned and repaired firelock and matchlock muskets, Jack studied medicine.[1310] The eight-year-old would likely have begun learning how to identify West African medicinal plants and would have investigated their basic therapeutic principles under the tutelage of herbalists such as Ammano, Deedie, and Aquah who were among the enslaved "Doctresses" at the castle during the 1750s, as well as Atoom who served as the resident enslaved "Black Doctor."[1311] When enslaved healers descended into the black hole to examine sick captives targeted for shipment to the Americas, Jack may have accompanied them into the underground dungeons. The child may have witnessed the fearful

[1309] Ibid., Letter to Gerrard Gore, James Phipps, Robert Bleau, and Randle Logan, March 24, 1713, f. 395; T70/66, Letters Sent, Instructions to Chief Agents in Africa, 1720-1737, Letter to James Phipps, July 1, 1720, f. 2v.

For enslaved boys in medical roles between the 1770s and 1790s see for example Quabino Aquonte in Parliamentary Archives, Records of the Parliament Office, House of Lords, Journal Office, Main Papers, 1750-1799, HL/PO/JO/10/7/660, State and Condition of the British Forts on the Coast of Africa, June 11, 1782; HL/PO/JO/10/7/900, African Company's Accounts, February 10, 1792; HL/PO/JO/10/7/944, African Company's Accounts, April 18, 1793; TNA, T70/1044, Cape Coast Castle Day Books, 1780, October-December 1780, f. 20v; T70/1046, Cape Coast Castle Day Books, 1781-1783, July-September 1783, f. 18v. See also Quey Amundie in Parliamentary Archives, Records of the Parliament Office, House of Lords, Journal Office, Main Papers, 1750-1799, HL/PO/JO/10/7/660, State and Condition of the British Forts on the Coast of Africa, June 11, 1782; TNA, T70/1046, Cape Coast Castle Day Books, 1781-1783, July-September 1783, f. 18v. See also Tykie in TNA, T70/1041, Cape Coast Castle Day Books, 1778, October-November 1778, f. 23v; T70/1043, Cape Coast Castle Day Books, 1779, October-December 1779, f. 21; T70/1044, Cape Coast Castle Day Books, 1780, October-December 1780, f. 19v; T70/1046, Cape Coast Castle Day Books, 17181-1783, July-September 1783, f. 18v.

[1310] For weaponry at Cape Coast Castle see Ray A. Kea, "Firearms and Warfare on the Gold and Slave Coasts from the Sixteenth to the Nineteenth Centuries," in *Technology and European Overseas Enterprise: Diffusion, Adaptation and Adoption*, ed. Michael Adas (Brookfield, VT: Variorum, 1996), 89–106.

[1311] These individuals are discussed later in the chapter. Please note that the herbalist named Deedie in the 1750s is a different individual than the woman named Deddie discussed in Chapter Three who was an indigenous priest. The Deedie discussed above , who was an herbalist, died December 31, 1763. See TNA, T70/1019, Cape Coast Castle Day Books, 1763, December 31, 1763, f. 27v.

cries of children his own age; the swollen, dropsical bodies of the dying; and the emaciated condition of many. Jack had to learn the meaning and practice of medicine within sight and sound of his captors as they separated families, quelled rebellions, and viciously beat those who refused to comply with their orders.

In addition to the prisons, Jack would also have spent time in the hospital and in other makeshift sickrooms, which were typically segregated spaces that kept ailing Africans and British invalids apart from one another.[1312] Peter Falkengren was master of the sickroom and managed the enslaved hospital attendants – women such as Abbah and Yaffuah, who likely performed a mixture of nursing and housekeeping duties.[1313] In 1753 the hospital contained nine sick tradesmen from Anombu fort, so Jack may have begun to explore how medical care functioned in a hospital setting from Peter, Abbah, and Yaffuah.[1314] When the wives of British employees accompanied their husbands to West Africa, at times the company expected them to serve as nurses.[1315] Jack may have also observed British approaches to nursing from Catherine

[1312] TNA, T70/7, Abstracts from Africa, 1720-1732, Letter Abstract from Mssrs. Phipps, Dodson, and Boye, November 18, 1721, f. 20r.

[1313] For Peter Falkengren see TNA, T70/1518, Detached Papers, 1752, List of Officers &c. at Cape Coast Castle, June 30, 1752. For Abbah see TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, August 31, 1753, f. 41; T70/1011, Cape Coast Castle Day Books, 1756-1757, March 28, 1756, f. 16r; June 30, 1756; f. 25r; September 30, 1756, f. 21v; T70/1025, Cape Coast Castle Day Books, 1767, December 31, 1767, f. 25v; T70/1026, Cape Coast Castle Day Books 1768, December 31, 1768, f. 19v; T70/1028, Cape Coast Castle Day Books, 1769, March 30, 1769, f. 25v. For Yaffuah see Parliamentary Archives, Records of the Parliament Office, House of Lords, Journal Office, Main Papers, 1750-1799, HL/PO/JO/10/7/521, Forts and Settlements on the Coast of Africa, February 26, 1777; TNA T70/1025, Cape Coast Castle Day Books, 1767, December 31, 1767, f. 26r; T70/1029, Cape Coast Castle Day Books, 1770, December 31, 1770, f. 17r; T70/1035, Cape Coast Castle Day Books, 1774, December 31, 1774, f. 28r; T70/1040, Cape Coast Castle Day Books, 1777, March 30, 1777, f. 26r.

[1314] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, March 17, 1752, f. 19-20; April 21, 1752, f. 55; March 24, 1753, f. 30; April 6, 1753, f. 44.

[1315] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Thomas Whitney, Henry Glynn, and William Ramsey, December 1, 1720, f. 33. It is unclear whether the nursing expectation continued throughout the eighteenth century. During the 1720s there was a significant enough number of white, British women at the forts and settlements that special provisions were made for them to receive their own diet money, which was meant to provide basic subsistence, along with the expectation that they would offer nursing care. See T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkett and Abraham Knox, September 29, 1720, f. 21. By 1769, it was so common

Frazier and Elizabeth Jones, who were married to company soldiers.[1316] The head surgeon at Cape Coast Castle was Matthew Mackaile who was hired in 1750.[1317] Being at the top of the Gold Coast medical hierarchy, meant that Mackaile would have been the ultimate authority responsible for Jack's training, ensuring that his learning progressed and his proficiency increased. Mackaile could have taught Jack about the contents of the medicine chests that arrived from London apothecary Alexander Johnston who won the lucrative drug supply contract in 1750. Jack may also have observed and assisted the doctor as he examined the sick, prescribed and compounded medicines, and closed the eyes of the dead, before the doctor himself passed away in 1753.[1318]

This chapter explores how West African and British medical labor and knowledge intervened to manage the fragility of life and health at slave factories in West Africa. As discussed in the previous chapter, these dynamic coastal enclaves represented vulnerable spaces characterized by cultural rupture and brutal encounter. Yet, as Jack's story suggests, the medical

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for British wives to travel to West Africa that £13 pay per year was described as "the Usual encouragement given to White women who reside on the Coast." See T70/69, Outwards Letter Books, 1764-1787, Letter to the Governor and Council at Cape Coast Castle, October 29, 1765, f. 59-60. At various points throughout the eighteenth century, company officials stated their distaste for husbands bringing their wives to West Africa, however, exceptions were consistently made. See for example the question of London-educated West African chaplain Philip Quaque bringing his British wife and a woman servant to West Africa. Although Hippisley and the company objected to white women coming to the coast due to the extra cost to the public purse and the circumstances the women were forced to endure, they did not want to separate husbands and wives. The company wrote that they acknowledge "the objections You make to the Sending out of White Women to the Coast, as well with respect to the publick, as the many disagreeable Circumstances these Women must be subject to; but the Reasons you assign of the impropriety of separating Man & Wife, are what had weight with us in the Case of Mr. Quaque & his Wife; all that can be said now is, that this Woman must be made as Comfortable as the place of her Residence will admit. See T70/69, Outwards Letter Books, 1764-1787, Letter to John Hippisley and the Council at Cape Coast Castle, September 3, 1766, f. 82.

[1316] TNA, T70/426, Accounts, Journals, Cape Coast Castle (1), 1751, July-December, September to October 1751, f. 43; T70/1007, Cape Coast Castle Day Books, 1752-1753, January and February 1752, f. 8r. See also T70/1519, Detached Papers, 1752, 1753, Death Certificate, Catherine Frazier.

[1317] For Matthew Mackaile's hiring see TNA, T70/1516, Detached Papers, 1750, 1751, Petition of Matthew Mackaile, undated; T70/143, Minute Books, 1750-1755, February 6, 1750, f. 40; TNA, T70/1518, Detached Papers, 1752, List of Officers &c. at Cape Coast Castle, June 30, 1752.

[1318] TNA, T70/1520, Detached Papers, 1753, Letter from Thomas Melville, July 3, 1753.

world that emerged in the slave trading zones was characterized by dense nodes of exchange between enslaved and free, West African and British, women and men. Although these spaces were filled with congeries of the walking wounded, drunken brawls, and suicidal desire, slave factories were also littoral micro-societies, intercultural theatres at the intersection of land and sea, meeting places and sites of exchange, spaces where knowledge could be created even as worlds were being made and unmade.[1319] In this way, captives became healers and captors became consumers of African medicine and knowledge; and British slave factories represented temporary, ephemeral waystations for the circulation of enslaved medical knowledge.

Healers in Bondage

As early as 1683, if not earlier, English merchants began utilizing West African medical practitioners to recover their health.[1320] In 1700, the Royal African Company instructed all their factors in West African settlements to "keep friendship with some Natives that understand the remedyes for their distempers."[1321] While both enslaved and free West African healers were likely utilized, by mid-century the institution of castle slavery became the dominant labor structure governing West African medical practice at British slave factories. From the middle of the seventeenth century and continuing to the end of the eighteenth century, the most significant and consistent workforce utilized at British slave factories were the enslaved bound to coastal settlements, referred to as "castle slaves," "company slaves," or "factory slaves."[1322] At the start

[1319] Isaac Land, "Tidal Waves: The New Coastal History," *Journal of Social History* 40, no. 3 (Spring 2007): 732.

[1320] Letter from Mark Bedford Whiting, September 3, 1683 in Law, *The English in West Africa 1681-1683*, I:12.

[1321] TNA, T70/51, Letters Sent to Africa, 1698-1703, Letter to Sierra Leone, 2 January 1700, f. 40v.

[1322] Newman, *New World of Labor*, 139; Reese, "Facilitating the Slave Trade," 363, 366; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 84. When the Portuguese began trading in West Africa during the sixteenth century, they began using enslaved Africans as interpreters in their West African trading activities. See Alvise Cà da Mosto, "The Voyage of Cadamosto," in *The Voyages of Cadamosto and Other Documents on Western*

of the eighteenth century there were at least five thousand enslaved children, women, and men at European slave factories.[1323] In 1722, the Royal African Company owned over five hundred children, women, and men on the Gold Coast and in the Bight of Benin.[1324] Although castle slavery has claimed minimal attention from historians, particularly in comparison with studies of other forms of enslavement in the Atlantic world, these laborers were critical to the British slave trade and were a boon to the company's perpetually struggling finances.[1325] Slave labor allowed the company to keep costs low, and London officials insisted that merchants rely upon enslaved laborers as much as possible and to only employ free workers when necessary.[1326] As Richard Newman explains, "the British slave trade could not have existed, let alone prospered, without

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Africa in the Second Half of the Fifteenth Century, ed. G. R. Crone (London: Printed for the Hakluyt Society, 1937), 55–56. For a similar practice by the English during the middle of the sixteenth century, also prior to their establishment of English trading settlements, see "The First Voyage Made by Master William Towrson Marchant of London to the Coast of Guinea with Two Ships, in the Yeere 1555," in Richard Hakluyt, *The Principal Navigations, Voyages, Traffiques & Discoveries of the English Nation*, vol. 6 (Glasgow: J. MacLehose and Sons, 1904), 200.

Although the early employment of enslaved labor by Europeans occurred on an as-needed basis, the institution of castle slavery developed into a more formal labor system during the last two decades of the fifteenth century after the Portuguese established the first European trading fort on the Gold Coast, *São Jõrge de Mina*, and imported enslaved workers to serve their labor needs at the castle. Other European nations followed suit as they erected slave factories, and shaped the institution to suit their specific work requirements from the Upper Guinea Coast to Angola. The French, for example, owned castle slaves at their forts in Saint Louis and Gorée. Danes at Christiansborg Castle and the Dutch at Elmina Castle possessed "committee slaves" and "service slaves" at their Gold Coast slave factories. See Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 84–85; Hernæs, "Fort Slaves at Christiansborg"; Filipa Ribeiro da Silva, "Dutch Labor Migration to West Africa (c. 1590-1674)," in *Migration, Trade, and Slavery in an Expanding World: Essays in Honor of Pieter Emmer*, ed. Wim Klooster (Boston, MA: Brill, 2009), 86–89; Filipa Ribeiro da Silva, *Dutch and Portuguese in Western Africa: Empires, Merchants and the Atlantic System, 1580-1674* (Boston, MA: Brill, 2011), 148.

[1323] Lovejoy, *Transformations in Slavery*, 128.

[1324] Ibid., T70/387, Accounts, Journals, Cape Coast Castle (KK), 1722-1723, November 1, 1722, f. 32.

[1325] See the Introduction for a discussion of the presence of castle slavery in the historiography.

[1326] Reese, "Facilitating the Slave Trade," 268; Hernæs, "Fort Slaves at Christiansborg," 200; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 87–88. See also British Library (hereafter, BL), Add MSS 38403, Vol. CCXIV, March – December 1779, Letter from John Roberts to Lord Liverpool, "Negroes: Observations on Use of as Soldiers in India, Africa, Etc.," f. 240.

this enslaved workforce in and around British forts and trading posts."[1327] While British employees came and went through discharge, sickness, and death, the enslaved castle workforce was an independent, long-standing, and powerful group of personnel whose longevity, authority, and expertise helped fuel the expansion of Atlantic trade and the growth of Britain's slave trading empire.[1328]

The experience of enslavement was subject to great variability across the Atlantic and Indian Ocean worlds, and castle slaves have been described as representing an elite slave status.[1329] As an institution, castle slavery was a hybrid form of bound, waged labor that was directed by Britons but rooted in West African traditions, which, in this instance, allowed the enslaved greater independence, autonomy, and rights than was typically afforded in the plantations complexes of the British Caribbean.[1330] Castle slaves were waged laborers who had set days and hours for their work. They received extra pay for overtime work, bonuses for extraordinary labor performed, and were entitled to a small pension when they became disabled or superannuated, which was paid until death.[1331] At Cape Coast Castle, the majority of the

[1327] Newman, *New World of Labor*, 139; Reese, "'We Must Keep Black Men of Power in Our Pay,'" 53.

[1328] Reese, "Facilitating the Slave Trade," 364; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 89; Newman, *New World of Labor*, 139.

[1329] Gijanto, "The Nature of Marginality," 67–68; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 89–90; Reese, "Facilitating the Slave Trade," 373–74.

[1330] Newman, *New World of Labor*, 140–41, 165; Reese, "Class at an African Commercial Enclave," 85; Reese, "Facilitating the Slave Trade," 373–74. Liza Gijanto describes castle slavery as being similar to enslaved individuals owned by Jesuits in the Americas, as they were not owned by individuals but by an institution. See Gijanto, "The Nature of Marginality," 68.

[1331] Castle slaves, like British employees, were given their payments in the form of tradable commodities such as rum, textiles, brandy, brass pans, tobacco, cowries, and even gunpowder, gun flints, and knives. See for example TNA, T70/406, Accounts, Journals, Cape Coast Castle (II) (OO), 1737, January 1737, f. 22, f. 24; February 1737, f. 52; March 1737, f. 78; April 1737, f. 120; and, T70/421, Accounts, Journals, Cape Coast Castle (E3d., F3d.), 1744-1745, August 1744, f. 42; November & December 1744, f. 94. See also Newman, *New World of Labor*, 142–43, 151. Research by Klas Rönnbäck finds that the wages earned on average by castle slaves between 1728 and 1760 were significantly higher than basic subsistence needs, even for the enslaved who performed unskilled labor. Rönnbäck interprets this surplus as loyalty premiums. See Rönnbäck, "Waged Slavery." Ty Reese, however, has a

enslaved workforce lived outside the castle walls in the adjacent town, some within family units, and such proximity to the wider Cape Coast society allowed for varying levels of integration into, and conflict with, the local community.[1332] At dawn, a bell tolled while soldiers unbolted the castle gates and stood guard while the enslaved left their homes and reported for work.[1333]

British merchants only rarely punished castle slaves with physical force or with being exported across the Atlantic, the latter of which was considered a heinous offence that would result in immediate dismissal from the company in 1783.[1334] Thus, although castle slaves had the legal status of property, they were generally not considered saleable goods, which meant they were protected from being resold.[1335] As such enslaved women and men seized the liberty to engage in work stoppages, demand higher pay, and temporarily abscond from their duties when dissatisfied with their working conditions.[1336] In 1784, the governing council at Cape Coast

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different perspective, seeing the wages as barely able to provide subsistence. There is evidence that during food crises, the castle slaves, along with others on the coast, struggled with under-nourishment. See Reese, "Wives, Brokers, and Laborers," 310; Reese, "Class at an African Commercial Enclave," 76. Rebecca Shumway interprets castle slaves' pay as food rations. See Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 91–92.

[1332] Newman, *New World of Labor*, 142, 156; Reese, "Facilitating the Slave Trade," 364; Reese, "Class at an African Commercial Enclave," 85–86; Gijanto, "The Nature of Marginality," 66. In the early eighteenth century there is evidence that some castle slaves and their families were confined to the castle. How the living arrangements of the enslaved castle workers changed over time is unclear.

[1333] Lawrence, *Trade Castles & Forts of West Africa*, 59–60; Newman, *New World of Labor*, 145.

[1334] Rönnbäck, "Waged Slavery," 75; Reese, "Facilitating the Slave Trade," 373. TNA, BT 6/14, Board of Trade, Miscellanea, Copies of Correspondence between the Committee of the Company and Cape Coast Castle, Cape Coast Castle Correspondence 1780-1784, Letter Extract to the Governor and Council at Cape Coast Castle, December 8, 1783, f. 2. See also ibid., Orders and Instructions to John Roberts, Robert Stubbs, Stuart Beard, and James Mourgue, undated.

[1335] Miers and Kopytoff, "African 'Slavery' as an Institution of Marginality," 5.

[1336] For example, sometimes the enslaved took goods from the castle and shared them among themselves. In one case, a group of enslaved men who performed service for the company during wartime demanded the same payment the free townspeople received and were refused. In response, they seized the goods they would have been paid had their treatment been equitable. See TNA, T70/33, Inward Letter Books 1781-1799, Letter from the Governor and Council of Cape Coast Castle, February 19, 1786, f. 123. In another instance, a group of forty enslaved men, their wives, and children all absconded into the town at Cape Coast to contest their working conditions. See ibid., 124-125; Reese, "Facilitating the Slave Trade," 373. Another example occurred on the morning of May 5, 1780 when

Castle complained that they had no way to control the enslaved which meant "we may bid adieu to all Obedience and Decorum amongst your Slaves."[1337]

In focusing on the crevices of freedom and autonomous spaces that castle slaves seized, it may be easy to overlook the fact that they were property who existed in a liminal space between British and West African slave societies, and were marginalized outsiders, to varying degrees, in both worlds.[1338] As property, castle slaves were branded with a "D," stripped of their identities and given "Names of distinction."[1339] There was no legal means by which castle slaves could sue for their freedom whether through monetary compensation to their owners or through marriage. After reaching consensus with African leaders on the Gold Coast, a policy was implemented that if any free African woman or man married an enslaved castle laborer, the free party was required to renounce their status and they became company property along with their children for life.[1340] Slavery was "a social condition forged in African women's wombs" on both

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four enslaved castle laborers ran away from Dixcove fort and went to Cape Apollonia, a British settlement located approximately sixty miles away. The three sawyers and one cook were displeased with Mr. Lomax, the chief of Dixcove, because he was scheduled to relocate to Cape Apollonia and desired to take the four enslaved men with him. The men told Lomax that they would not accompany him unless they were paid their four months' back wages. When Lomax refused, they traveled to Cape Apollonia to appeal to the current head of the fort. With their notes in hand indicating the money owed, the men received their pay and began working at the fort. See TNA, T70/1470, Journal at Apollonia, 1780, Friday, May 5, 1780, f. 15. See also Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 89–90.

[1337] TNA, T70/33, Inward Letter Books, 1781-1799, Letter from Governor and Council at Cape Coast Castle, March 31, 1784, f. 96.

[1338] *New World of Labor*, 160.

[1339] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Robert Plunkett and Abraham Knox, Feb 9, 1721, f. 45; Letter to Cape Coast Castle, September 12, 1721, f. 106; T70/66, Letters Sent, Instructions to Chief Agents in Africa, 1720-1737, Letter to James Phipps, July 1, 1720, f. 4v. The names given to the enslaved could be a source of mockery and humiliation; three male cooks were named Porridge, Dough, and Dumplin, for example. See TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, August 31, 1753, f. 36-3. However, in company accounting records, the majority of names were of African origin, which begs the question whether the practice of re-naming largely ended by the time the named lists of castle slaves were regularly kept by mid-century, or whether the renaming included an assortment of African names. Given the repetitive nature of the names, this may be worth considering. Kwabena Adu-Boahen argues that the names represented in castle accounts were their own. See Adu-Boahen, "The Impact of European Presence on Slavery in the Sixteenth to Eighteenth-Century Gold Coast," 188.

[1340] T70/1463, Cape Coast Castle Memorandum Book, 1703-1704, January 29, 1704, f. 3. See also ibid., February

sides of the Atlantic.[1341] While some castle slaves ran away, the threat of being returned by neighboring townspeople or rulers was high because capturing runaway slaves was governed not only by local custom but was also incorporated into political agreements made between British merchants and local African leaders.[1342] Additionally, those who eluded recapture were vulnerable to being kidnapped, sold, and trafficked to the Americas.[1343]

Their bondage, like those around the Atlantic world, was a source of loss and distress as the enslaved mourned for their countries and kin. New arrivals of castle slaves were often inconsolable and grief-stricken for some time. In 1766, London officials thanked John Hippisley, Governor of Cape Coast Castle for the assistance he gave to the new castle slaves who were consumed with sorrow. "The Methods You have taken to Silence their Tears & render them easy in their Situation is much approved of, there is no doubt of these people becoming usefull Slaves in the Castle," they wrote.[1344] Whether the enslaved arrived after a fifteen hundred mile sea voyage from the Senegambia region, were born in nearby villages, or were trafficked from Gold Coast forest kingdoms located two hundred miles in the interior, British slave factories represented an internal African diaspora of displaced people from diverse cultures, languages, religions, and lifeways who were forced into involuntary servitude for

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4, 1704, f. 5 for the case of an enslaved castle carpenter who had slaves of his own, and when this was discovered, they all became the Royal African Company's property as well.

[1341] Morgan, *Laboring Women*, 56.

[1342] Reese, "Facilitating the Slave Trade," 373–74; Hernæs, "Fort Slaves at Christiansborg," 210; Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 89; Newman, *New World of Labor*, 141–42. For examples of castle slaves running away, see also Morgan, *Laboring Women*, 54–55.

[1343] Reese, "Facilitating the Slave Trade," 365; Newman, *New World of Labor*, 142.

[1344] TNA, T70/69, Outwards Letter Books, 1764-1787, Letter to John Hippisley and the Council at Cape Coast Castle, September 3, 1766, f. 78-79.

life.[1345] Enslaved West African medical practitioners spent their working lives within this structure where they were branded, but also received wages; stripped of their identities but also established independent homes; absconded from work and demanded better working conditions while also being property for life.

Unlike other aspects of castle slave labor which elicited much comment and concern, enslaved medical practitioners were infrequently mentioned in the African Company's correspondence.[1346] Although specific instructions governed the employment of enslaved medical apprentices like Jack, which were in force for decades, the organization and use of adult healers lacked such clear articulation. It is possible that the practice of using enslaved healers was established so early and functioned so satisfactorily that it elicited little comment – part of the unmentioned normalcy of the everyday. The existence of this robust community of healers and their longevity as herbalists and surgeons is primarily visible through the African Company's accounting records because of the pay castle slaves received. With increasing consistency over the course of the eighteenth century, but particularly by mid-century, merchants documented payments given to individual castle slaves, along with their names and occupations,

[1345] The company policy was to traffic slaves from the Senegambia region and the Bight of Benin to labor at the castle as these individuals would be marginalized as outsiders in the wider society, deprived of local connections, and less liable to run away. During the course of the eighteenth century, an increasing number of castle slaves were locally born, however a steady streams of enslaved workers continued to be imported to labor at British slave factories. For example in 1759, the company insisted that Joseph Debat immediately purchase "Gambia Slaves for Tradesmen." Ten were to remain in Gambia at the company's fort and ten were to be sent to Cape Coast Castle on the next available ship to work as masons, bricklayers, and carpenters. See TNA, T70/29, Inward Letter Books, 1751-1753, Letter to Joseph Debat, January 13, 1759, f. 162. For later in the century see for example, T70/31, Inward Letter Books, 1762-1773, Letter from John Grossle to the African Committee, April 16, 1770, f. 375; and T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, September 15, 1788, f. 186, f. 190.

[1346] The constantly crumbling buildings and the lack of British tradesmen at slave factories meant that enslaved artisans and laborers were of great importance and they were discussed at length in company correspondence. For example, in 1764, John Barnes wrote about the lack of British and enslaved artificers and laborers at Fort Lewis in Senegal and lamented that they were now "Obliged to Hire these People at such a Rate that the Charges of a Single Year will come to more than the full purchase of so many Slaves who would In little time do very near Twice their work." TNA, T70/37, Letters Received and Sent from Fort Lewis, Senegal, 1763-1766, Letter from John Barnes, April 8, 1764, f. 22. See also Newman, *New World of Labor*, 124–26.

and these "muster rolls," as the African Company referred to them, were intended to be taken every two months.[1347]

The muster rolls reveal that castle slavery was a gendered institution. Accounting records are inscribed with gender biases that devalued African women's work. Skilled labor was largely dominated by men who were employed as doctors, linguists, canoemen, pilots, gold takers, diplomats, bricklayers, gardeners, cooks, coopers, soldiers, smiths, fishermen, stone blowers, chapel assistants, and apprentices to various crafts and trades, including medical apprentices like Jack.[1348] An enslaved man named Atoom worked as a doctor at Cape Coast Castle from at least 1752 until his death on April 28, 1766.[1349] His name consistently appears throughout castle ledgers. Although the majority of entries list Atoom as "Doctor," or "Black doctor,"

[1347] See for example, TNA, T70/37, Letters Received and Sent from Fort Lewis, Senegal 1763-1766, Letter to John Barnes, August 17, 1763, f. 7.

[1348] For soldiers see for example TNA, T70/387, Accounts, Journals, Cape Coast Castle (KK), 1722-1723, December 31, 1722, f. 101; April 30, 1723, f. 197; T70/32, Inward Letters Books, 1773-1781, Letter from David Mill, July 29, 1774, f. 16; T7033, Inward Letter Books, 1781-1799, Letter from Jerome Weuves, October 26, 1781, f. 18. For agricultural labor see for example T70/1185, Account Books, Miscellaneous Entries (3), 1720-1744, Regulations Necessary to be Made Among the Working Slaves, unpaginated. For purchasing enslaved people to carry out specific trades and serve as masons, bricklayers, sawyers, and carpenters for example see T70/29, Inward Letter Books, 1751-1763, Letter to Joseph Debat, January 13, 1759, f. 162; and T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council of Cape Coast Castle, September 15, 1788, f. 186, f. 190. For enslaved castle workers being sent on diplomatic and trade missions see T70/1019, Cape Coast Castle Day Book, 1763, November 7, 1763, f. 2r; December 15, 1763, f. 17v.

[1349] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, January 18, 1752, f. 7v; May 31, 1753, f. 17; August 6, 1753, f. 21; August 31, 1753, f. 36; September 5, 1753, f. 2; November 30, 1753, f. 16; T70/1011, Cape Coast Castle Day Books, 1756-1757; March 28, 1756, f. 15r; June 30, 1756, f. 21v; September 30, 1756, f. 19r; December 31, 1756, f. 20v; March 31, 1757, f. 27v; June 30, 1757, f. 22r; September 30, 1757, f. 9r; T70/1013, Cape Coast Castle Day Books, 1758-1759, June 30, 1758, f. 21r; September 30, 1758, f. 14v; December 31, 1758, f. 23r; T70/1015, Cape Coast Castle Day Books, 1760, December 31, 1760, f. 24v; T70/1016, Cape Coast Castle Day Books, 1761, March 31, 1761, f. 6v; June 30, 1761, f. 23r; September 30, 1761, f. 13v; December 31, 1761, f. 20v; T70/1018, Cape Coast Castle Day Books, 1762, March 31, 1762, f. 7; June 30, 1762, f. 21v; September 30, 1762, f. 6v; December 31, 1762, f. 23r; T70/1019, Cape Coast Castle Day Books, 1763, March 31, 1763, f. 11v; June 30, 1763, f. 27v; September & October 1763, f. 9v; December 31, 1763, f. 25v; T70/1021, Cape Coast Castle Day Books, 1764, March & April 1764, f. 16r; May & June 1764, f. 21r; September & October 1764, f. 18r; December 31, 1764, f. 23r; T70/1022, Cape Coast Castle Day Books, 1765, March 31, 1765, f. 12v; June 30, 1765, f. 16v; October 31, 1765, f. 12r; December 31, 1765, f. 26v; T70/1024, Cape Coast Castle Day Books, 1766, March 30, 1766, f. 11r; April 28, 1766, Atoom's death.

occasionally he is referred to as a "Doctor's mate" and "Doctor's Servant."[1350]

Today, we are accustomed to attaching finely drawn distinctions to job titles and occupational categories, and this reflects a more modern sensibility which began to develop during the second half of the nineteenth century.[1351] In eighteenth-century Britain job titles in regard to the medical occupations were used with indifference and inexactitude in official documents and popular parlance.[1352] Appellations were often misleading because the same individual might be referred to in different ways, in different records, at different times depending on the circumstance.[1353] Labels such as physician, surgeon, doctor, and apothecary were often used interchangeably in Britain because the labor these individuals performed moved fluidly between occupational categories as general practice was the norm.[1354] General practice

[1350] There are two references listing him as a "Doctor's Servant" in TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, September 5, 1753, f. 2 and November 30, 1753, f. 16. There is one reference referring to him as a "Doctors Mate," in TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, May 31, 1753, f. 17.

[1351] Burnby, *A Study of the English Apothecary*, 14.

[1352] Ibid., 30.

[1353] Ibid., 14, 30.

[1354] R. S. Roberts, "The Personnel and Practice of Medicine in Tudor and Stuart England Part I. the Provinces," *Medical History* 6, no. 4 (1962): 375–76; Loudon, *Medical Care and the General Practitioner*, 28; Digby, *Making a Medical Living*, 30; Burnby, *A Study of the English Apothecary*, 12, 30; Maehle, *Drugs on Trial*, 26. There was a traditional tripartite division of medical labor. In this medical hierarchy, physicians were learned, university-trained healers concerned with the body's interior, the viscera, the internal organs, and physiological processes, and they were supposed to be the only ones who wrote prescriptions for internal remedies and evacuations. Surgeons were practical, medical craftsmen, the medical profession's manual laborers who trained by apprenticeship and performed the handiwork of medicine by cutting, slicing, suturing, and repairing the body's external form. Apothecaries were medical shopkeepers and tradesmen who, like surgeons, trained by apprenticeship in order to prepare, compound, and vend the internal medicines prescribed by physicians. However, medical practice in this period rarely adhered to such rigid divisions and practitioners could, and did, easily move between roles. See Digby, *Making a Medical Living*, 29.

The rise of the title "surgeon-apothecary," is an excellent example of introducing an appellation that would describe how medicine was functioning in practice. After being popular in Scotland the title "chirurgo-phamacopoeus," or surgeon-apothecary, was in use in England from at least the middle of the seventeenth century and became more prevalent over the course of the eighteenth century. Mary Fissell argues "in rural areas almost all apothecaries practiced as surgeon-apothecaries in the latter half of the century, and perhaps earlier." Fissell, *Patients, Power and the Poor*, 57. As an appellation "surgeon-apothecary" had become so popular that in 1815, Robert Masters Kerrison noted that surgeon-apothecaries were the "most numerous part of the profession in town and country." Kerrison,

was also the norm at British slave factories in West Africa.

In the context of castle slavery, the fluid nomenclature had an added level of arbitrariness because the work performed by the enslaved and the way it was described in castle ledgers was based upon the opinions, knowledge, prejudices, or preoccupations of whoever was responsible for creating the muster rolls at any particular moment. With such high turnover among employees, the record keepers changed frequently as well. Therefore, the official record in West Africa, as well as in Britain, might be misleading in terms of the nature and extent of the medical work an individual performed.[1355] R. S. Roberts writes, "it is necessary to get behind 'official' titles in administrative records in order to see how these men really did practice."[1356] This is of critical significance in regard to enslaved African women's medical labor.

While male castle slaves represented over twenty different occupations, enslaved women were typically classified as unskilled workers and were most frequently referred to as "Labouress."[1357] Line after line, page after page, with dull monotony across thousands of recorded names "Labouress" is the job title and descriptor most frequently given to women and girls who comprised anywhere from one quarter to over one half of castle slaves.[1358] In the Americas, too, enslaved African women were typically denied admittance to the majority of skilled labor occupations.[1359] At British slave factories, enslaved women were responsible for

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"Observations and Reflections on the Bill Now in Progress Through the House of Commons, for 'Better Regulating the Medical Profession as Far as Regards Apothecaries,'" 315. See also King, "Accessing Drugs in the Eighteenth-Century Regions," 49; Corfield, "From Poison Peddlers to Civic Worthies," 6, 14; Loudon, *Medical Care and the General Practitioner*, 24.

[1355] Burnby, *A Study of the English Apothecary*, 29.

[1356] Roberts, "The Personnel and Practice of Medicine in Tudor and Stuart England Part I. the Provinces," 375–76.

[1357] Rönnbäck, "Waged Slavery," 75.

[1358] Shumway, "Castle Slaves of the Eighteenth-Century Gold Coast (Ghana)," 91.

[1359] Morgan, *Laboring Women*, 10.

domestic and agricultural tasks such as sweeping halls, doing laundry, working in the gardens, collecting wood, cooking, and carrying water.[1360] As discussed in Chapter Four, European residents in West Africa articulated strongly negative views concerning the gendered division of labor in Atlantic Africa. Europeans believed African women's working lives were degraded, transgressed appropriate gender roles, and refracted a savage, uncivilized culture.[1361] The women are "imployed in all Labour," wrote John Atkins, and take on "the whole task of agriculture," observed Robert Norris. Thomas Winterbottom commented "women are regarded as beings of an inferior nature, and as born to be the slaves of man…Upon them devolved all the drudgery of the family, they not only cook, and wash, beat rice, and clean it from the husk, but they cut down the underwood, assist in hoeing the ground, and they also carry the produce to market."[1362] Castle officials employed enslaved women in many similar tasks, and despite having children to support, enslaved women were paid half of what unskilled male laborers were paid.[1363]

Many of their tasks, however, were intertwined with cultures of healing and curing as also discussed in Chapter Four. To tend gardens was also to grow medicines; to cook food was also to make medicines; to collect wood may not have only included gathering firewood but also medicinal woods such as bark from the Domboch tree (*Alchornea cordifolia*, Shumach. &

[1360] For an excellent example of the tasks distributed during a typical day see TNA, T70/1470, Journal at Apollonia, 1780, Monday, May 8, 1780, f. 16. See also Newman, *New World of Labor*, 148.

[1361] Morgan, "Some Could Suckle over Their Shoulder," 168.

[1362] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 1:144–45. For an excellent discussion of African women's labor as represented in European travel literature see Klas Rönnbäck, "'The Men Seldom Suffer a Woman to Sit Down': The Historical Development of the Stereotype of the 'Lazy African,'" *African Studies* 73, no. 2 (May 4, 2014): 211–27.

[1363] Rönnbäck, "Waged Slavery," 82; Reese, "Facilitating the Slave Trade," 370–71; Reese, "Wives, Brokers, and Laborers," 310.

Thonn.). The bark served as a powerful and effective purgative, and its antibacterial, anti-parasitic, and anti-inflammatory properties made it a valuable treatment for the ubiquitous gastro-intestinal distress that debilitated British bodies.[1364] Moreover, women from the Gold Coast and likely from other areas as well, were from cultural traditions in which medical knowledge was transmitted within the family. Henry Meredith, a surgeon himself, wrote that on the Gold Coast women "in general perform the office of the Surgeon, as well as of the Physician," and that their "medical knowledge is confined within the family and is seldom imparted to more than one, who is usually a female."[1365] Enslaved girls employed as lemon and lime pickers and barred from serving a formal medical apprentice at the castle like Jack, remained embedded in cultural formations that honored their ability to study and learn about the health systems, diagnostic practices, and therapeutic techniques of their female elders. Indeed, the lemons and limes the little girls picked represented not only cooking ingredients but were important medicinal substances in the precolonial West African pharmacopoeia, which gave young girls early exposure to plant-based remedies. For example, lime juice was an ingredient in treatments for biliary colic, gonorrhea, ophthalmia, fevers, and several other ailments, and represented one of the "chief Medicaments." Lime juice also served as a tooth wash and a

[1364] Dapper, *Naukeurige Beschrijvinge Der Afrikaensche Gewesten*, 388; Ogilby, *Africa*, 383; Hair, "An Early Seventeenth-Century Vocabulary of Vai," 134. *Alchornea cordifolia* is used throughout West, Central, and East Africa, and is one of the most widely-used plants in African traditional medicine. Studies have confirmed its antibacterial, anti-parasitic, and anti-inflammatory properties. See Ruth Kutalek and Armin Prinz, "African Medicinal Plants," in *Handbook of Medicinal Plants*, ed. Zohara Yaniv and Uriel Bachrach (New York: Haworth Press, 2005), 113–17; T Okpekon et al., "Antiparasitic Activities of Medicinal Plants Used in Ivory Coast," *Journal of Ethnopharmacology* 90, no. 1 (January 1, 2004): 91–97; Ajali, "Antibacterial Activity of Alchornea Cordifolia Stem Bark"; Mavar-Manga et al., "Anti-Inflammatory Compounds from Leaves and Root Bark of Alchornea Cordifolia (Schumach. & Thonn.) Müll. Arg."; P. O Osadebe and F. B. C Okoye, "Anti-Inflammatory Effects of Crude Methanolic Extract and Fractions of Alchornea Cordifolia Leaves," *Journal of Ethnopharmacology* 89, no. 1 (November 1, 2003): 19–24; Manga et al., "In Vivo Anti-Inflammatory Activity of Alchornea Cordifolia (Schumach. & Thonn.) Müll. Arg. (Euphorbiaceae)"; Gabriel A. Agbor, Talla Léopold, and Ngogang Y. Jeanne, "The Antidiarrhoeal Activity of Alchornea Cordifolia Leaf Extract," *Phytotherapy Research* 18, no. 11 (November 1, 2004): 873–76.

[1365] Meredith, *An Account of the Gold Coast of Africa*, 233–34.

preventative medicine on the Gold Coast among West Africans and Europeans.[1366]

This suggestive account of the informal spaces in which medical labor could be performed by enslaved "labouresses" at British forts and the inclusion of young girls in the medical landscape likely occurred with persistent frequency. This is demonstrated by the fact that the healing skills possessed by castle slave women were clearly recognized and utilized by the sick, wounded, and dying. British officials began to formally employ enslaved "labouresses" as "doctresses."[1367] Throughout the castle's accounting records, at any given point during the second half of the eighteenth century, there were groups of women whose job titles shifted over a ten to twenty year period from labouress to doctress and back again in the official record. Deedie was a healer at Cape Coast Castle from at least 1752 and served as a medical practitioner until her death on December 31, 1763. Deedie was variously described as a "doctress," "doctrix," "labouress," and "surgeon's servant."[1368] Upon her death in 1763, the

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[1366] Bosman, *A New and Accurate Description of the Coast of Guinea*, 224; Barbot, "A Description of the Coasts," 204; Meredith, *An Account of the Gold Coast of Africa*, 243–44.

[1367] Sharla Fett observes a similar pattern on Virginian and Georgian slave plantations in the nineteenth century. Enslaved women's doctoring existed alongside other subsistence labor tasks and responsibilities including being cooks, dairy women, weavers, spinners. See Fett, *Working Cures*, 133–34.

[1368] Initially, her name is spelled "Dudie," and she was first described as a labouress in 1752. TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, January - February 1752, f. 13v. In 1757, Dudie is listed as a doctress. See T70/1011, Cape Coast Castle Day Books, 1756-1757, March 31, 1757, f. 28v; June 30, 1757, f. 24v. Still spelled as Dudie, that same year she is listed as a "labouress," in the muster roll for September 30, 1757, f. 11v. Then, three months later, in the December 31, 1757, f. 24r muster rolls she is listed as a "doctress." In 1758, she is listed as a "doctrix," in T70/1013, Cape Coast Castle Day Books, 1758-1759, June 30, 1758, f. 23r; September 30, 1758, f. 17v; December 31, 1758, f. 25r. In 1759 and 1760 with her name now spelled as "Deedie," she is listed as a doctress. See T70/1013, December 31, 1759, f. 20v; T70/1015, Cape Coast Castle Day Books, 1760, March 31, 1760, f. 13v; June 30, 1760, f. 25r; September 30, 1760, f. 12r; December 31, 1760, f. 27r. In 1761 Deedie is listed as both a doctress and a labouress. See T70/1016, Cape Coast Castle Day Books, 1761, March 31, 1761, f. 10v for doctress and then she is listed as a labouress June 30, 1761, f. 29v. That same year she is also described as a "Surgeon's Servant," on September 30, 1761, f. 17r, and then again as a labouress on December 31, 1761, f. 23v. It would be worth considering how 1761 was a particularly confused year in describing her work as she was doctress, labouress, and surgeon's servant in the same year. In 1762 she is again listed as a doctress, see T70/1018, Cape Coast Castle Day Books, 1762, September 30, 1762, f. 10r; December 31, 1762, f. 25v. In 1763 she is described as both a labouress and a doctress. T70/1019, Cape Coast Castle Day Books, 1763, March 31, 1763, f. 15r for labouress. Then in September & October 1763, f. 12v, she is listed as a doctress. The final listing, documenting her death, Deedie is listed as a doctress. See T70/1019, December 31, 1763, f. 27v.

entry reads "Doctress died 31st Decr." This pattern is repeated with Ammano who worked alongside Deedie until her own death in 1768, and Abinnebah, Aquah, Amenah, and many others throughout the second half of the eighteenth century.[1369]

Atoom was surrounded by women healers who served as expert herbalists and surgeons in the volatile slave trading zones, and women healers appear to have numerically dominated the medical corps. Their presence is easy to overlook, existing in faint, fragmentary traces that are largely illegible unless one takes a longitudinal view of their laboring lives rather than a momentary glance. Enslaved women healers at slave factories were part of a labor structure that devalued their work, yet the fragility of life and the dogged British struggle to survive, subverted overdetermined ideologies of African women's inferiority and placed women, at times, into positions of medical authority.[1370] Although enslaved women doctors were paid four times less

[1369] For Ammano see TNA, T70/1011, Cape Coast Castle Day Books, 1756-1757, March 31, 1757, f. 29r; September 30, 1757, f. 11v; December 31, 1757, f. 23r; T70/1013, Cape Coast Castle Day Books, 1758-1759, June 30, 1758, f. 22v; September 30, 1758, f. 17r; December 31, 1758, f. 25r; December 31, 1759, f. 21r; T70/1015, Cape Coast Castle Day Books, 1760, March 31, 1760, f. 12v; June 30, 1760, f. 24v; September 30, 1760, f. 10v; T70/1016, Cape Coast Castle Day Books, 1761, June 30, 1761, f. 26v; September 30, 1760, f. 17r; December 31, 1761, f. 24r; T70/1018, Cape Coast Castle Day Books, 1762; March 31, 1762, f. 9v; June 30, 1762, f. 24r; Deceber 31, 1762, f. 25v; T70/1019, Cape Coast Castle Day Books, 1763, March 31, 1763, f. 13v; June 30, 1763, f. 31r; September & October 1763, f. 10r; December 31, 1763, f. 27v; T70/1021, Cape Coast Castle Day Books, 1764, May & June 1764, f. 24r; September & October 1764, f. 20r; December 31, 1764, f. 25r; T70/1022, Cape Coast Castle Day Books, 1765, March 31, 1765, f. 15r; June 30, 1765, f. 19r; October 31, 1765, f. 15v; December 31, 1765, f. 28v; T70/1024, Cape Coast Castle Day Books, 1766, March 30, 1766, f. 12r; September 31, 1766, f. 7v; December 31, 1766, f. 25v; T70/1025, Cape Coast Castle Day Books, 1767, March 31, 1767, f. 15v; June 30, 1767, f. 18r; September 31, 1767, f. 13r; December 31, 1767, f. 26. Ammano must have died sometime during January-February 1768 because she disappears from castle records at this point.

[1370] It is important to note that the medical labor of women in the British Isles was also devalued, and this became more sedimented over the course of the eighteenth century with increasing medical professionalization, changes to education and training as discussed in Chapter Three, and the rise of male midwifery. There were multiple tributaries that contributed to the diminishment of African women's medical labor in comparison with their male counterparts. See D. A. Evenden, "Gender Differences in the Licensing and Practice of Female and Male Surgeons in Early Modern England," *Medical History* 42, no. 2 (April 1998): 194–216; Pelling, *The Common Lot*, 134–202; Fissell, *Patients, Power and the Poor*, 58–68; Mary E. Fissell, "Introduction: Women, Health, and Healing in Early Modern Europe," *Bulletin of the History of Medicine* 82, no. 1 (2008): 1–17; Mary E. Fissell, *Vernacular Bodies: The Politics of Reproduction in Early Modern England* (New York: Oxford University Press, 2006); Doreen Evenden, *The Midwives of Seventeenth-Century London* (New York: Cambridge University Press, 2000); Rebecca Laroche, *Medical Authority and Englishwomen's Herbal Texts, 1550-1650* (Burlington, VT: Ashgate Publishing, Ltd., 2009); Elaine Leong, "Making Medicines in the Early Modern Household," *Bulletin of the History of Medicine* 82, no. 1 (2008): 145–68; Deborah E. Harkness, "A View from the Streets: Women and Medical Work in

than enslaved male doctors, and had children to support, they were not merely an economic answer to a labor shortage problem.[1371] These enslaved women and men were valuable for their unique, local therapeutic knowledge.

Privileging African Indigenous Medical Knowledge

When slave traders, colonizers, and migrants took to the seas in the early modern period and settled in foreign locales, they discovered that their current knowledge proved inadequate and unreliable in these new settings.[1372] Rather than being "an enterprise based on an unquestioning assumption of European superiority," overseas settlement represented "an anxious pursuit."[1373] In 1700, when the Royal African Company instructed all their factors in West African settlements to "keep friendship with some Natives that understand the remedyes for their distempers," the directive was a quest not only for labor but also for knowledge.[1374] The enslaved children, women, and men held captive in underground dungeons were subject to diseases that Britons believed could be most effectively cured through local knowledge of preventative and restorative medicine. Moreover, the British were vulnerable to "country

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Elizabethan London," *Bulletin of the History of Medicine* 82, no. 1 (2008): 52–85. For an excellent discussion of the vibrant medical and scientific work performed by European women prior to the eighteenth century see Monique Frize, *Laura Bassi and Science in 18th Century Europe: The Extraordinary Life and Role of Italy's Pioneering Female Professor* (New York: Springer Science & Business Media, 2013), 25–38.

Much has been written about the rise of male midwifery. See for example Wilson, *The Making of Man-Midwifery*; Cody, "The Politics of Reproduction"; Keller, "The Subject of Touch: Medical Authority in Early Modern Midwifery"; Monica H. Green, *Making Women's Medicine Masculine: The Rise of Male Authority in Pre-Modern Gynaecology* (New York: Oxford University Press, 2008); King, "Midwifery, 1700-1800: The Man-Midwife as Competitor"; Dr Adrian Wilson, *Ritual and Conflict: The Social Relations of Childbirth in Early Modern England* (Burlington, VT: Ashgate Publishing, Ltd., 2013).

[1371] Rönnbäck, "Waged Slavery," 82.

[1372] Rebecca Earle, "'If You Eat Their Food...': Diets and Bodies in Early Colonial Spanish America," *The American Historical Review* 115, no. 3 (2010): 688.

[1373] Ibid., 688–89.

[1374] TNA, T70/51, Letters Sent to Africa, 1698-1703, Letter to Sierra Leone, 2 January 1700, f. 40v.

distempers" specific to the West African coast, which were little known or understood in Europe and could not be solved through the standard pharmacopoeia.[1375] By residing in West Africa, the constitutions of Europeans altered, wrote Dutch merchant Willem Bosman, "and therefore this Country Remedies, in all probability, are better for our Bodies than the European."[1376]

Utilizing enslaved West African medical practitioners, *materia medica*, and therapeutic knowledge was therefore a medically sound intervention. Seeking indigenous medical expertise and locally-grown medicines was tethered to the principle of localism in the Western medical tradition – the idea that local diseases were best cured by recourse to local remedies.[1377] Localism was a vestige of a long-held belief that divine providence enabled human survival in distinct places by supplying unique environmental and medicinal resources.[1378] Diseases moreover were shaped by specific climatic, atmospheric, and environmental conditions. In the 1520s, well-known physician and alchemist Paracelsus wrote, "Each land, to be sure, gives birth

[1375] Schiebinger, "Prospecting for Drugs," 120–21.

[1376] Bosman, *A New and Accurate Description of the Coast of Guinea*, 225.

[1377] David Arnold, "Introduction: Tropical Medicine before Manson," in *Warm Climates and Western Medicine: The Emergence of Tropical Medicine, 1500-1900*, ed. David Arnold (New York: Rodopi, 1996), 6; Jane Buckingham, *Leprosy in Colonial South India: Medicine and Confinement* (New York: Palgrave Macmillan, 2001), 71; Mark Harrison, "The Discovery of Indigenous Febrifuges in the British East Indies, c. 1700-1820," in *Traditional Medicinal Plants and Malaria*, ed. Merlin Willcox et al. (New York: CRC Press, 2004), 231–32; Harold J. Cook, "Global Economies and Local Knowledge in the East Indies: Jacobus Bontius Learns the Facts of Nature," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L. Schiebinger and Claudia Swan (Philadelphia, PA: University of Pennsylvania Press, 2005), 103; McCandless, *Slavery, Disease, and Suffering in the Southern Lowcountry*, 174.

[1378] O. Thulesius, *Nicholas Culpeper: English Physician and Astrologer* (New York: Springer, 1992), 30; Harrison, "The Discovery of Indigenous Febrifuges," 231–32; David Arnold, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley, CA: University of California Press, 1993), 11, 47; Richard Harry Drayton, *Nature's Government : Science, Imperial Britain, and the "Improvement" of the World* (New Haven, CT: Yale University Press, 2000), 12; Joyce E. Chaplin, *Subject Matter : Technology, the Body, and Science on the Anglo- American Frontier, 1500-1676* (Cambridge, MA: Harvard University Press, 2001), 194; Martha K. Robinson, "New Worlds, New Medicines: Indian Remedies and English Medicine in Early America," *Early American Studies: An Interdisciplinary Journal* 3, no. 1 (2005): 99; Elaine Leong, Alisha Rankin, and Lisa Wynne Smith, eds., "Secrets of Place: The Medical Casebooks of Vivant-Augustin Ganiare," in *Secrets and Knowledge in Medicine and Science, 1500–1800* (Burlington, VT: Ashgate Publishing, Ltd., 2013), 218–19.

to its own special kind of sickness, its own medicine, and its own physician."[1379] In 1657, Richard Ligon wrote from Barbados, "For certainly every Climate produces Simples more proper to cure the disease that are bred there, than those that are transported from any other part of the world: such cure the great Physitian to mankind takes for our convenience."[1380] These beliefs lingered into the nineteenth century.[1381] Within this logic, West African therapeutic traditions were uniquely suited to address the health threats contained in its environment. The imprint of the local characterized health management techniques as diseases and cures were understood through a rubric that privileged the specifics of place.[1382]

Although Dutch officials on the coast showed little sustained interest in West African medicine, the British observed that West African doctors often offered simpler and more effective remedies than the drugs their own surgeons prescribed to the sick.[1383] Joseph Moseley authored what may be the only surviving fragment of a surgeon's journal written by an African Company slave factory surgeon.[1384] Moseley served as chief surgeon in Gambia beginning in

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[1379] Bruce T. Moran, "The 'Herbarius' of Paracelsus," *Pharmacy in History* 35, no. 3 (1993): 104.

[1380] Richard Ligon, *A True & Exact History of the Island of Barbados* (London: Printed for Humphrey Moseley, 1657), 118.

[1381] Karen Elizabeth Flint, *Healing Traditions: African Medicine, Cultural Exchange, and Competition in South Africa, 1820-1948* (Athens, OH: Ohio University Press, 2008), 95–96.

[1382] Debates concerning localism extended to the use of foreign drugs in Britain as they entered apothecary shops and were included in British pharmacopoieas with greater frequency beginning in the seventeenth century. For anxieties concerning foreign drugs as well as efforts to study local floras and document natural productions indigenous to Europe see Andrew Wear, "The Early Modern Debate about Foreign Drugs: Localism versus Universalism in Medicine," *The Lancet* 354, no. 9173 (July 1999): 149–51; Alix Cooper, *Inventing the Indigenous: Local Knowledge and Natural History in Early Modern Europe* (New York: Cambridge University Press, 2007).

[1383] Rutten, *Dutch Transatlantic Medicine Trade in the Eighteenth Century Under the Cover of the West India Company*, 98–99.

[1384] From the early eighteenth century, instructions were given concerning how medical personnel were to perform their duties at British forts and settlements, and this included keeping a daily journal. In a 1706 letter to John Tozer, head of the fort in Gambia, the merchant was to ensure that the surgeon made sick rounds daily and kept a medical journal of all actions taken, all the illnesses, injuries and diseases he was attending to, how they was to be cured and why. See TNA, T70/52, Letters Sent to Africa, 1703-1715, Letter to John Tozer, Gambia, April 4, 1706, f. 123.

1733 and liberally prescribed one of the most famous, notoriously complex, and highly-regarded compound medicines in the European pharmacopoeia – the ancient polypharmaceutical known as *Theriaca Andromachii* (Venice treacle).[1385] Moseley administered Venice treacle for the majority of his patients who suffered from fevers on the West African coast. Venice treacle was considered an alexipharmic (poison antidote), and Europeans also believed the medicine assisted in a range of different ailments. In the 1716 pharmacopoeia, the virtues of Venice treacle included curing plague, causing cheerfulness, curing "Frenzy, Madness, want of Sleep and Rest, inveterate Pains of the Head," heart palpitations, coughs, colds, asthmas, "sickness of the Stomach, Wind, want of Appetite and Indigestion," leprosy, dysentery, and scurvy.[1386] Indeed it was considered by many to be an effective universal antidote.[1387]

Venice treacle is made from a complicated blend of over sixty-five different ingredients.[1388] The medicine contained narcotics such as opium; animal substances such as vipers; minerals such as amber; herbs that included cinnamon, cardamom, and fennel; and, a host

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The journal was to be transcribed so that the nature of all diseases and their cures would be known to all succeeding surgeons. Medical knowledge and practice would therefore be transmitted and circulated so that improvements could constantly be made. These instructions continued throughout the eighteenth century. See for example, T70/70, Outwards Letter Books, 1787-1793, Letter to the Governor and Council at Cape Coast Castle, October 11, 1788, f. 69. After searching thousands of records, this was the only fragment of a slave factory surgeon's journal I found. TNA, T70/1185, Miscellaneous Accounts (3), 1720-1744, Surgeon's Journal John Mosely, undated, unpaginated. Although this journal fragment is undated, Moseley was hired to serve as Chief Surgeon in Gambia on October 18, 1733. See T70/93, Minute Books, Court of Assistants, 1728-1735, Minutes October 18, 1733, f. 270,

[1385] TNA, T70/1185, Miscellaneous Accounts (3), 1720-1744, Surgeon's Journal John Mosely, undated, unpaginated.

[1386] William Salmon, *Pharmacopœia Londinensis,* 8th ed. (London: Printed by J. Dawks, 1716), 580.

[1387] Harold J. Cook, "Physicians and Natural History," in *Cultures of Natural History*, ed. N. Jardine, J. A. Secord, and E. C. Spary (New York: Cambridge University Press, 1996), 93; Christiane Nockels Fabbri, "Treating Medieval Plague: The Wonderful Virtues of Theriac," *Early Science and Medicine* 12, no. 3 (June 1, 2007): 248.

[1388] John Freind, *The History of Physick*, 2nd ed., vol. 2 (London: Printed for J. Walthoe, 1727), 209–10. The 1716 pharmacopoeia lists sixty-five drugs, but some ingredients were themselves composed of other ingredients. For example, the entry for troches of squills required dried squills (a kind of sea onion) to be mixed with wheat flour. See Salmon, *Pharmacopœia Londinensis*, 581. The classical formula contained up to eighty-one different ingredients. See Cook, "Physicians and Natural History," 93.

of other plant substances.[1389] The composition was to be dried, powdered, combined with honey and made into an electuary (a paste) that was formed into a bolus (a large pill). Venice treacle was described as "the Capital Alexipharmick of our Shops" and of all Europe.[1390] Moseley did make use of newer effective remedies like cinchona, the famed Peruvian bark that was an antimalarial; however, he typically gave his patients both Venice treacle and Peruvian bark at the same time, further increasing "the medley of discordant Simples" ingested by those under his care and fully embracing "the excessive polypharmacy of the time."[1391]

There was nothing out of the ordinary about this manner of prescribing. There were a vast number of compound remedies in regular use in British medicine and Venice treacle was one of them.[1392] In the 1742 edition of John Atkins' medical text *The Navy-Surgeon*, he

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[1389] The 1747 *British Dispensatory* lists the official recipe as "Take of troches of squills half a pound, long pepper, purified opium, and dried vipers, each three ounces, cinnamon, balm of Gilead, or in its place oil of nutmegs, each two ounces, agaric, Florentine orrice root, scordium, (water germander) red roses, navew gentle seed, (*napus*) and extract of liquorice, each one ounce and half, Indian spikenard, (*nardus indicus*) saffron, the true amomum seed, myrrh, costus root, or in its place zedoary, camel's hay, (*squinanth*) each an ounce, cinquefoil root, rhubarb, ginger, Indian leaves, or in their place mace, Cretan dittany leaves, white horehound leaves, calamint leaves, French lavender flowers, black pepper, Macedonian parsley seed, olibanum, chio turpentine, great wild valerian root, each six drachms, gentian root, celtic spikenard, spignel, (*meum athamanticum*) mountain poly leaves, St. John's wort leaves, ground pine leaves, (*chamaepitys*) germander tops, with the seed, (*chamaedrys*) carpobalsamum, or in its place cubebs, anniseed, sweet fennel seed, lesser cardamom seeds husked, each half an ounce, bishops weed seed, (*ammi*) common hart wort seed, (*seseli*) treacle mustard seed, juice of the hypocistis, acacia, or in its stead terra Japonica, gum arabic, purified storax, and sagapenum, terra Lemnia, or in its place bole armeniac, or French bole, and green vitriol calcined, each half an ounce, creeping birthwort root, or in its place long rooted birthwort root, centory tops, Cretan carrot seed, (*daucus creticus*) opoponax, purified galbanum, Russian castor, Jews pitch, or in its place prepared white amber, and calamus aromaticus root, each two drachms, purified honey thrice the weight of all the others; let them be mixed in the same manner as was before prescribed by Mithridate." See Royal College of Physicians, *The British Dispensatory* (London: Printed by Edward Cave, 1747), 104–5.

[1390] Quincy, *Pharmacopœia Officinalis & Extemporanea*, 409. For an essay that describes how *Theriaca Andromachii* and *Mithridatium* influenced the development of drug regulation in Europe see John P. Griffin, "Venetian Treacle and the Foundation of Medicines Regulation," *British Journal of Clinical Pharmacology* 58, no. 3 (September 2004): 317–25. Visitations to apothecary shops, such as the visitations that set James Goodwin's medicine ablaze as discussed in Chapter One, frequently found Venice treacle to be of deficient quality in apothecary shops.

[1391] William Heberden, *Antitheriaka : An Essay on Mithridatium and Theriaca*, 1745, 19; Maehle, *Drugs on Trial*, 28.

[1392] Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 92.

advocated only carrying nine medicines to overseas locales like West Africa, and Venice treacle was one of them.[1393] The British pharmacopoeia embraced the ancient roots of its medical tradition and the drugs in use represented "the legacy of several millennia of accumulation."[1394] British therapeutics refracted not only long-standing intellectual and cultural traditions but was embedded in a "deeply internalized system of explanation" that had remarkable tenacity even as many challenged the efficacy of "hotch-potch mixtures" like Venice treacle.[1395] During the second half of the eighteenth century, however, compound remedies slowly began to fall out of favor and many practitioners in learned medical circles increasingly promoted the use "simples."[1396]

Simples were natural medicinal products composed of a single substance, such as a plant, animal, or mineral, which could serve individually as a medicine or as an ingredient in a compound remedy.[1397] In contrast to the "rationalistic speculations of classical antiquity," and the logic that attended the use of medicines like Venice treacle in European medicine, precolonial West African systems of health and healing oriented their therapeutic practice around

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[1393] Atkins writes, "And, lastly, from experienced Want, I would recommend a triple Quantity of some Medicines usually put up for Foreign Sea-Service, *viz*. the *Cortex*, *Rad. Ipecacuan.* & *Rhabarb*, Opiates, *Aq. Cinnam. F. CCC. Ther. Venet. Elect. Fracastor.* or other *Antidysenterick Electuaries*; Practice in a manner being confined to them." See John Atkins, *The Navy Surgeon* (London: Printed for J. Hodges, 1742), 363.

[1394] Wallis, "Apothecaries and the Consumption and Retailing of Medicines in Early Modern London," 21.

[1395] Charles Rosenberg, "The Therapeutic Revolution: Medicine, Meaning and Social Change in Nineteenth-Century America," *Perspectives in Biology and Medicine* 20, no. 4 (Summer 1977): 487–91; Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 92–96.

[1396] Wear, *Knowledge and Practice in English Medicine, 1550-1680*, 95. By the middle of the eighteenth century, drugs like Venice treacle began to fall out of favor, although it remained in the official pharmacopoeia until 1788. There were several reasons for this occurrence – the rise of scientific botany and pharmaceutical chemistry, the ongoing decline of Galenic humoralism, the practical difficulty of supplying such a large number of ingredients, and the influence of efficacious simples from overseas. See Leslie Gerald Matthews, *History of Pharmacy in Britain* (Edinburgh: E. & S. Livingstone, 1962), 79–80; Maehle, *Drugs on Trial*, 26–29.

[1397] Cook, "Markets and Cultures," 135.

simples.[1398] British employees and other Europeans on the West African coast observed landscapes replete with medicinal simples and they marveled at how the inhabitants adeptly cured many bodily ailments. In 1722, chief merchant James Phipps at Cape Coast Castle wrote London officials that there were "many Simples found here, of very great benefitt, being observed to be made use of by the Natives in Pharmacy as well as in Surgery and who succeed in many good Cures in both."[1399] French slave trader Jean Barbot remarked similarly, "there are above thirty several sorts of green herbs extraordinary and wholesome, which are the principal remedies in use among the Blacks, as being of wonderful efficacy; as likewise some sorts of Roots, Branches, and Gums of trees."[1400] In 1726, when surveyor William Smith worked in West Africa, he described Africans on the Gold Coast as "the most skilled Botanists...who know well the Use of every Herb and Plant, and always apply them with such Success that the Cures wrought by them seem, at some times, to be little less than miraculous."[1401] Such surprise was also registered by Dutch merchant Willem Bosman in the early eighteenth century who wrote, although African herbal remedies on the Gold Coast might seem improper, "yet I have seen several of our Country Men cured by them, when our own Physicians were at a loss what to do."[1402]

[1398] Rosenberg, "The Therapeutic Revolution," 489.

[1399] TNA, T70/27, Abstracts from Africa, 1720-1724, Letter from Mssrs. Phipps, Dodson & Boye, July 2, 1722, f. 24v.

[1400] Barbot, "A Description of the Coasts," 198.

[1401] Smith, *A New Voyage to Guinea*, 163.

[1402] Bosman, *A New and Accurate Description*, 225. It does not appear that Britons were wary of any potential harm that might come to them from West African medicine, such as being poisoned which occurred in many parts of the Americas. When one British employee fell ill and feared he was poisoned, the chief of Cape Coast Castle, Thomas Melvil wrote that it was all in his imagination. "I say his Imagination because I do not believe him poisoned, that not being ever attempted, as far as I have heard, on this Part of the Coast. I once indeed heard of a white Man's accusing another of this Crime." See TNA, T70/1520, Detached Papers, 1753, Letter from Thomas Melvil, May 30, 1753.

In the late eighteenth century surgeon and merchant Henry Meredith marveled that West African doctors on the Gold Coast performed "wonderful cures merely by simples."[1403] The women, in particular, were gifted botanists from Meredith's medical perspective. He wrote, "their manner of selecting different roots and herbs, and their choice of them, discover no mean knowledge in botany: there is scarcely a plant without its peculiar virtue among them," he wrote.[1404]

Managing War, Mayhem, and Disease

Administering medical care at Cape Coast Castle often occurred at a frenetic pace. To manage the daily onslaught of illness, debility, and death, sick care occurred wherever space was available. At times the hospital overflowed with invalids, which was frequently the case in the Gambia where one-eighth of the slave factory's inhabitants were admitted to the hospital in 1764, for example.[1405] In 1790, all of Cape Coast Castle functioned as a sick house because only eleven people remained well.[1406] Like most castle slaves, enslaved doctors lived independently, outside castle walls, and they transformed their homes into infirmaries to care for the ill and infirm. On August 6, 1753, Atoom was paid for healing Shampa, a sick castle slave in his home.[1407] The following month the castle ledger reads "Paid Atoom Doctor's Servant for taking care of a Gambia Boy Slave who is sick at his house."[1408] Atoom was paid two gallons of

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[1403] Meredith, *An Account of the Gold Coast of Africa*, 228.

[1404] Ibid., 234–35.

[1405] TNA, T70/37, Letters Received & Sent, Fort Lewis, 1763-1766, Letter from John Barnes, April 8, 1764, f. 21.

[1406] TNA, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, June 30, 1790, f. 243.

[1407] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, August 6, 1753, f. 21.

[1408] Ibid., September 5, 1753, f. 2.

brandy on each occasion for the extra-hours and extraordinary labor he performed.

Enslaved castle doctors rushed into and out of the cook's room making medicines, which would have involved pounding and macerating plants, soaking herbs, boiling roots, roasting plants, distilling essential oils, and preparing recipes for poultices. The cook's room often got crowded as there was not always sufficient space to accommodate healers' needs, and this could result in conflict and in rare instances death. In 1788, an enslaved doctor named Tackey was frantically making medicines to care for a Mr. Coghlan who was mortally ill and on the brink of death. As Tackey raced into and out of the room, he repeatedly found the saucepan he was using to make medicines removed from the fire. An enslaved woman who was not attached to the castle was the culprit. Tackey confronted her, told her she had no business in the cook's room, lost his temper, and struck her. She fell against a wooden chest and her nose started to bleed. She died two weeks' later and Tackey was charged with murder but the incident was deemed an accident.[1409]

On a moment's notice, enslaved doctors had to be ready to relocate for varying durations, and it seems male doctors were chosen for such tasks.[1410] When hostilities broke out between the British and the Dutch at Komenda, Atoom was relocated for an entire year to attend to the wounded, particularly because the African Company's chief merchant in the region was badly injured and his health was of great significance to the company.[1411] When highly-regarded

[1409] TNA, T70/153, Acts of Council, Cape Coast Castle, 1782-1799, June 28, 1788, f. 110.

[1410] For how enslaved mobility was gendered in the American context see for example Stephanie M. H. Camp, *Closer to Freedom: Enslaved Women and Everyday Resistance in the Plantation South* (Chapel Hill, NC: The University of North Carolina Press, 2004), 28–34.

[1411] For hostilities between the English and Dutch at Komenda beginning in 1759 see J. J Crooks, *Records Relating to the Gold Coast Settlements from 1750 to 1874* (London: Frank Cass, 1973), 33–34. The company's caboceer was listed as Cabes, who was perhaps a relative of the well-known early eighteenth-century merchant prince, John Kabes, also at Komenda. See TNA, T70/1121, Commenda Day Books, 1757-1760, February 29, 1760, unpaginated. Atoom is absent from the Cape Coast Castle day books for almost all of 1760, and at Komenda a "Black Doctor" is

surgeon George Ogilvie was desperately ill, a "Black Doctor's Boy" was sent to cure him.[1412] Travelling by canoe from Cape Coast Castle to Komenda was approximately a twenty-mile journey however, the enslaved doctor's canoe was seized by the Dutch and he was captured. A fierce firefight ensued, seven Britons were killed, and thirty-nine Dutchmen were taken prisoner. By the time the enslaved doctor arrived, Ogilvie's condition had worsened and he was unable to heal him with the resources at Komenda. He brought Ogilvie back to Cape Coast Castle for further care, but Ogilvie died shortly thereafter.[1413]

In the midst of such high-pressure situations, enslaved doctors attended a multitude of ailments that afflicted enslaved and free persons at British slave factories. Guinea worms, animal attacks, duels, fevers, ulcerated skin, dysentery, colic, war wounds, venereal disease, yaws, fractured limbs, sleeping sickness, melancholia, madness, and a host of other afflictions plagued Britons and West Africans. A sizeable community of blind, limbless, and mad castle slaves struggled to survive. Some of the enslaved were double leg amputees; some had no use of their hands; and many had been without eyesight for decades.[1414] In 1770, an eleven year old

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referenced caring for the wounded men at Komenda. This seems to be the most likely explanation for Atoom's absence. See T70/1015, Cape Coast Castle Day Books, 1760, January 1, 1760, f. 2r; February 29, 1760, f. 24r; and for Atoom's return to Cape Coast Castle see ibid., December 31, 1760, f. 24v.

[1412] TNA, T70/32, Inward Letter Books, 1781-1799, Letter from Jerome Weuves, October 26, 1781, f. 19.

[1413] Ibid., January 30, 1782, f. 20.

[1414] A free mulatto soldier named Peter Claas (also written as Cloice) became blind between 1733 and 1736 and was still at Cape Coast Castle during the 1760s. For Peter Claas begin with TNA, T70/404, Cape Coast Castle Journal (GG), (MM), 1736, April 1736, f. 128; and he can be traced through all Cape Coast Castle Day Books into the 1760, including T70/1015, Cape Coast Castle Day Books, 1760, September and October 1760, f. 22v-23r. Quadja and Cudjoe Dragon were carpenters who had lost their sight and lived at the castle between the 1750s and the 1770s. Arrabue, Tetti, Aoutchie, Lightgay, Baboe, Maddie, and Betto were all blind during the 1760s and 1770s. All of these individuals appear in the Cape Coast Castle Day Books during those decades. During the 1780s, a laboress named Aggubah and a carpenter named Akassi were both blind in one eye. See T70/1052, Cape Coast Castle Day Books, 1787, January – March 1787, unpaginated.

For an example of the double leg amputation of a castle slave see T70/133, Minute Books, Committee of Shipping, 1713-1714, Minutes February 12, 1712, f. 6. See also Newman, *New World of Labor*, 160.

boy named Appea had a broken back.[1415] The mentally challenged, who were described as "idiots," and others who were referred to as insane got into skirmishes, at times, with those around them.[1416] An enslaved boy named Coffee, who was referred to as a "Lunatick boy," found himself in an altercation with a free man and cut his head, which required the company to compensate the injured man with one gallon of brandy for reparations.[1417] Care was needed to help these differently abled people navigate their chaotic social world. The slave trade inscribed itself upon the human body with a seemingly endless repertoire of insidious possibilities, and enslaved medical and botanical labor and knowledge intervened.

Guinea worm disease (*Dracunculiasis*) is an infection that was endemic in West Africa and occurs due to drinking contaminated water infested with water fleas that had ingested worm larvae.[1418] The larvae roam throughout the human body once they are inside the stomach, and establish themselves in the connective and subcutaneous tissues as well as in the skin, afflicting areas such as legs, knees, feet, thighs, upper arms, buttocks, scrotum and breasts.[1419] Most

[1415] TNA, T70/1029, Cape Coast Castle Day Book, 1770, December 31, 1770, f. 15r.

[1416] In 1757, Tabboe was an enslaved boy who had been trafficked from the Gambia to serve at Cape Coast Castle. He was initially described as a laborer, but then his title was listed as "Idiot." Salloe died in 1762. See TNA, T70/1011, Cape Coast Castle Day Books, 1756-1757, September 30, 1757, f. 9r; December 31, 1757, f. 22v; T70/1013, Cape Coast Castle Day Books, 1758-1759, June 30, 1758, f. 21v; September 30, 1758, f. 14v; December 31, 1758, f. 23r; December 31, 1759, f. 20r; T70/1015, Cape Coast Castle Day Books, 1760, September 30, 1760, f. 8v; T70/1016, Cape Coast Castle Day Books, 1761, March 31, 1761, f. 7v; June 30, 1761, f. 24r; September 30, 1761, f. 13v; December 31, 1761, f. 20v; T70/1018, Cape Coast Castle Day Books, 1762, March 31, 1762, f. 7v; June 30, 1762, f. 23v. Tabboe died on May 15, 1762. Ambah, Matrima, and Deddie were all variously described as "mad," "lunatick," "disordered," and "insane," during the 1770s. For Ambah see T70/1015, Cape Coast Castle Day Books, 1760, June 30, 1760, f. 25r; December 31, 1760 f. 28r; T70/1016, Cape Coast Castle Day Books, 1761, March 31, 1761, f. 10r; June 30, 1761, f. 27v; September 30, 1761, f. 17v. For Matrima see T70/1029, Cape Coast Castle Day Books, 1770, December 31, 1770, f. 16r. For Deddie see Chapter Four.

[1417] TNA, T70/1019, Cape Coast Castle Day Books, 1763, November 20, 1763, f. 8r.

[1418] Magner, *A History of Infectious Diseases and the Microbial World*, 146. Today, the world is on the verge of the global eradication of the disease. For global eradication campaigns currently underway see for example Brian Greenwood, Alice Greenwood, and Andrew Bradley, "Guinea Worm Infection in Northern Nigeria: Reflections on a Disease Approaching Eradication," *Tropical Medicine & International Health* 22, no. 5 (May 1, 2017): 558–66.

[1419] Brun, "Samuel Brun's Voyages of 1611-1620," 91; Barbot, "A Description of the Coasts," 278; Philip E. S.

residents in the slave trading zones appear to have been infected at various times, and as German surgeon Andreas Ulsheimer wrote in the early seventeenth century, "frequently one person has six or ten in his limbs; indeed, some actually have more."[1420] On July 3, 1753, for example, merchants at Cape Coast Castle sent a letter to London explaining that their account books were now over six months behind "occasioned by every Body's being laid up with the Worms."[1421] The worms could extend several feet in length and they left individuals debilitated for months, unable to walk, and in such painful torment that, at times, they had to be tied down and restrained.[1422] Chronic pain can persist for two years or more.[1423] Some sufferers lost their limbs and some lost their lives.[1424] Enslaved castle doctors, like other West Africans during the period, relied on a mixture of internal and external medicines as well as surgical extraction during a course of treatment for worm removal.

Unlike harsh mercurial preparations such as calomel (*Mercurous choloride*) or violent purges from bitters like Gentian root, scammony, aloe, or jalap, which were commonly utilized by the British, one of the remedies administered by enslaved castle doctors to their worm-ridden patients would have been papaya seeds (*Carica Papaya* L.). In Sierra Leone in 1803, Thomas

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Palmer and Maurice M. Reeder, *The Imaging of Tropical Diseases: With Epidemiological, Pathological and Clinical Correlation*, vol. 2 (New York: Springer, 2000), 369–70; Magner, *A History of Infectious Diseases and the Microbial World*, 146.

[1420] Andreas Josua Ulsheimer, "Andreas Josua Ulsheimer's Voyage of 1603-4," in *German Sources for West African History, 1599-1669*, ed. and trans. Adam Jones (Wiesbaden: F. Steiner, 1983), 33.

[1421] TNA, T70/1520, Detached Papers, 1753, Letter from Thomas Melvil, July 3, 1753.

[1422] Marees, *Description and Historical Account of the Gold Kingdom of Guinea (1602)*, 198–99.

[1423] Dieudonne P. Sankara, Andrew S. Korkor, and Junerlyn Agua-Agum, "Dracunculiasis (Guinea Worm Disease)," in *Neglected Tropical Diseases - Sub-Saharan Africa*, ed. John Gyapong and Boakye Boatin (New York: Springer, 2016), 49.

[1424] Atkins, *The Navy-Surgeon*, Appendix 25. Although death is not common today, both short-term incapacitation and permanent disability are major concerns. See Sankara, Korkor, and Agua-Agum, "Dracunculiasis (Guinea Worm Disease)," 46.

Winterbottom observed that bitter, peppery papaya seeds were consumed in their natural state to treat worms.[1425] Papaya was a new world plant that had been brought to West Africa during the sixteenth century by the Portuguese and it grew abundantly on the Gold Coast during the late seventeenth and eighteenth centuries, including in the gardens at Cape Coast Castle.[1426] Likely through a process of careful observation and experimentation, accompanied perhaps by guidance from the spirit world, West African herbalists discovered that papaya seeds were an efficacious cure for worm disease and incorporated it into their pharmacopoeia.[1427]

Thomas Winterbottom, however, was perplexed by such a cure because fruit seeds from the "Papaw tree" "were unattended with any sensible operations."[1428] Ingesting the seeds did not incite vomiting, sweats, urination, or defecation, which were necessary to help "kill or carry off these vermin" wrote physician William Buchan in 1769.[1429] Calomel, for example, produced saliva, sweat, and often green-colored feces as the chemical interacted with stomach fluid.[1430]

[1425] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:29.

[1426] Barbot, "A Description of the Coasts," 146, 177, 200–201; Smith, *A New Voyage to Guinea*, 126; J. W. Purseglove, "The Origins and Migrations of Crops in Tropical Africa," in *Origins of African Plant Domestication*, ed. Jack R. Harlan, Jan M. J. De Wet, and Ann B. Stemler (Chicago, IL: Walter de Gruyter, 1976), 307; Stanley B. Alpern, "Exotic Plants of Western Africa: Where They Came From and When," *History in Africa* 35, no. 1 (2008): 29.

[1427] For a description of divinatory herbalism including the role of dreams and visions in identifying new drug remedies as well as suggestions on how new crops were integrated into precolonial West African *materia medica* see Chapter Four.

[1428] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:28. See also Robert Dyce, "Carica Papaya: A Vermifuge," *British Medical Journal* 1, no. 230 (May 27, 1865): 548–49; Cyrus Macfoy, *Medicinal Plants and Traditional Medicine in Sierra Leone* (Bloomington, IN: iUniverse, 2013), 64; L. J. G. van der Maesen, X. M. van der Burgt, and J. M. van Medenbach de Rooy, eds., "Misuses and Abuses in Self-Medication with Medicinal Plants: The Case of Erythrophleum in Ghana," in *The Biodiversity of African Plants: Proceedings XIVth AETFAT Congress, 22-27 August 1994, Wageningen, the Netherlands* (Boston: Kluwer Academic Publishers, 1996), 715; Timothy J. O'Hare and David J. Williams, "Papaya as a Medicinal Plant," in *Genetics and Genomics of Papaya*, ed. Ray Ming and Paul H. Moore (New York: Springer Science & Business Media, 2013), 391–408; Maurice M. Iwu, *Handbook of African Medicinal Plants*, 2nd ed. (Boca Raton, FL: CRC Press, 2014), 170–72.

[1429] Buchan, *Domestic Medicine*, 1769, 373.

[1430] Richard M. Swiderski, *Calomel in America: Mercurial Panacea, War, Song and Ghosts* (Boca Raton, FL:

These bodily evacuations were a core feature of European medicine because European drug remedies, whether composed of plant, animal, mineral, or chemical substances, were meant to display observable physiological changes in the patient, which proved that the body's internal equilibrium was being altered.[1431] Drug efficacy was confirmed, therefore, by vomiting, defecation, sweating, and urination, and these visible effects offered insight into "the body's otherwise inscrutable internal processes."[1432]

In contrast to relying on dramatic bodily evacuations to produce knowledge of drug efficacy, precolonial West African therapeutics appeared to operate differently. Visible biological changes were less perceptible in the case of papaya seeds. Papaya seeds have a very mild laxative effect, and they do not kill worms through elimination.[1433] Instead, the seeds operate internally and have a direct toxic effect on the parasite causing it to die, after which it eventually exits the body through the stool.[1434] West African practitioners likely confirmed their knowledge of drug efficacy by incorporating evidence from various intersecting realms within their holistic worldviews.[1435] Prior empirical evidence of the medicine's use would certainly have been critical. Practitioners would have possibly attended to more subtle physiological

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Brown Walker Press, 2008), 40.

[1431] Rosenberg, "The Therapeutic Revolution," 489–90.

[1432] Ibid., 489.

[1433] Adebowale Adebiyi and P. Ganesan Adaikan, "Modulation of Jejunal Contractions by Extract of Carica Papaya L. Seeds," *Phytotherapy Research* 19, no. 7 (July 1, 2005): 628.

[1434] Papaya seeds contain benzyl isothiocyanate, a secondary metabolite product which has nematicidal (nematode worm killing) compounds. Benzyl isothiocyanate is considered the primary bioactive principle responsible for their anthelmintic (worm killing) activity. See Chung-Shih Tang, "Benzyl Isothiocyanate of Papaya Fruit," *Phytochemistry* 10, no. 1 (1971): 117–121; Rohan Kermanshai et al., "Benzyl Isothiocyanate Is the Chief or Sole Anthelmintic in Papaya Seed Extracts," *Phytochemistry* 57, no. 3 (2001): 427–435.

[1435] See Chapter Four for a description of the sacred, holistic foundation in West African approaches to health and healing.

manifestations such as examining the patient's eyes and skin color, feeling the skin around the area of infestation, and inquiring into the patient's sense of well-being, which could include insights the patient received from the spirit realm.[1436] Practitioners and patients would likely have incorporated knowledge derived from otherworldly entities after communicating with a deity or offering invocations to the ancestors. Whatever mixture of the above was operative, papaya seeds were found to operate consistently and predictably as an effective vermifuge (worm medicine). In present-day studies papaya seeds have proven to be as effective as synthetic drugs in eliminating worms.[1437]

In addition to vermifuges like papaya seeds, West African practitioners were also adept at worm extraction, which was often commonly performed. If the worm bored its way out of the body and poked its head through the skin, enslaved doctors would have slowly pulled the worm out by the head, winding it around a small piece of wood or straw, a little bit at a time, gingerly, day by day, sometimes over a period of months, until the entire worm was removed.[1438] During this process, West Africans on the Gold Coast daily bathed the area with external medicines and then covered the wound with palm oil and a leaf or a piece of cloth.[1439] The slow, careful

[1436] Capuchin missionary Lorenzo da Lucca offers a rare first-hand report of a physical examination carried out in a healing session in Atlantic Africa during this period. In describing a divinatory consultation session in the Kingdom of Kongo, da Lucca recounted that the patient was laid naked on the ground and examined through touch. See Lorenzo da Lucca, *Relations Sur Le Congo Du Père Laurent De Lucques (1700-1717)*, ed. and trans. Jean Cuvelier (Bruxelles: Institut Royal Colonial Belge, 1953), 131.

[1437] Adebiyi and Adaikan, "Modulation of Jejunal Contractions by Extract of Carica Papaya L. Seeds," 628; Tong Kwee Lim, *Edible Medicinal and Non-Medicinal Plants, Volume 1, Fruits* (New York: Springer, 2012), 707; Bruno Levecke et al., "Cysteine Proteinases from Papaya (Carica Papaya) in the Treatment of Experimental Trichuris Suis Infection in Pigs: Two Randomized Controlled Trials," *Parasites & Vectors* 7 (2014): 1; S. A. Ameen et al., "Anthelmintic Potency of Pawpaw (Carica Papaya) Seeds in West African Dward (WAD) Sheep," *Global Veterinaria* 5, no. 1 (2010): 30–34.

[1438] Müller, "Description of the Fetu Country, 1662-1669," 152; Atkins, *The Navy-Surgeon*, appendix 27. This process remains the common practice. See Sankara, Korkor, and Agua-Agum, "Dracunculiasis (Guinea Worm Disease)," 54.

[1439] Hemmersam, "Description of the Gold Coast, 1639-45," 122; Atkins, *The Navy-Surgeon*, appendix 27.

attention demanded by this method of extraction was critical because if the worm breaks off while still in the body, the area can become inflamed, infected, and swollen, which may result in permanent disability.[1440] Navy surgeon John Atkins criticized the impatience of English surgeons who "sometimes take a more improper Way." Rather than the slow extraction, some surgeons cut into the area to remove the worm and it inevitable broke in several pieces, which allowed it to migrate further into the body, aggravating the situation and causing great pain.[1441]

Enslaved castle doctors also had to attend to fractures and wounds. Unidentified skin disorders caused oozing sores and ulcers to break out indiscriminately all over the body.[1442] In 1791 a new company of soldiers arrived from Britain who "proved to be in a most shocking habit of Body, very shortly after their Arrival, by Sores and Ulcers breaking out on them almost from Head to Foot."[1443] Additionally, bites from wil animal attacks, battle wounds, injuries from duels, as well as fractured and dislocated limbs had to be mended.[1444] For the enslaved held captive in the black hole, many sustained external injuries during their violent transport to the waterside. Some of the imprisoned slaves arrived with head and leg wounds, partial fingers, and swollen and inflamed arms due to their being so tightly bound behind them during the long

[1440] Marees, *Description and Historical Account of the Gold Kingdom of Guinea (1602)*, 199; Ulsheimer, "Andreas Josua Ulsheimer's Voyage of 1603-4," 34; Bosman, *A New and Accurate Description of the Coast of Guinea*, 108.

[1441] Atkins, *The Navy-Surgeon*, appendix 27.

[1442] J. S. Handler, "Diseases and Medical Disabilities of Enslaved Barbadians, From the Seventeenth Century to Around 1838, Part I," *West Indian Medical Journal* 57 (2008): 15.

[1443] TNA, T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, June 20, 1791, f. 275.

[1444] Regarding duels see for example surgeon Lawrence Quyneo, who was discussed in Chapter Two. Quyneo served as chief surgeon at Cape Castle in the early eighteenth century and killed Lieutenant William Pitman in a duel over money. See TNT, T70/6, Abstracts from Africa, 1714-1719, Letter Abstract from Mssrs. Gore, Phipps, and Bleau, March 23, 1715, f. 7. For wild animal attacks see for example T70/405, Cape Coast Castle Journal (HH), (NN), 1736, October 1736, f. 54.

trek.[1445]

West Africans' skill in wound care and bonesetting on the Gold Coast was widely recognized.[1446] In the middle of the seventeenth century Michael Hemmersam noted that to cure open wounds and to decrease swelling, Gold Coast inhabitants cut into the wound to release pus and fluid; next "they wash it with water strongly mixed with pepper and other herbs, so that it stings sharply; afterwards they put palm oil and a leaf on it, to relieve [the pain]."[1447] In 1697, at Cape Coast Castle, minister John Smyth observed several plants being used to successfully treat ailments like boils, abscesses, cuts, and wounds.[1448] Some plants were pounded and applied directly to cuts or wounds and others were first dried in the sun, reduced to power, and then applied to the body. In the early eighteenth century, Willem Bosman remarked that Gold Coast inhabitants boiled certain green plants in water and used that decoction (the extracted concentrated essence in the liquid left behind) to create a poultice for the wound, which had great efficacy because of the healing virtues in the plants. [1449] Bosman "observed the Negroes cure

[1445] HCPP, Report of the Lords of the Committee of Council Appointed for the Consideration of All Matters Relating to Trade and Foreign Plantations, 1789, Part 1, Vol. 69, April 25, 1789, Testimony of James Arnold, 51-52.

[1446] For bonesetting among the Asante see see Maier, "Nineteenth-Century Asante Medical Practices," 68. For West Central Africa, in Duarte Lope's 1591 text on the Kingdom of Kongo, he noted the skilled wound care practiced in the region. Using plant remedies, Lopes saw a slave who had been stabbed with seven arrows and was close to death but recovered fully because of the herbs used. See Duarte Lopes, *Relatione Del Reame Di Congo*, trans. Filippo Pigafetta (Roma: Appresso Bartolomeo Grassi, 1591), 69. During the middle of the seventeenth century, Capuchin missionary Giovanni Antonio Cavazzi also noted Kongolese surgeons who utilized scalpels and plasters in their surgical technique. See Cavazzi, *Relation Historique*, I:221. See also the late nineteenth century example of the long-isolated East African lacustrine Kingdom of Bunyoro-Kitara which had extensive surgical knowledge, and they were well-equipped to address even the most serious surgical concerns. When Europeans penetrated the kingdom, reports began to circulate about how surgeons in Bunyoro-Kitara were able to safely and successfully carry out Caesarean sections in 1879, which was considered a dangerous operation at the time. However, the surgical team in the East African polity performed it "with smooth efficiency and unhurried skill." See Davies, "The Development of `Scientific' Medicine in the African Kingdom of Bunyoro-Kitara," 50, 52.

[1447] Hemmersam, "Description of the Gold Coast, 1639-45," 122.

[1448] Petiver, "A Catalogue of Some Guinea-Plants, with Their Native Names and Virtues," 679, 683–85.

[1449] Bosman, *A New and Accurate Description of the Coast of Guinea*, 110; Barbot, "A Description of the Coasts," 280.

such great and dangerous Wounds with them, that I have stood amazed."[1450] During surgeon Mungo Park's journey through the Senegambia region, he similarly noted West African surgical skill, believing the inhabitants to be even more talented as surgeons than as physicians.[1451] When someone suffers from a fracture, "the patient is laid upon a soft mat, and the fractured limb is frequently bathed with cold water," he wrote. The splints he witnessed residents make and the bandages they created were effective, simple, and easy to remove without damaging the limb. Dressings were made of leaves, shea butter, or cow dung.[1452] Castle slaves trafficked from the Gambia region would have brought such knowledge to the Gold Coast.

There was good reason to appreciate this aspect of precolonial West African medicine. Although identifying some of the plant species described in the sources is challenging due to the vagueness of the authors' descriptions, of particular note is the oil palm (*Elaeis Guineensis* Jacq). While the oil palm has been much referenced in the slave trade because of the importance of palm oil as a food provision for slave ships, the tree played a critical medicinal role as well.[1453] Enslaved doctors, like others in West Africa, made ample use of palm oil as well as the leaves from the oil palm tree in their wound management techniques, including during worm extraction. In recent phytochemical screenings, the leaves of the oil palm not only destroy pathogens due to

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[1450] Bosman, *A New and Accurate Description of the Coast of Guinea*, 225.

[1451] Mungo Park, *Travels in the Interior Districts of Africa in the Years 1795, 1796, and 1797* (London: Printed by W. Bulmer and Co., for the Author, 1799), 276.

[1452] Ibid., 276–77.

[1453] Klein, *The Atlantic Slave Trade*, 94–95; Carney and Rosomoff, *In the Shadow of Slavery*, 52, 67–69; Minchin and Newson, *From Capture to Sale*, 92, 106–8; Postma, *The Dutch in the Atlantic Slave Trade, 1600-1815*, 234; Randy J. Sparks, *The Two Princes of Calabar: An Eighteenth-Century Atlantic Odyssey* (Cambridge, MA: Harvard University Press, 2004), 76; Bertie R. Mandelblatt, "'Beans from Rochel and Manioc from Princ e 's Island ': West Africa, French Atlantic Commodity Circuits, and the Provisioning of the French Middle Passage'," *History of European Ideas* 34, no. 4 (2008): 412–13, 419; Gloria Chuku, *Igbo Women and Economic Transformation in Southeastern Nigeria, 1900-1960* (New York: Routledge, 2015), 48–50. For an archaeobotanical discussion of the oil palm in West and West Central Africa see M. Adebisi Sowunmi, "The Significance of the Oil Palm (Elaeis Guineensis)," *Vegetation History and Archaeobotany* 8, no. 3 (1999): 199–210.

their antimicrobial properties, but they also stimulate wound healing, tissue regeneration, collagen production, and wound closure.[1454] Moreover, external applications of palm oil were part of daily hygienic practices in West Africa and functioned as a critical component in pain management therapeutics. Enslaved doctors would have applied palm oil to the bodies of those who suffered from rheumatism, back pain, stomach pain, joint pain, cold limbs, general bodily weakness, or to invigorate the nerves.[1455]

European contact with West African systems of health and healing during the slave trade propelled the inclusion of palm oil into the European pharmacopoeia by the sixteenth century, and the product was classified as a drug in trade lists.[1456] "Since this oil is salutary and good for many afflictions," wrote Wilhelm Müller from the Gold Coat, "many medicaments are prepared from it by apothecaries here in Europe."[1457] French slave trader Jean Barbot noted that in Europe palm oil is esteemed for its medicinal benefits and is generally applied warm as a treatment for flatulence, chills of the shoulders, and dislocation of the limbs."[1458] In 1755, palm oil was included in John Hill's *The Useful Family Herbal*, as a remedy for "Cramps, Strains, Pains in the Limbs, and Weaknesses," but complained that palm oil supplies in apothecary shops were often

[1454] Maurice M. Iwu, *Food as Medicine: Functional Food Plants of Africa* (New York: CRC Press, 2016), 300; Sreenivasan Sasidharan et al., "Wound Healing Potential of Elaeis Guineensis Jacq Leaves in an Infected Albino Rat Model," *Molecules* 15, no. 5 (April 30, 2010): 3186–99; Soundararajan Vijayarathna et al., "The Antimicrobial Efficacy of Elaeis Guineensis: Characterization, in Vitro and in Vivo Studies," *Molecules* 17, no. 5 (April 26, 2012): 4860–77. The leaves of the oil palm are also being tested for their use in chemotherapy because they have exhibited anticancer properties. See Soundararajan Vijayarathna and Sreenivasan Sasidharan, "Cytotoxicity of Methanol Extracts of Elaeis Guineensis on MCF-7 and Vero Cell Lines," *Asian Pacific Journal of Tropical Biomedicine* 2, no. 10 (October 2012): 826–29.

[1455] Smith, *A New Voyage to Guinea*, 163; Bosman, *A New and Accurate Description of the Coast of Guinea*, 285; Barbot, "A Description of the Coasts," 204.

[1456] von Lübelfing, "Johann von Lübelfing's Voyage of 1559-1600," 16; Ulsheimer, "Andreas Josua Ulsheimer's Voyage of 1603-4," 33; Barbot, *Barbot on Guinea*, 1992, II:467; Daphne Hakuno, "Materials," in *The Cultural History of Plants*, ed. Sir Ghillean Prance and Mark Nesbitt (New York: Routledge, 2012), 341.

[1457] Müller, "Description of the Fetu Country, 1662-1669," 224.

[1458] Barbot, *Barbot on Guinea*, 1992, II:461.

not fresh.[1459] Although Europeans adopted West African practices of palm oil application by using the product to relieve joint or muscle pain, dislocated limbs, and bodily weakness, the British also incorporated palm oil in their own preparations. The Edinburgh Infirmary ordered supplies of palm oil to be included in a compound remedy called "the emollient glyster," which was an enema made from palm oil, egg yolks, and milk.[1460] In 1787, the *Gentleman's Magazine* published a remedy for gout in which both palm oil and oil of earthworms, which was a long-standing European medicinal ingredient, were recommended.[1461]

While Europeans learned about the benefits of the oil palm tree from West Africans in relation to wounds and injuries, it is possible that West Africans learned useful surgical knowledge from Europeans in regard to a new wound that occurred in West Africa due to the Atlantic slave trade – gunshot wounds. On the Gold Coast warfare had previously been waged with poisoned arrows, spears, javelins and swords, but during the 1620s and 1630s, small numbers of West African soldiers were also armed with muskets.[1462] A "revolution in warfare" occurred in the 1690s as the firearms trade accelerated and expanded, and powder, shot, and

[1459] John Hill, *The Useful Family Herbal*, 2nd ed. (London: Printed for W. Johnston and W. Owen, 1755), 272.

[1460] Author of the Practice of the London hospitals, *The Practice of the British and French Hospitals* (London: Printed for W. Griffin, 1773), 15.

[1461] *The Gentleman's and London Magazine: Or Monthly Chronologer, 1741-1794* (Dublin: Printed by John Exshaw, 1787), 120. Although it appears to have had little actual therapeutic value, oil of earthworms (*Oleum Lubricorum*) remained in the British pharmacopoeia well into the nineteenth century for a variety of uses. For example, it was an ingredient in an antiscorbutic (scurvy treatment) as well as an ingredient in an external medicine for pain relief. In the latter case live earthworms, fresh olive oil, and white wine were combined and heated until the liquid evaporated and then the mixture was strained and pressed before application. See for example Quincy, *Pharmacopœia Officinalis & Extemporanea*, 284; James Rennie, *A New Supplement to the Latest Pharmacopoeias of London, Edinburgh, Dublin, and Paris: Forming a Complete Dispensatory, Conspectus, and Dictionary of Medical Chemistry*, 4th ed. (London: Baldwin and Cradock, 1837), 284.

[1462] R. A. Kea, "Firearms and Warfare on the Gold and Slave Coasts from the Sixteenth to the Nineteenth Centuries," *The Journal of African History* 12, no. 2 (1971): 207; John K. Thornton, *Warfare in Atlantic Africa, 1500-1800* (London: University College of London Press, 1999), 58.

muskets were imported in greater quantities.[1463] Prior to this acceleration, when Jean Barbot was stationed on the Gold Coast between 1678 and 1682, he remarked that West Africans lacked sufficient skill in removing musket balls from the body.[1464] Some West African practitioners were likely forced to develop facility with gunshot wounds depending on where they resided, the level of musket use, the availability of shot and powder, and the chosen modes of warfare practiced in surrounding communities. For enslaved castle doctors, life at British settlements required such skills given the number of war wounds that had to be managed. Guns were also used in interpersonal conflicts, friendly fire incidents, and to guard against theft.[1465] During the 1750s, for example, the gardeners at Cape Coast Castle were instructed to fire musket shells at anyone who attempted to steal greens from the garden.[1466]

While war, conflict, guns and the threat of violence were a daily part of castle life, deadly fevers brought by microscopic armies decimated the lives of many. One of the fever remedies that enslaved castle doctors likely employed was velvet tamarind (*Dialium guineense*, Willd.), which was cultivated in the gardens at Cape Coast Castle and remains widely utilized across West Africa.[1467] Referred to as *asenaa* in Akan and *yoye* in Ga, velvet tamarind is a leafy tree

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[1463] W. A. Richards, "The Import of Firearms into West Africa in the Eighteenth Century," *The Journal of African History* 21, no. 1 (1980): 44–46; Thornton, *Warfare in Atlantic Africa, 1500-1800*, 67; Kea, "Firearms and Warfare on the Gold and Slave Coasts from the Sixteenth to the Nineteenth Centuries," 1971, 208; Jeremy Black, *The Atlantic Slave Trade in World History* (New York: Routledge, 2015), 86. See also Inikori, "The Import of Firearms into West Africa 1750-1807."

[1464] Barbot, "A Description of the Coasts," 280.

[1465] Regarding friendly fire incidents, in 1682, several men were wounded when guns misfired. See T70/10, Abstracts from Africa, Letter Abstract from Cape Coast Castle, April 22, 1682, f. 49v. For a friendly fire incident between two British soldiers while inebriated see T70/1465, Private Books, Sierra Leone, 1727-1728, f. 9r. An apprentice named Nathaniel Griffin was accidentally shot in 1740 and ended up dying. See T70/1447, Living and Dead at the Forts, 1726-1740, f. 138.

[1466] TNA, T70/1007, Cape Coast Castle Day Books, 1752-1753, December 1, 1753, f. 23.

[1467] TNA, T70/139, Minute Books, Committee of Shipping, Orders of Court, 1720-1727, Minutes June 11, 1724. See also Bosman, *A New and Accurate Description of the Coast of Guinea*, 393; Smith, *A New Voyage to Guinea*, 162; Stanley B. Alpern, "The European Introduction of Crops into West Africa in Precolonial Times," *History in*

that produces white flowers and a small grape-sized edible fruit.[1468] Danish surgeon Paul Isert observed its use on the Gold Coast in treating fevers.[1469] The inhabitants soaked the pulp of the fruit in water, and the resulting beverage was then consumed by fever patients with positive results. Researchers today have confirmed the analgesic, antimicrobial, antibacterial, and antimalarial qualities of velvet tamarind, which includes its ability to inhibit the growth of the *Plasmodium falciparum* parasite which causes malaria.[1470] In 1721, merchants at Cape Coast Castle attempted to profit from the value of the efficacious medicine and sent samples of the tamarinds that grew at Cape Coast Castle to London as a possible drug export.[1471]

It is likely that African basil, also known as fever plant and scent leaf (*Ocimum gratissimum* L.), was another febrifuge (fever medicine) used at the slave factory. The small

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Africa 19 (January 1, 1992): 23.

[1468] Adeyinka Elizabeth Ajiboye, Muhammad Tukur Ameen, and Majekodunmi Racheal Adedayo, "Antimicrobial Activity and Phytochemical Screening of the Fruit Pulp of Dialium Guineense (Velvet Tamarind) on Some Microbial Isolates," *Journal of Microbiology and Antimicrobials* 7, no. 4 (August 31, 2015): 34.

[1469] F. N. Hepper, *The West African Herbaria of Isert and Thonning: A Taxonomic Revision and an Index to the IDC Microfiche* (Kew: Bentham-Moxon Trust, 1976), 35.

[1470] Ajiboye, Ameen, and Adedayo, "Antimicrobial Activity and Phytochemical Screening of the Fruit Pulp of Dialium Guineense (Velvet Tamarind) on Some Microbial Isolates," 35; Marius H. Yetein et al., "Ethnobotanical Study of Medicinal Plants Used for the Treatment of Malaria in Plateau of Allada, Benin (West Africa)," *Journal of Ethnopharmacology* 146, no. 1 (March 2013): 154–63; Gideon Ikechukwu Ogu, Joachim Ezeadila, and John Meomikem Ehiobu, "Antioxidant and Antimicrobial Activities of Dialium Guineense (Willd) Leaf Extract," *Pharmacy and Pharmacology Research* 1, no. 1 (May 2013): 1–7. In André Donelha's 1625 *Descrição da Serra Leo* mentions velvet tamarind as *mamboi* and writes that it was used in Sierra Leone as an external headache cure. The fruit pulp was masticated and then applied as a poultice to the head and the headache was relieved. See André Donelha, *Descrição da Serra Leoa e dos rios de Guiné do Cabo Verde, 1625 = An account of Sierra Leone and the rivers of Guinea of Cape Verde, 1625*, ed. A. Teixeira da Mota, trans. P. E. H. Hair (Lisboa: Junta de Investigações Científicas do Ultramar, 1977), 86–87. See also Havik, "Hybridising Medicine," 192. Today velvet tamarind has wide application across West Africa. While the fruit continues to be used for fevers and diarrhea, the leaves are used to treat tumors; they are applied externally to treat edema; and when mixed with orange or pineapple juice they ease heart palpitations, and the plant is also used as an eye wash. The stem and twigs have dental usage when boiled to treat mouth sores and toothaches as well as sore throats. Decoctions of the bark are used for fevers, ophthalmia, and tumors. See Edward S. Ayensu, *Medicinal Plants of West Africa* (Algonac, MI: Reference Publications, 1978), 78–79.

[1471] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Phipps, Dodson and Boye, November 20, 1721, f. 140.

shrub was widely distributed across West Africa, and Paul Isert observed its use on the Gold Coast to treat "malignant bilious fever."[1472] The leaves were boiled to create a decoction that was not only drunk, but was used in a steam bath four times a day. In chemical screenings of African basil, the essential oils in the leaves contain significant antimalarial properties, including the ability to reduce the growth of *Plasmodium berghei* and *Plasmodium falciparum*.[1473] When precolonial West Africans boiled the leaves and created a concentrated essence of the plant that was either drunk or used in a steam bath, the essential oils were released.[1474] Researchers today confirm that a steam bath is particularly effective for obtaining the antimalarial benefits of African basil because it allows the patient to become saturated with the essential oils in the form of vapor. If steaming also occurred on the Gold Coast in the way Thomas Winterbottom observed it in Sierra Leone where the patient sits over a pot with a cloth over their head which reaches to the ground, this would have also created a concentrated delivery system for the healing phytochemicals.[1475]

[1472] Hepper, *The West African Herbaria of Isert and Thonning*, 65.

[1473] F. Tchoumbougnang et al., "In Vivo Antimalarial Activity of Essential Oils from Cymbopogon Citratus and Ocimum Gratissimum on Mice Infected with Plasmodium Berghei," *Planta Medica* 71, no. 1 (2005): 22; Vincent P. K. Titanji, Denis Zofou, and Moses N. Ngemenya, "The Antimalarial Potential of Medicinal Plants Used for the Treatment of Malaria in Cameroonian Folk Medicine," *African Journal of Traditional, Complementary, and Alternative Medicines* 5, no. 3 (April 10, 2008): 307.

[1474] Tchoumbougnang et al., "In Vivo Antimalarial Activity of Essential Oils from Cymbopogon Citratus and Ocimum Gratissimum on Mice Infected with Plasmodium Berghei," 22.

[1475] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:22; F. El–Said et al., "An Investigation into the Efficacy of Ocimum Gratissimum as Used in Nigerian Native Medicine," *Planta Medica* 17, no. 2 (1969): 195; Tchoumbougnang et al., "In Vivo Antimalarial Activity of Essential Oils from Cymbopogon Citratus and Ocimum Gratissimum on Mice Infected with Plasmodium Berghei," 22. See also J.O. Adebayo and A.U. Krettli, "Potential Antimalarials from Nigerian Plants: A Review," *Journal of Ethnopharmacology* 133, no. 2 (January 2011): 289–302; George A. Pesewu, Ronald R. Cutler, and David P. Humber, "Antibacterial Activity of Plants Used in Traditional Medicines of Ghana with Particular Reference to MRSA," *Journal of Ethnopharmacology* 116, no. 1 (February 28, 2008): 102–11. African basil also has antibiotic, antifungal, and antimicrobial qualities. See Emeka I Nweze and Elizabeth E Eze, "Justification for the Use of Ocimum Gratissimum L in Herbal Medicine and Its Interaction with Disc Antibiotics," *BMC Complementary and Alternative Medicine* 9 (September 28, 2009): 37; Priscilla Alexander, "Phytochemical Screening and Mineral Composition of the Leaves of Ocimum Gratissimum (Scent Leaf)," *International Journal of Applied Sciences and*

Guavas for dysentery, plaintains for diarrhea, pepper for gastro-intestinal complaints, palm wine as a diuretic, kola nuts as a digestive aid and stimulant, castor oil leaves for swelling and edema, and a host of other efficacious and successful remedies were administered in the slave trading zones.[1476] When Europeans commented that precolonial West African medical therapeutics were often effective, their observations should be taken seriously as researchers today have been validating the claims of West African indigenous medicine in earnest. As Philip Havik writes in his study of Upper Guinea , "the phytotherapeutic applications given are by no means random, given that the health conditions in question were common among coastal peoples and trading communities alike."[1477] Many of the remedies were tested, tried, and true, and in the slave trading zones, such knowledge engendered trust among many Britons toward West African systems of health and healing – trust that extended beyond herbal medicine.

Some Britons put their hands in the lives of West African herbalists and surgeons even when European medical practitioners were available. This disturbed naval surgeon John Atkins because British use of West African medicine included spiritual remedies as well. When Atkins was stationed on the Gold Coast in the 1720s, the Governor of Cape Coast Castle, James Phipps, fell ill, and Atkins tried to administer medical care.[1478] The surgeon was shocked to find that Phipps preferred "*Fetishing* to any Physical Directions of mine, wearing them on his Wrists and Neck."[1479] By "fetishing," Atkins referenced material objects that had been ritually transformed

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Biotechnology 4, no. 2 (June 27, 2016): 161–65.

[1476] See the Appendix for a sampling of *materia medica* and herbal remedies utilized during the period covered by this study.

[1477] Havik, "Hybridising Medicine," 192.

[1478] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 94–95..

[1479] Ibid.

by indigenous priests into sacred abodes for the indwelling of spiritual entities or spiritual powers.[1480] These sacred power objects functioned as consecrated medicines that were intended to prevent and heal illness, misfortune, and affliction.[1481] Phipps was "a Gentleman of good Sense, yet could not help yielding to the silly Customs" Atkins wrote.[1482] Indeed, Phipps adhered to the West African practice of utilizing ritual objects, or amulets, upon "the first Appearance of Illness and Danger."[1483]

Phipps was not the only Briton who believed in the healing powers of these consecrated medicines. Many African Company employees at the slave factory utilized the ritual objects with success and their popularity spread among the ranks.[1484] At various points throughout the eighteenth century, the African Company utilized free and enslaved indigenous healers who would have been responsible for creating sacred power objects – women like Deddie who was an enslaved "fetish woman" at the castle between 1772 and 1792.[1485] Ritual objects were also valued by other Europeans on the Gold Coast. French slave trader Jean Barbot called it "detestable" and "deplorable" that some Europeans "are very fond of wearing about their bodies, some of these consecrated toys or spells of the heathen priests."[1486]

Despite Atkins' initial aversion to such practices, the observations he made in West Africa lingered with him, and he eventually revised his opinion in regard to this method of West

[1480] Thornton, "The Development of an African Catholic Church in the Kingdom of Kongo, 1491-1750," 157.

[1481] Sacred power objects are discussed in Chapter Four.

[1482] Atkins, *Voyage to Guinea, Brasil, and the West-Indies*, 95.

[1483] Atkins, *The Navy Surgeon*, 274.

[1484] Ibid., 274–75.

[1485] See Chapter Four for a brief discussion of Deddie's healing work at Cape Coast Castle.

[1486] Barbot, "A Description of the Coasts," 281.

African indigenous healing. The surgeon gave extensive thought to the use of sacred power objects at West African slave factories, and conducted research concerning the historical and contemporary use of amulets in medicine more broadly. In the 1742 edition of Atkins' surgical text the *Navy-Surgeon*, he devoted an entire chapter to the topic. The surgeon described the ancient use of amulets, their efficaciousness in Africa, their current usage in the British Isles, and even made reference to renowned British physicians like Thomas Willis who believed in the therapeutic benefits of amulets.[1487]

Belief in the efficacy of West African healing did not wane over the course of the eighteenth century. In 1783, Lionel Absom wrote that in regard to his choice of medical practitioner, "I have been accused of making use of Blacks in preference to Whites." However, he felt vindicated in choosing West African healers because even experienced medical practitioners like African Company surgeon Mr. Ettrick relied on West African medical practitioners for their care.[1488]

Broken World Botany

There was a dual purpose at work in exploring West African medicine – to save lives and to exploit African botanical and medical knowledge which could advance Enlightenment science and bolster the commercial gains of empire.[1489] While enslaved castle doctors rushed into and out of the cook's room compounding medicines, transformed their homes into makeshift

[1487] Atkins, *The Navy Surgeon*, 274–83.

[1488] TNA, T70/1545, Detached Papers, 1781, 1782, Letter from Lionel Absom to Richard Miles, July 14, 1783; T70/33, Inward Letter Books, 1781-1799, Letter from the Governor and Council at Cape Coast Castle, August 20, 1789, f. 220.

[1489] Cook and Walker, "Circulation of Medicine in the Early Modern Atlantic World," 338; Daniela Bleichmar, "Books, Bodies, and Fields: Sixteenth-Century Transatlantic Encounters with New World Materia Medica," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L. Schiebinger and Claudia Swan (Philadelphia, PA: University of Pennsylvania Press, 2005), 83.

infirmaries to care for the sick, and were captured by hostile enemies en route to administering medical care, Britons hoped that these practitioners and others in West Africa would help them discover new drug exports by sharing their botanical knowledge with company officials. Botany was a new science in the eighteenth century and it was "big business" in the early modern world, and as such, an "acquisitive and commercial ethos," drove the collection of natural historical knowledge.[1490] Similar processes were occurring in other regions of Britain's slave trading empire and in the commercial empires of other European nations.[1491] Slave factories were in fact part of a broader geographical web inhabited by Europeans who learned and utilized local medicines and therapeutic techniques to stay alive, to advance botanical knowledge, and to discover new drug commodities.[1492] Indigenous and enslaved remedies "were pressed into service as an essential tool of empire" across the Atlantic and Indian Ocean worlds.[1493] In the

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[1490] Jerry Brotton, *Trading Territories: Mapping the Early Modern World* (London: Reaktion Books, 1997), 23–24, 46; Lucile H. Brockway, *Science and Colonial Expansion: The Role of the British Royal Botanic Gardens* (New Haven: Yale University Press, 2002), 64–65; Londa L. Schiebinger and Claudia Swan, "Introduction," in *Colonial Botany: Science, Commerce, and Politics in the Early Modern World*, ed. Londa L. Schiebinger and Claudia Swan (Philadelphia, PA: University of Pennsylvania Press, 2005), 3.

[1491] Chakrabarti, *Medicine and Empire*, 62.

[1492] Chaplin, *Subject Matter*, 196–98; Cook and Walker, "Circulation of Medicine in the Early Modern Atlantic World," 343; Murphy, "Translating the Vernacular," 33–34; Arnold, "Introduction: Tropical Medicine before Manson," 6; Schiebinger, "Prospecting for Drugs," 120; Schiebinger, *Secret Cures of Slaves*, 5.

[1493] Júnia Ferreira Furtado, "Tropical Empiricism: Making Medical Knowledge in Colonial Brazil," in *Science and Empire in the Atlantic World*, ed. James Delbourgo and Nicholas Dew (New York: Routledge, 2007), 128; Palmira Fontes da Costa, ed., *Medicine, Trade and Empire: Garcia de Orta's Colloquies on the Simples and Drugs of India (1563) in Context* (New York: Routledge, 2016), 220–21.

The role of indigenous medical and botanical knowledge in the context of European expansion now boasts a wide-ranging historiography. For India see for example, P. K. Bhattacharyya, "Beginning of Modern Botany in India by Dutch in 16th-18th Century (Basic Features and Characteristics)," *Indian Journal of History of Science* 17, no. 2 (1982): 365–76; Richard Grove, "Indigenous Knowledge and the Significance of South-West India for Portuguese and Dutch Constructions of Tropical Nature," *Modern Asian Studies* 30, no. 01 (February 1996): 121–143; Cook, "Global Economies and Local Knowledge in the East Indies: Jacobus Bontius Learns the Facts of Nature"; Arnold, *Colonizing the Body*, 43–54; Mark Harrison, "Tropical Medicine in Nineteenth-Century India," *The British Journal for the History of Science* 25, no. 03 (1992): 299–318; K. Raj, *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650-1900* (New York: Palgrave Macmillan, 2007); Buckingham, *Leprosy in Colonial South India*; Pratik Chakrabarti, *Materials and Medicine: Trade, Conquest and Therapeutics in the Eighteenth Century* (New York: Manchester University Press, 2010), 111–42; Mark Harrison,

slave trading zones, all West African people potentially possessed botanical expertise that could advance British commerce, and the Royal African Company went to extraordinary lengths to try and gather and commodify this knowledge. It was a knowledge project that was fervently yet haphazardly pursued.

Upon the founding of the Royal Adventurers into Africa in 1660, which was the precursor to the Royal African Company, London officials expressed interest in understanding West African knowledge of health, disease, and therapeutics. In part this was due to the relationship between slave trade merchants and the Royal Society, which was the most

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"Networks of Knowledge: Science and Medicine in Early Colonial India, 1750–1820," in *India and the British Empire*, ed. Douglas M. Peers and Nandini Goopty (New York: Oxford University Press, 2012), 191–211; Anna Winterbottom, *Hybrid Knowledge in the Early East India Company World* (New York: Palgrave Macmillan, 2016); Costa, *Medicine, Trade and Empire*.

For Latin America and the Caribbean see Jerome S. Handler, "An African-Type Healer/Diviner and His Grave Goods: A Burial from a Plantation Slave Cemetery in Barbados, West Indies," *International Journal of Historical Archaeology* 1, no. 2 (1997): 91–130; Osvaldo F. Pardo, "Contesting the Power to Heal: Angels, Demons and Plants in Colonial Mexico," in *Spiritual Encounters: Interactions Between Christianity and Native Religions in Colonial America*, ed. Nicholas Griffiths and Fernando Cervantes (Birmingham, UK: University of Birmingham Press, 1999), 163–84; Handler and Jacoby, "Slave Medicine and Plant Use in Barbados"; Handler, "Slave Medicine and Obeah in Barbados, Circa 1650 to 1834"; Linda A. Newson, "Medical Practice in Early Colonial Spanish America: A Prospectus," *Bulletin of Latin American Research* 25, no. 3 (2006): 367–391; Sweet, *Domingos Álvares*; Weaver, *Medical Revolutionaries*; Schiebinger, *Plants and Empire*; Miruna Achim, "From Rustics to Savants: Indigenous Materia Medica in Eighteenth-Century Mexico," *Studies in History and Philosophy of Biological and Biomed Science* 42, no. 3 (September 2011): 275–84; Neil Safier, "Global Knowledge on the Move: Itineraries, Amerindian Narratives, and Deep Histories of Science," *Isis* 101, no. 1 (March 2010): 133–45; Timothy D. Walker, "The Medicines Trade in the Portuguese Atlantic World: Acquisition and Dissemination of Healing Knowledge from Brazil (c. 1580–1800)," *Social History of Medicine* 26, no. 3 (August 1, 2013): 403–31; Kananoja, "Healers, Idolaters, and Good Christians"; Kananoja, "Infected by the Devil, Cured by Calundu"; Kananoja, "Bioprospecting and European Uses of African Natural Medicine in Early Modern Angola"; Matthew James Crawford, *The Andean Wonder Drug: Cinchona Bark and Imperial Science in the Spanish Atlantic, 1630-1800* (Pittsburgh, PA: University of Pittsburgh Press, 2016); Gómez, "The Circulation of Bodily Knowledge in the Seventeenth-Century Black Spanish Caribbean"; Gómez, *The Experiential Caribbean*; Jutta Wimmler, *The Sun King's Atlantic: Drugs, Demons and Dyestuffs in the Atlantic World, 1640 - 1730* (Boston, MA: Brill, 2017), 116–20.

For the United States see Herbert C. Covey, *African American Slave Medicine: Herbal and Non-Herbal Treatments* (Lanham, MD: Lexington Books, 2008); Bankole, *Slavery and Medicine*; David Buisseret and Steven G. Reinhardt, "Decoctions for Carolinians : The Creation of a Creole Medicine Chest in Colonial South Carolina," in *Creolization in the Americas*, 1st ed., The Walter Prescott Webb Memorial Lectures ; 32 (College Station: Texas A&M University, 2000); Peter H. Wood, *Black Majority: Negroes in Colonial South Carolina from 1670 through the Stono Rebellion*, reprint (W. W. Norton & Company, 1996), 290–91; Joshua David Bellin and Joshua David Bellin, "Taking the Indian Cure: Thoreau, Indian Medicine, and the Performance of American Culture," *The New England Quarterly* 79, no. 1 (2006): 3–36; Fett, *Working Cures*; Parrish, "Diasporic African Sources of Enlightenment Knowledge"; Parrish, *American Curiosity*, 259–306; Murphy, "Translating the Vernacular."

significant learned society and expended great energies upon collecting, organizing, and classifying the natural world (science reorganized 50). The founding of the Royal Adventurers and the founding the Royal Society not only occurred in the same year, but the two organizations were closely aligned. Eleven of the thirty individuals named in the slave trading organization's charter were associated with the Royal Society and several would become Fellows in the coming years.[1494] Moreover, several fellows of the Royal Society were involved in the African Company's administrative operations.[1495] In fact, the two organizations were described as "twin sisters" in 1667 in Thomas Sprat's first official history of the Royal Society, reflecting the understudied reality that slave trading and scientific practice were intertwined.[1496]

The gathering of scientific knowledge and slave trading were closely aligned projects in advancing Britain's imperial designs. As "the pinnacle of scientific cosmopolitanism in the Age of Mercantilism," the Royal Society established a global network of correspondents through the efforts of Henry Oldenburg, the first secretary of the Society.[1497] His correspondents included those stationed in West Africa, and in approximately 1670, Oldenburg sent a list of twenty-six questions to Mr. Floyd, who served as minister at Cape Coast Castle.[1498] Health and medicine

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[1494] M. Govier, "The Royal Society, Slavery and the Island of Jamaica: 1660-1700," *Notes and Records of the Royal Society of London* 53, no. 2 (May 22, 1999): 204.

[1495] Ibid., 208–9.

[1496] Thomas Sprat, *The History of the Royal Society of London, for the Improving of Natural Knowledge* (London: J. Martyn, 1667), 407; Murphy, "Collecting Slave Traders," 638. "Science" had a different meaning in the seventeenth and eighteenth centuries than it does today. Steven Shapin writes that in the seventeenth century, science "designated any body of properly constituted knowledge (that is, knowledge of necessary universal truths), while inquiries into what sorts of things existed in nature and into the causal structure of the natural world were referred to, respectively as 'natural history' and 'natural philosophy.'" See Steven Shapin, *The Scientific Revolution* (Chicago, IL: University of Chicago Press, 2008), 5–6, n. 3.

[1497] Peter Linebaugh, "All the Atlantic Mountains Shook," *Labour / Le Travail* 10 (1982): 88; Govier, "The Royal Society, Slavery and the Island of Jamaica," 213.

[1498] Royal Society, Cl.P/19/55, Classified Papers, 1660-1741, Questions and Answers, Enquiries about Guiny Recommended by Henry Oldenburg to Mr. Floyd.

were among the first items on the list as Oldenburg asked about the "diseases ye Inhabitants are most subject to," and the medicines they used to cure them. Oldenburg also requested that Floyd discover the poisons and antidotes in the West African *materia medica*, as well as the kind of bark the inhabitants utilized for dental care which kept their teeth so healthy and white. Other questions were related to air, temperature, weather, tides, African customs, and European commercial markets. The Royal Society was committed to discovering useful, practical knowledge rather than engaging in abstract philosophical discussions, and Royal African Company employees were perfect candidates to serve as lay naturalists in West Africa, a region of ever-increasing importance to the British empire.[1499] In 1689, when John Smyth was hired by the Royal African Company to serve as their chaplain at Cape Coast Castle, he was also embedded in metropolitan scientific networks.[1500] Smyth, who was discussed in Chapter four, because a student of West African *materia* medica, and was one of the slave trade collectors in James Petiver's global network of natural knowledge.[1501]

From the earliest years of the eighteenth century, the Royal African Company required their slave trade merchants to manage a botanical enterprise involving plant discoveries, plant transfers into different soils, horticulture, and drug compounding. The most vivid example of the company's ardent desire to discover new profitable drug commodities began in 1721, and comprised a medico-botanical examination that was meant to be given to the enslaved who came from the interior. As enslaved children, women, and men were brought to the coast, they faced a

[1499] Harold J. Cook, "Physicians and the New Philosophy: Henry Stubbe and the Virtuosi-Physicians," in *The Medical Revolution of the Seventeenth Century*, ed. Roger Kenneth French and Andrew Wear (New York: Cambridge University Press, 1989), 252.

[1500] TNA, T70/319, Journal, Home, 23 September 1689, f. 108; December 1689, f. 162; T70/373, Accounts, Journals, Cape Coast Castle, 1689-1691, August 1690, f. 63v.

[1501] Murphy, "Collecting Slave Traders," 643.

strict examination concerning their medical and botanical knowledge. They were employed "to perform science in the classic Enlightenment sense — collecting and identifying specimens to be placed within global market and classification systems."[1502] Accessing the intellectual capital of the enslaved was a priority that all merchants were to perform in earnest. As Duke of Chandos wrote to James Phipps, "There is another Matter which I must very Earnestly recomend to Your Practice (and which the Company have orderd to be added to yr. Instructions) viz. that as oft as any Negroes are brought down to be sold You make them be very Strickly examined."[1503] Although sugar was the largest cash crop exported from the Americas into Europe, *cinchona* or Peruvian bark (quinine) was "the most valuable commodity by weight shipped out of America into Europe."[1504] Company officials were intensely interested in discovering and profiting from their own "green gold."[1505]

A long list of questions was drawn up for slave trade merchants to use when examining slaves being held in the black hole. The questions were far-ranging and dealt with geography, culture, society, and trade. For example, merchants were interested in knowing where the enslaved came from, how long it took them to get to the coast, the navigable rivers, and the general wealth and revenue of where they came from. They were then shown samples of medicinal plants, asked if they recognized any of them or whether they could describe how they were used. [1506] Merchants were instructed to "make particular Examination into the various

[1502] Parrish, *American Curiosity*, 5.

[1503] TNA, C 113/279, Correspondence of the Duke of Chandos, Letter to Cape Coast Castle, January 6, 1721, f. 4r; T70/53, Letters Sent to Africa, 1720-1728, September 12, 1721, f. 103.

[1504] Schiebinger, "Prospecting for Drugs," 119.

[1505] Ibid.

[1506] TNA, T70/123, Minute Books, Committee of Trade, 1720-1722, Minutes February 23, 1721, f. 13; T70/53, Letters Sent to Africa, 1720-1728, Letter to Phipps, Dodson, Boye, Stevenson, February 27, 1721, f. 52.

distempers incident to the Natives and the Methods they take for their cure, as also the virtues of their Medicinal Herbs and manner of Using."[1507] Hans Sloane drew up the list of plants that would make up the collections being sent to West Africa. James Goodwin, the chemist discussed in Chapter One, who won the African Company's drug supply contract and whose medicines were burned in the street, was responsible for putting together three packages of plants – one each for Gambia, Sierra Leone, and the Gold Coast.[1508] The plants were to "be the best of its kind and the freshest." The botanical examinations were so critical to the company's strategy that another plan was in place if a slave who seemed knowledgeable was unable to communicate sufficiently. Merchants were instructed to purchase the slave temporarily and in one year's time, other slaves would have learned the language well enough to be able to communicate and the slave would also have made sufficient progress learning English.[1509]

If, during the course of the examination, an enslaved person seemed to be knowledgeable, they were to be given their freedom. Orders from London stated, "You are hereby allow'd to restore such their liberty & permit them to return back to their own Country, with Samples and little Cargoes of such goods as they shall tell you will be most pleasing to their own Countrymen, taking care to Send a Factor & Writer, with Some Soldiers along with them to bring back the returns of this Trade."[1510] So, in the midst of their malnourishment, serial dislocation, the violence inflicted upon them during the long march to the coast, the enslaved were meant to contribute to the development of scientific knowledge, as practitioners of subaltern science.

[1507] TNA, T70/142, Minute Books, Bye Committee, 1721-1724; Instructions for Capt John Sharrow, Mr. Leonard, Mr. Colin Hay, Jeremiah Tinker

[1508] TNA, T70/46, Letters Sent from Home, 1720-1729, Letter to James Goodwin, December 21, 1721, f. 111.

[1509] TNA, T70/53, Letters Sent to Africa, 1720-1728, Letter to Phipps, Dodson, Boye, Stevenson, February 27, 1721, f. 51.

[1510] Ibid.

Despite colonial reliance on enslaved and indigenous healers whose efficacious medicine and botanical expertise saved lives and advanced Enlightenment science, all knowledge was not created equal. As Londa Schiebinger writes, "botanists in the eighteenth century trod a fine line between their nascent prejudices against the peoples of America and Africa and their need to survive in unknown environments."[1511] Across the Atlantic and Indian Ocean worlds, most producers of indigenous and enslaved medical and botanical knowledge enter the written record, if they do at all, as anonymous figures, or "invisible technicians."[1512] Their medical remedies and botanical expertise were extracted, stripped of their cultural meanings, attributed colonial authorship, and retranslated for European and American publics.[1513] Some colonial and metropolitan elites diminished indigenous and enslaved expertise by arguing that their knowledge was produced through trial-and-error; reflected their natural brute instinct to self-preservation; or, was merely the result of customary practice passed down over time.[1514] Not unlike "Midwives, Barbers, old Women, Empericks, and the rest of that illiterate crue, that presume to meddle with Physick" in Europe, the medical practice of enslaved and indigenous healers appeared devoid of theoretical foundations and rational principles.[1515] To some colonial

[1511] Schiebinger, "Prospecting for Drugs," 125.

[1512] Steven Shapin, "The Invisible Technician," *American Scientist* 77, no. 6 (1989): 554–63.

[1513] Safier, "Global Knowledge on the Move," 143; Schiebinger, *Plants and Empire*, 194–225; Murphy, "Translating the Vernacular," 41–42; Iannini, *Fatal Revolutions*, 15; Chaplin, *Subject Matter*, 160–61, 194–95; Mary Louise Pratt, *Imperial Eyes : Travel Writing and Transculturation*, 2nd ed. (London ; Routledge, 2008), 30–31, 38.

[1514] Schiebinger, *Plants and Empire*, 82; Stefanie Gänger, "World Trade in Medicinal Plants from Spanish America, 1717–1815," *Medical History* 59, no. 1 (January 2015): 57; Pardo, "Contesting the Power to Heal: Angels, Demons and Plants in Colonial Mexico," 165–66; Robinson, "New Worlds, New Medicines," 96–98; Murphy, "Translating the Vernacular," 32–42; Sandra Harding, "Is Modern Science an Ethno-Science? Rethinking Epistemological Assumptions," in *Science and Technology in a Developing World*, ed. Terry Shinn, J. B. Spaapen, and Venni Krishna (Boston, MA: Kluwer Academic, 1997), 37.

[1515] Robert Boyle, *Some Considerations Touching the Usefulness of Experimental Naturall Philosophy* (Oxford: H. Hall for R. Davis, 1671), 219; Cooper, *Inventing the Indigenous*, 55–64.

and metropolitan elites, these unlettered populations produced know-how which represented raw materials that required learned European scientific practices of systematization, classification, experimentation and verification to transform such data into genuine knowledge.

Enslaved castle doctors and the British slave factories where they carried out their medical duties are largely absent from this rich historiography on the advancement of natural history and science in the Atlantic. The frequently crumbling British settlements existed in a differently ordered world, however. Slave factories were trading posts with no large-scale European settlement, conquered territory, or settler colonies.[1516] Slave factories were mobile, transient spaces; waystations for British employees who struggled to survive their three-year contracts and return home; and waystations for the enslaved held captive in underground dungeons awaiting their harrowing transport to the Americas. Debates about whether African medical knowledge ought to be properly categorized as "knowledge" made little difference to those who donned their necks, wrists, and ankles with sacred power objects to regain their health, or as invalid soldiers contended with oozing sores, or as onlookers observed the corpses of deceased slaves being dragged out of vermin-infested prisons and thrown into the bush. The literature on the development of Enlightenment science is little filled with mass graves, ulcerated bodies, madness, blindness, and the ravages of disease. However, broken and dead bodies are central to understanding scientific enterprise in the slave trading zones.

There were few resident naturalists writing up collections of African *materia medica*, or naming plant species after indigenous healers. Indeed, the eighteenth century produced rather little in that regard. In 1803, Thomas Winterbottom lamented, "we are indebted to the experience of nations more rude than those of Africa, and inhabiting countries which possess

[1516] James Delbourgo and Nicholas Dew, "Introduction: The Far Side of of the Ocean," in *Science and Empire in the Atlantic World*, ed. James Delbourgo and Nicholas Dew (New York: Routledge, 2007), 5.

fewer natural advantages, for some of our most valuable remedies. We have therefore some reason to hope, that as Africa, though hitherto too much neglected...may have in store for future observers some articles which may become important acquisitions to the *materia medica*."[1517] Instead, enslaved doctors like Ammano and Deedie, Jack and Atoom, were medical experts whose knowledge and healing powers affected the living and dying of many bodies. Their knowledge, however is lost to history, barely visible apart from payments rendered. Enslaved medicine at British slave factories represented temporary, illusory knowledge for the British. It was knowledge that refracted the worlds of chaos and deprivation in which it was embedded.

Their erasure and subsequent invisibility place them into the textual and intellectual shadows of naturalist networks, and the cognitive worlds that produced their botanical expertise are likewise rendered elusive in their absence.

Jack's professional life was immersed in these movements as he developed from the eight-year-old medical apprentice who began this chapter, to being a doctor in his own right. At the age of twenty-five, Jack had become such an experienced and gifted medical practitioner that the African Company wanted to educate him further in British medicine. Moreover, "it is our Intention that he should be made a Gentleman," the governor of Cape Coast Castle wrote.[1518] To that end, the company set him up in an apothecary's shop "where he will have an Opportunity of learning the Names of the Medicines, and the manner of mixing them." Jack had begun learning to read and write at the castle under the tutelage of West African-born minister Philip Quaque and they hoped his literacy would continue to improve in England. On April 20, 1769, Jack got

[1517] Winterbottom, *An Account of the Native Africans in the Neighbourhood of Sierra Leone*, 1803, 2:2–3.

[1518] TNA, T70/31, Inward Letter Books, 1762-1773, Letter from John Grossle, April 20, 1769, f. 350.

on board the *Cecilia* and sailed to London. The African Company paid £10 for his passage from the Gold Coast to England, and Jack was thrust into the lively world of late eighteenth century medical training. That year the company expended £24.9.3 for his "Cloaths, Schooling & other Expences," and the following year, the company paid roughly the same amount for his upkeep, amounting to £24.6.9.[1519] In 1772, his living expenses had increased to £33.13, which might indicate that he was also taking advantage of walking the wards or attending lectures in physic, anatomy, or dissection.[1520] Eventually, however, Jack vanishes from the historical record. Perhaps he ran away. Perhaps he earned his freedom and settled in Britain, having become the gentleman the company desired. Perhaps he returned to the Gold Coast six years later and was the African Assistant Surgeon at Cape Coast Castle who was paid £70 per annum for his labor in the volatile slave trading zones. Although Jack's story was outside the norm, the young doctor was representative of many other enslaved and indigenous persons across the Atlantic and Indian worlds, including those in the black hole, whose medical knowledge was embedded in geographies of empire.

[1519] BRO, Records of the Society of Merchant Venturers, 1493-2003, SMV 7/2/1/4, Accounts of the Company Trading to Africa, 1770-1775, Anno 1770, 1771.

[1520] Ibid., Anno 1772. Medical education in eighteenth-century Britain is discussed in Chapter Three.

Epilogue: Medicine, Memory, and Power

When Dutch merchant Willem Bosman was stationed on the Gold Coast in West Africa he observed West African boys in various forms of bondage attempting to secretly cure their European masters when ill. Bosman wrote, "The Boys, which are either Slaves or Servants to the Europeans, if they think they have a good Master, will as soon as he is seized by the least indisposition, without his Knowledge, go to the Priests to make Offerings for him, that he may recover his Health."[1521] The African boys surreptitiously visited indigenous priests, and likely using their own meager resources, paid indigenous priests to construct sacred objects that could be placed on their masters' bodies to restore them to health. Europeans began discovering these activities when they found amulets hidden on the bodies of Europeans when they died. Bosman wrote that the children perform these acts in secret "because they know we are always displeased at it...[and] conceal [the object] so well, that 'tis impossible for us to discover it before the Person is dead, and they have had no time to remove it."[1522]

Although they were in servitude, the children had access to spiritual power that they believed could wipe out illness and thwart death. The boys mobilized their own cultural knowledge on behalf of their masters, in secret, to restore their health. They violated their masters' wishes in order to save their masters' lives. However, healing was not their only option. The children made an intentional choice to utilize spiritual powers to heal rather than harm. There is every reason to suppose that other kinds of spiritual objects found their way into the sick rooms of Europeans whose lives, some determined, needed to end.

[1521] Willem Bosman, *A New and Accurate Description of the Coast of Guinea* (London: Printed for James Knapton and Dan. Midwinter, 1705), 223.
[1522] Ibid., 224.

From Bosman we learn that the masters who received this secret medical care were good to their servants and slaves. It is not clear what that meant or entailed, particularly for children. Their parents may have been killed in war or shipped to the Americas. The children may have been sold and resold so many times that upon finding a survivable situation, they fought to protect it. Perhaps, in restoring the health of their masters, the children restored whatever order and harmony existed in their own vulnerable worlds and the larger community of which they were a part. The sick room was framed by turbulence, survival was fragile, and life was ephemeral. The children's healing activities occurred within sight and sound of those being shipped to the Americas, mothers and fathers pleading to remain with their little ones, soldiers and mariners attempting to flee in order to escape the deathly coast, and the souls of the departed hovering as a specter all around them.

The meaning of health in such a space was rooted in survival. This was not just any kind of survival, however. The lengths to which these children went and the riskiness of their defiant endeavors, suggest that they were struggling to claim the most extravagant understanding of human survival they could imagine. Rather than being steeped in passivity, the children galvanized the spirit world on their behalf and enlivened those around them – from priests to other servants and slaves – to keep their secret. The children resisted living lives that only resembled death. Instead, they brashly defied their superiors to heal their masters and nourish the potential of their own uncertain futures. Healing, if there truly was such a thing in the context of the slave trade, can perhaps be best described as the power to endure.

As this dissertation has illustrated, healing and harming are far from straightforward concepts whether in the hands of enslaved children who attempted to provide secret medical care to their owners, or when British surgeons wielded medicine at the end of a lash. Like the oceans

being crossed, medicine in the slave trade was in flux, in motion, acting and being acted upon. Medicine sutured together the dynamic interplay between biology and economics, which was a necessity in a system that relied upon, and profited from, the brutal transport of laboring bodies across the Atlantic. The commodification of medicine and health in this troubling trade went hand in hand with the cruel and violent commodification of human life. Enslaved bodies represented profits for tens of thousands of participants, including apothecaries, chemists, druggists, surgeons, surgeons' mates, and merchants. Captive Africans were objects of scientific inquiry, as well as producers of medical and botanical knowledge. Shipboard deaths could result in nighttime autopsies conducted by enterprising surgeon-anatomists who sliced open the corpses of dead captives by candlelight to develop their knowledge of morbid anatomy and to bolster their professional futures. African body parts found their way into curiosity cabinets in European homes, preserved in wax or suspended in turpentine for anatomical display and popular consumption. Some surgeons saved their families from financial ruin by working on board these floating prisons and beat slaves who refused to eat, broke their teeth off while force feeding them, and eagerly anticipated their bonus pay in slaves. Medicine's materiality flowed through the bodies of captive Africans in the drugs they were forced to consume, which bolstered the profits of pharmaceutical providers and propelled larger-scale pharmaceutical manufacturing.

For the enslaved who only experienced white medical faces at the end of lash, or when the cervix was being forced open on the African coast while women wept, their stories offer a haunting reminder. They remind us that millions of enslaved children, women, and men trafficked across the Atlantic bore within them violent, savage, and terrifying medical memories that lived in their bodies and minds. Before even setting foot in the Americas, captive Africans were already in the process of trying to repair and heal from the violations of slave trade

medicine.

However, they had other medical memories as well. Enslaved doctresses and doctors had gone into the subterranean dungeons and cared for them. These healers likely took leaves from the castor oil plant, steeped them in hot water, and then carefully wrapped them around swollen limbs to induce perspiration and lessen the swelling. Enslaved herbalists may have spooned maize porridge into the mouths of the enslaved to give them strength. When young enslaved girls picked limes from the castle garden, they may have observed how elder healers infused lime juice with melegueta pepper and then administered it to the enslaved held captive in the black hole to ease intestinal distress. African medical practitioners may well have anointed the grief-stricken population with palm oil to heal frayed nerves. Cold leaves from the plantain tree were surely placed upon the heads of sick slaves to ease headache pain. Some of the healers were indigenous priests and priestesses who may have provided sacred power objects to the captives prior to departure. Archaeologists confirm that these material goods traveled across the water with the enslaved, wrapped around their necks and arms. These ritual objects reconnected the captives with the powers of the spirit world.

The enslaved brought these medical memories with them, as well as their own healing traditions, into a new world. The therapeutic skill of enslaved Africans was prized across the Americas. In fact, when studying the period between the sixteenth and eighteenth centuries it is evident that precolonial West Africans had a sophisticated level of pharmaceutical and medical knowledge. Internal bleeding, liver disorders, diseases of the rectum, bladder and kidney stones, dental and dermatological conditions, and neurological complaints were included in their repertoire of knowledge, not simply poison antidotes and care for bumps and bruises. Today, pharmaceutical multinational corporations make ample use of the ethnobotanical and therapeutic

knowledge of African indigenous medical practitioners. "Big Pharma" has been studying West African plant medicines, including those utilized during the centuries covered in this study, and when submitted to laboratory screening, their claims of efficacy are frequently confirmed.[1523] The efficacious medical knowledge transported to the Americas was not only part of the intellectual capital that advanced the health of diverse populations during the eras of slavery and the slave trade, but this knowledge allowed African-descended people to fight for wholeness in the midst of ongoing brutalization.

Enslaved African doctresses and doctors like Atoom, Enta, Deddie, Ammano, and Abinnebah, used the wealth of medical knowledge they possessed to give strength and increased health to the enslaved being trafficked to the Americas. Their medical care, from one perspective, merely enabled a system to thrive whose very existence sought to dehumanize the lives of millions of captive Africans. From another perspective, we might interpret these enslaved doctors and doctresses within a mighty stream of history, where the enslaved administered medical care to one another on slave plantations across the Americas. African and African-descended health traditions were mobilized to resist the terrors inflicted upon soma and psyche, body and mind. Enslaved medical care in the context of the slave trade is thus boldly embedded within the politics and daily practices of medical resistance in African American history.

The slave trade produced a system of medicine that relied on brutal, physical violence to ensure compliance. It was a system that incentivized the dehumanization of the sick. When economic interests, global markets, patient objectification, racial and gender biases, profit motives, and business decisions drive a medical system, we must surely pause to remember that

[1523] Gloria Emeagwali, "African Indigenous Knowledge: Biotherapy, Cupping, and African Traditional Medicine (ATM)," in *African Indigenous Knowledge and the Disciplines*, ed. Gloria Emeagwali and George J. Sefa Dei (Boston: Sense Publishers, 2014), 11.

healing exists on the most fragile of edges and can be so easily transmuted into forms of profound harm.

Appendix: African Herbalism

Tables 1-5

The tables which follow represent just a small portion of the herbal knowledge documented in precolonial West and Central African sources. Accurately identifying the medicinal flora and fauna is challenging due to shifts in meanings as these were transmitted across various African and European languages which were themselves in flux between the sixteenth and eighteenth centuries.[1524] In the context of Andé Donelha's 1625 *Descrição da Serra Leo e dos Rios de Guiné do Cabo Verde*, the author was Cape Verdean and spoke a modified form of seventeenth-century colonial Portuguese, Guinea Portuguese, that was in the process of becoming Guiné Crioulo.[1525] Many sources used in the present study occur in multiple languages, and even original English-language sources are complicated by the fact that natural history vocabulary, even after various classification systems were in use during the second half of the eighteenth century, remained descriptive and fluid. The illnesses and symptoms described are largely reflective of categories particular to the period between the sixteenth and eighteenth centuries.

Given these caveats, the tables in their present form, are meant to function as a textual map displaying the therapeutic plenitude present in precolonial West and Central African societies. African therapeutic systems extend back into deep historical time and are some of the oldest in the world. By the time we get to the period covered by this study, herbalism continued to be a robust, dynamic form of African indigenous knowledge production, already building

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[1524] P. E. H. Hair, "Introdution to the English Translation," in André Donelha, *Descrição da Serra Leoa e dos rios de Guiné do Cabo Verde, 1625 = An account of Sierra Leone and the rivers of Guinea of Cape Verde, 1625* (Lisboa: Junta de Investigações Científicas do Ultramar, 1977), 68-B.

[1525] Ibid., 68-A – 68-B.

upon millennia. The tables below document not only an abundance of medicinal flora and fauna, but also over two hundred remedies used to treat an extensive array of illnesses. As physician Thomas Winterbottom and others noted at the time, the "rude nations" taught Europeans much about medicine, providing "some of our most valuable remedies."[1526] For example, Table 2 describes medicinal fauna and often refers to stones in various parts of animals. Rather than apprehending these therapies as imaginative and fantastic, later chemical analysis of bezoar stones, as they are called, reveals that due to the presence of ellagic acid, they contain "antioxidant, anti-mutagenic, anti-tumoral, and anti-carcinogenic properties."[1527] What follows, is but a tiny sliver of available knowledge concerning precolonial Atlantic African healing.

[1526] Winterbottom, *An Account*, II:3.

[1527] Maria Do Sameiro Barroso, "The Bezoar Stone: A Princely Antidote, the Távora Sequeira Pinto Collection-Oporto," *Acta Medico-Historica Adriatica* 12, no. 1 (2014): 93. See also Barosso, "Bezoar Stones, Magic, Science, and Art," in *A History of Geology and Medicine*, ed. C. J. Duffin, R. T. J. Moody, and C. Gardner-Thorpe (London: Geological Society of London, 2013), 193-208. For a detailed chemical analysis of various mammalian stones see Charles Milton and Joseph M. Axelrod, "Calculi and Other Stones Found in Mammals," *Journal of Mammology* 32, no. 2 (1951): 139-154.

Table 1: *Materia Medica* Plants

Plant Name	Symptom, Illness, Injury	Administration	Treatment	Region	Source Reference	Notes
Abák	Headache	External	Dry leaves, reduce to powder, soften with water, and apply to the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom writes that "Abák" is a Temne word.
Abúnk	Headache	External	Bruise leaves between two stones, create a paste with water, rub into the forehead twice a day for at least one week	Sierra Leone	Winterbottom, *An Account*, II:17-18	Winterbottom writes that "Abúnk" is a Temne word.
Aclowa	Scabies	External	Dry plant and rub on the body	Gold Coast	Petiver, "Catalogue," 677	Petiver names Aclowa: "Colutea Scorpioides Guineensis Tragacantha Foliis"
Aconcroba	Smallpox	Internal	Boil in wine and drink	Gold Coast	Petiver, "Catalogue," 678	
Acroe	Strengthener	Internal	Boil in wine and drink to recover strength	Gold Coast	Petiver, "Catalogue," 678	
Affunnena	Constipation	Internal	Boil in wine and drink, produces bowel movement	Gold Coast	Petiver, "Catalogue," 678	
Afoba	Scabies	External	Pound, mix with oil, and apply to body	Gold Coast	Petiver, "Catalogue," 678	
Agbunto	Headache	Internal and External	Infuse whole plant in water and drink warm as a diaphoretic, then rub leaves on forehead	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom writes that "Agbunto" is a Temne word
Aguaguin	Cuts and wounds	External	Make into a plaster and apply to skin	Gold Coast	Petiver, "Catalogue," 679	
Almesica Tree	No description	No description	Extract medicinal gum from the tree, no other details	Kongo, Angola	Cavazzi, *Istorica Descrizione*, 24-25; Cavazzi/Labat, *Relation Historique*, I:124-125	
Ambettuway	Increases appetite in the sick	Internal	Boil and drink	Gold Coast		

Table 1: *Materia Medica* Plants (continued)						
Amea	Coagulant	Internal	Dry to powder and sniff	Gold Coast	Petiver, "Catalogue," 678	See also Pajamirioba/Pojomirioba in Sloane, *Catalogus Plantarum*, 148
Angariaria Tree	Removes pain from bladder and kidney stones	No description	No description	Kongo, Angola	Merolla, "Voyage to Congo," 635; da Lucca, *Relations sur le Congo*, 50	
Apobee	Smallpox	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 679	Petiver names Apobee: "Chrysanthemum acaulon Guineense, foliis longis angustis, nob"
Apúntokellee	Headache; eases painful, swollen face and gums	External	For headache: bruise leaves and smaller branches, and apply cold to the head as a poultice. To ease sore face and gums, make decoction from the leaves and smaller branches and bath the face and gums	Sierra Leone	Winterbottom, *An Account*, II:19	Other names mentioned by Winterbottom are "Issumpellén" (Bullom), "Santáy" (Soosoo), and *Mimosa Involuta*
Aputtasy	Scurvy in mouth	External	Create decoction with water and wash teeth	Gold Coast	Petiver, "Catalogue," 679	
Argól	Vermifuge	Internal and External	Beat bark to powder, boil with a small amount of *piper ethiopicum*, and mix in rice, to be eaten every morning. For children, beat bark to powder, mix with water to create cataplasm, and apply to stomach	Sierra Leone	Winterbottom, *An Account*, II:28-29	Winterbottom writes that "Coóontang" (Bullom) is another name for the same tree
Asasi	Toothache	Internal	Boil and then place in mouth	Gold Coast	Petiver, "Catalogue," 679	

Table 1: *Materia Medica* Plants (continued)						
Ascindoe	Gonorrhea	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 680	Petiver names Ascindoe: "Frutex Guineensis spinosus foliis subrotundis crenatis floribus filamentosis, nob"
Assaba	Swelling in groin	External	Warm in water and rub into groin	Gold Coast	Petiver, "Catalogue," 680	
Asserida	Stomach ache	Internal	Chew	Gold Coast	Petiver, "Catalogue," 680	
Assrumina	Vermifuge	External	Pound and rub on the legs	Gold Coast	Petiver, "Catalogue," 680	
Asto	Headache	Internal	Dry to powder and sniff	Gold Coast	Petiver, "Catalogue," 678	Petiver names Asto: "Erysimum lignosum Guineense tomentosum, nob"
Atanta	Strengthener	Internal	Add to broth and drink to restore strength	Gold Coast	Petiver, "Catalogue," 680	Petiver names Atanta: "Rhus Guineense trifoliatum scabrum serratum, nob"
Attrow	Reduces swelling	External	Boil, create decoction, and wash swollen areas	Gold Coast	Petiver, "Catalogue," 680	Petiver names Attrow: "Kali Guineense foliis Polygoni floribus verticilli in modum dispositis, nob"
Attrummaphoe	Dries out poxes on skin	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 681	Petiver names Attrummaphoe: "Colutea languinosa Floribus parvis filiquis pilosis deorsum tendentibus"; he writes it is also used in Kerala, India to treat phrensy
Bichio, Orore de Bitios	*Bitios de Ku, Bitos de Kis*	Internal	No description	Kongo, Angola	Dapper, *Naukeurige Beschrijvinge*, 598-599; Dapper/Ogilby, *Africa*, 554-555; Cavazzi, *Istorica Descrizione*, 116; Cavazzi/Labat, R*elation Historique*, I:464	*Bitios de Ku* is an inflammatory rectal disease.
Billegoh Tree	"Notable use in Physick"	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 387; Dapper/Ogilby, *Africa*, 382	See also Hair, "Early Seventeenth-Century Vocabulary," 134
Bitter kola	Purgative	Internal	No description	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 86-87	*Garcinia kola*
Bongia Tree	Bark "used in physick"	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 383	See also Hair, "Early Seventeenth-Century Vocabulary," 134

Table 1: *Materia Medica* Plants (continued)						
Borrouw Tree	Purgative	Internal	Cut thorns and collect the yellowish-white liquid released, beat the liquid with the leaves	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 387; Dapper/Ogilby, *Africa*, 382	
Bullanta	Heals tattoos; gonorrhea	Internal and External	For tattoos, create infusion from leaves and wash freshly tattooed skin to heal wound. For gonorrhea, beat leaves in a mortar with limes, infuse in hot water for several hours, and drink a teacup-full 3-4 times a day. Same mixture can be used as an enema	Sierra Leone	Winterbottom, *An Account*, I:106; II:34	
Bumbunny	Induces vomiting	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 682	
Caggow	Toothache	Internal	Boil in water and wash teeth	Gold Coast	Petiver, "Catalogue," 682	
Canto	Gonorrhea	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 682	
Capato Tree	No descriptioin	External	Leaves used to make plasters	Kongo, Angola	Cavazzi, *Istorica Descrizione*, 29; Cavazzi/Labat, *Relation Historique*, I:138-139	In Labat's translation the tree is referred to as "Capano"
Cassavero Tree	Cattarh; fluxions	Internal	Drink liquor derived from the fruit	Kongo, Angola	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:125-126	
Cassia	Fever	No description	No description	Kongo, Angola	Dapper, *Naukeurige Beschrijvinge*, 567; Dapper/Ogilby, *Africa*, 529	Pipe cassia, *Cassia Fistula* L.

Table 1: *Materia Medica* Plants (continued)						
Castor Oil Plant	Diarrhoea; anasarcous swelling	External	In Kongo, for diarrhoea, place belt around patient's abdomen, anoint body with castor oil while feeding patient fruit from Nicoffo and Chirico trees, boiled in water or baked. In Sierra Leone for anasarcous swelling, steep leaves in hot water, wrap around patient's legs as hot as the patient can bear, repeat until heat has dissipated, for 15-30 minutes at a time. Dry the limb, let the patient rest, while limb sweats.	Kongo, Angola, Gold Coast, Sierra Leone	Cavazzi, *Istorica Descrizione*, 115; Cavazzi/Labat, *Relation Historique*, I:462; Barbot, *Barbot on Guinea*, I:74; Barbot, "Description of the Coasts," 31; Winterbottom, *An Account*, II:24	*Ricinus communis* L.
Cattop	Quenches thirst in fever; relieves vomiting	Internal	For thirst in fever, bruise pith, boil in water, and drink. To relieve vomiting, extract juice from the scraped stem, sometimes mixed with a decoction made from Yúffo leaves	Sierra Leone	Winterbottom, *An Account*, II:16-17	Other names mentioned by Winterbottom are "Sinkwonnyee," "Kaymanghee," and "Wishá"
Chabeo	Ointment	External	Extract oil from the pit inside the fruit, boil with herbs, and make an ointment	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 80-81; 211. n. 50	*Elaies Guineensis*, Fruit from the oil palm

Table 1: *Materia Medica* Plants (continued)						
Chiarabbo	Nutriment for the sick	Internal	Cook fruit with vegetables, meat, or fish and eat	Kongo	Caltanisetta, *Diaire Congolais*, 33	Bontinck identified it as "Quiabo" and "Quingombe" in Kikongo and "Kiabu" and "Kingombo" in Kimbundu. See Caltanisetta, *Diaire Congolais*, 32.
Chichere Fruit	Fever	Internal	Eat fruit	Kongo, Angola	Merolla, "Voyage to Congo," 634	
Chicongo	General preventative; venereal disease; fever; purgative	External	Powder the pith, mix with palm oil, and apply to body. For fever apply two or three times per day	Kongo, Loango	Lopes, *Relatione del Reame di Congo*, 14-15, 69; Lopes/Bal, *Description du Royaume de Congo*, 32, 122; Dapper, *Naukeurige Beschrijvinge*,553, 576; Dapper/Ogilby, *Africa*, 518, 536; Cavazzi, *Istorica Descrizione*, 115; Cavazzi/Labat, *Relation Historique*, I:460; Merolla, "Voyage to Congo," 635	Chicongo is described in the sources as gray sandalwood, however, white sandalwood (Indian sandalwood or *santalum album*) is not native to Africa. Chicongo is currently unidentified
Chirico Tree	Diarrhoea	Internal	Boil fruit in water or bake, and feed to patient along with fruit from the Nicoffo tree, once patient's body has been bound around the abdomen and body annointed with castor oil	Kongo	Cavazzi, *Istorica Descrizione*, 115; Cavazzi/Labat, *Relation Historique*, I:462	
Chisecco Tree	Fever; to prevent fainting	External	Powder, mix with water, and apply to forehead or temples	Kongo, Angola	Merolla, "Voyage to Congo," 635	
Coconut	Poison antidote; fever; nutriment for sick; good for stomach and liver	Internal	Drink milk to reduce fever. As a nutriment for the sick, boil coconut milk with poultry rice, or meat, and make into a broth	Kongo, Angola, Gold Coast	Dapper, *Naukeurige Beschrijvinge*, 600; Dapper/Ogilby, *Africa*, 556; Cavazzi, *Istorica Descrizione*, 26; Cavazzi/Labat, *Relation Historique*, I:129-130; Barbot, "Description of the Coasts," 202: Battell, "Strange Adventure," *Hakluytus Posthumous*, VI:406	

Table 1: *Materia Medica* Plants (continued)						
Collera Tree	Stomachic, strengthens the stomach	Internal	Soak fruit in water to lessen bitterness and eat	Kongo, Angola	Cavazzi, *Istorica Descrittion*, 25; Cavazz/Labat, *Relation Historique*, I:125	In Labat's translation the tree is "Colleva"
Comamboy	Headache; oedematous swelling	External	For headache, finely scrape seed and rub on forehead, similar effect to cantharides. For swelling, beat leaves in a mortar and apply cold to the legs	Sierra Leone	Winterbottom, *An Account*, II:18, 25	Winterbottom writes that "Comamboy" is a Temne word and is "Mamboy" in Bullom
Common red pepper	To relieve vomiting	Internal	Create warm infusion of pepper and drink to relieve vomiting or eat a few gently bruised pepper pods	Sierra Leone	Winterbottom, *An Account*, II:17	
Concon	Vermifuge	External	Pound, mix with oil, and rub on worm-infested legs	Gold Coast	Petiver, "Catalogue," 682	
Conde plant	Good for stomach, viscera, semen	Internal	Liquid substance from bark	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 29; Cavazzi/Labat, *Relation Historique*, I:139-140	In Labat's translation the plant is "Comte"
Cooteè	Headache	External	Bruise leaves between two stones, create a paste with water, rub into the forehed twice a day for at least one week	Sierra Leone	Winterbottom, *An Account*, II:18	Winterbottom describes "Cooteè" as a Temne word
Cormantyn Apple	Nutriment for those with dysentery	Internal	Boil fruit with wine and sugar and eat	Gold Coast	Bosman, *New and Accurate Description*, 292; Barbot, "Description of the Coasts," 200	
Count Fruit	Recovers appetite in the sick	Internal	Drink the juice	Kongo, Angola	Merolla, "Voyage to Congo," 634	
Cuttosoe	Stomach ache	Internal	Boil in water and drink	Gold Coast	Petiver, "Catalogue," 682	See also "Anonis non spinosa minor glabra procumbens fl. Luteo" in Sloane, *Catalogus Plantarum*, 75

Table 1: *Materia Medica* Plants (continued)						
Dancreta	Cools head when overheating	External	Boil in water and wash head	Gold Coast	Petiver, "Catalogue," 683	Petiver names Dancreta: "Convolvulus quinque folius Guineensis foliis non serratis. nob"
Dee Tree	Oedematous swelling	External	Warm leaves in an iron pot and rub forcefully down the swollen legs; make decocotion of the leaves in water and use as a fomentation to bathe the legs	Sierra Leone	Winterbottom, *An Account*, II:24	Other names mentioned by Winterbottom are "Lay," "Malip," and "Lóogree"
Dinjohn	Breaks boils	External	Warm over fire and apply to boil	Gold Coast	Petiver, "Catalogue," 683	
Domboch Tree	Purgative	Internal	Bruise bark bruised, mix the extracted juices with liquid and drink	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 383	See also Hair, "Early Seventeenth-Century Vocabulary," 134
Duy Tree	Fruit bearing tree, fruit similar to apples	Internal	Make cordial by steeping bark in palm wine or other liquids, and drink	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 383	Hair identified this as *Alchornea cordifolio*. See Hair, "Early Seventeenth-Century Vocabulary," 134.
Embotta Tree	Hardness of spleen	Internal	Make broth from the root, especially the part of the tree that gets morning sun, and consume	Angola	Dapper, *Naukeurige Beschrijvinge*, 599; Dapper/Ogilby, *Africa*, 555	
Emphrue	Strengthener	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 683	Petiver names Emphrue: "Mori folio non crenato Arbor Guineensis, nob"
Engeriay Tree	Remedy for "wind cholick" (gas)	Internal	Stone in the fruit is used	Zambia/Ingombe	Battell, "Strange Adventure," *Hakluytus Posthumous*, VI:37	
Gegero Tree	Stomachic, strengthens the stomach	Internal	Drink juice derived from the fruit	Kongo, Angola	Cavazzi, *Istorica Descrittion*, 25; Cavazzi/Labat, *Relation Historique*, I:126	
Gegos Fruit	Cools the body	Internal	Drink juice derived from the fruit	Angola	Dapper, *Naukeurige Beschrijvinge*, 600; Dapper/Ogilby, *Africa*, 556	

Table 1: *Materia Medica* Plants (continued)						
Scoparia Dulcis	Headache	Internal	Create infusion from the leaves, warm, and drink like tea	Sierra Leone	Winterbottom, *An Account*, II:17	For current uses see Macfoy, *Medicinal Plants and Traditional Medicine in Sierra Leone*, 44, 51, 19-121
Guavas	Dysentery	Internal	Eat fruit	Senegambia	Moore, *Travels into the Inland Parts*, 68	
Gum Almesiga	Colds, bruised limbs, and many distempers	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 602; Dapper/Ogilby, *Africa*, 557	
Heniecoe	Stomach ache	Internal	Boil in wine and drink	Gold Coast	Petiver, "Catalogue," 683	
Hoqualla Tree	Widely used in physic	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, 383	See also Hair, "Early Seventeenth-Century Vocabulary," 134
Issong	Headache	External	Make decoction and bathe head	Gold Coast	Petiver, "Catalogue," 683	
Kanónter	Vermifuge	Internal	Bruise young leaves, either dry or fresh, from the plant, mixed with rice or fish and eat	Sierra Leone	Winterbottom, *An Account*, II:28	Specific vermifuge for *Ascaris lumbricoides*
Kaye Tree	Used in physic	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 387; Dapper/Ogilby, *Africa*, 382	See also Hair, "Early Seventeenth-Century Vocabulary," 134
Killéeng	Intermittent fevers, shaking sickness	External	Bruise leaves and bathe the body	Sierra Leone	Winterbottom, *An Account*, II:20	
Kola nut	Quenches thirst; stomachic; remedy against disorders of the liver; stimulant; strengthener; appetite suppressant; assists digestion; diuretic	Internal	Chew and eat; in Sierra Leone chew with bark from the *rosa* tree; in Upper Guinea to assist digestion drink with water or eat with malagueta pepper; on Gold Coast as a diuretic suck out juice or eat with salt and malagueta pepper	Kongo, Loango, Upper Guinea, Sierra Leone, Gold Coast	Lopes, *Relatione del Reame di Congo*, 41; Lopes/Bal, *Description du Royaume*, 77; Dapper, *Naukeurige Beschrijvinge,*523; Dapper/Ogilby, *Africa*, 494; Donelha, *Descrição da Serra Leoa*, 85; 217, n. 63-64; Barbot, *Barbot on Guinea*, I:188; Barbot, "Description of the Coasts," 101, 199; Winterbottom, *An Account*, I:76; Bosman, *A New and Accurate Description*, 306	*Cola acuminata, cola nitida*

Table 1: *Materia Medica* Plants (continued)						
Kolach Tree	Used in physic	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 383; Hair, "Early Seventeenth-Century Vocabulary," 134	Hair identifies this as the monkey-apple tree. There are at least two different species including *Anisophyllea laurina.*
Lemons	Suppository for *Bitios de Kis*, an inflammatory rectal illness; poison antidote; a "chief Medicament" on the Gold Coast	Internal	In Angola, for *Btios de Kis*, insert quarter of a lemon with rind into a freshly cleaned rectum and hold in with the finger as long as the patient can bear it. In Kongo, for poison antidote, eat the fruit.	Kongo, Angola, Gold Coast	Dapper, *Naukeurige Beschrijvinge*, 598; Dapper/Ogilby, *Africa*, 554; Merolla, "Voyage to Congo," 657-658; Bosman, *New and Accurate Description*, 224	*Bitios de Kis* is an inflammatory rectal disease
Lime bush	Headache	External	Beat leaves in a mortar, then heat, wrap in a cloth, and apply warm to the forehead	Sierra Leone	Winterbottom, *An Account*, II:18	
Limes	Relieves vomiting and treats gonorrhea in Sierra Leone; a "chief Medicament" on the Gold Coast, and used for colic on the Gold Coast	Internal	Make infusion of lime juice and drink; for colic mix lime juice with malagueta pepper and drink; for gonorrhea, boil limes in water until most of water has evaporated and then drink the decoction two or three times a day	Sierra Leone, Gold Coast	Winterbottom, *An Account*, II:17, 34; Bosman, *New and Accurate Description*, 224; Barbot, "Description of the Coasts," 277	
L'Inqueffo	Successful curative	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 31; Cavazzi/Labat, *Relation Historique*, I:145	In Labat's translation the plant is "Inquoffo"
L'Isanda	Clots, coagulates blood after a a fall or blow	Internal	Create decoction and drink	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 24; Cavazzi/Labat, *Relation Historique*, I:123	"L'insanda" is an alternative spelling, see Cavazzi, Istorica Descrizione,24

Table 1: *Materia Medica* Plants (continued)						
Loonee Tree	Astringent that cleans mouth ulcers and produces saliva	Internal	Bark is chewed, sometimes with kola	Sierra Leone	Winterbottom, *An Account*, I:76-77	Other names for the plant provided by Winterbottom are "Alloop" and "Lazzar"
Luquiri	Cures chiongo, a nervous disease; skin ulcers	Internal and External	For chiongo, beat leaves, reduce to powder, make an infusion and ingest; for skin ulcers extract essential oil from the leaves and apply to skin	Kongo, Angola Matamba	Cavazzi, *Istorica Descrizione*, 13, 31; Cavazzi/Labat, *Relation Historique*, I:80, 146-147	In Labat's translation the plant is referred to as "Luqui" and "Liquivri"
Mabocche Fruit	Recovers appetite in the sick	Internal	Eat fruit	Kongo, Angola	Merolla, "Voyage to Congo," 635	
Mabúnk	Headache	External	Powder leaves, soften with water, and apply to forehead	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom identifies "Mabúnk" as a Temne word
Makóotay	Headache	External	Dry leaves in the sun, powder, mix with water to form a cataplasm, and apply cold to the forehead	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom identifies "Makóotay" as a Susu word
Malagueta pepper	A "chief Medicament "	No description	No description	Gold Coast	Bosman, *New and Accurate Description*, 224	
Mamboi Fruit	Headache	External	Pulverize fruit and apply to the head	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 86-87	Philip Havik has identified this as *Dialium guineense* or *Bridelio micrantha* (see Havik, "Hybridising Medicine," 192)
Mammo Tree	"Much us'd in Physick"	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 382	See also Hair, "Early Seventeenth-Century Vocabulary," 135
Manai	Headache	External	Rub fresh panicles over the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom identifies "Manai" as a Temne word
Maniples	Fever	Internal	Mix juice with water and drink	Senegambia	Barbot, "Description of the Coasts," 31; Barbot, *Barbot on Guinea*, I:1, 82, n. 21	Barbot borrowed this information from Dapper and misspelled the word as "Naniples"

Table 1: *Materia Medica* Plants (continued)						
Mapóor	Headache	External	Dry leaves in the sun, powder, mix with water to form a cataplasm, and applied cold to the forehead	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom identifies "Mapóor" as a Temne word
Matakkee	Headache	External	Dry leaves, reduce to powder, soften with water, and apply to the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom identifies "Matakkee" as a Temne word
Mattopper	Headache	External	Rub leaves over forehead	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom identifies "Mattopper" as a Temne word
Mening	Decongestant	Internal	Dry, reduce to powder and sniff	Gold Coast	Petiver, "Catalogue," 684	Petiver names the plant "Ricinus Guineensis Hederoe quinquefol. Virginianae facie, foliis hirsutis, nob"
Metacoe	Cuts and wounds	External	Pound and apply to cuts and wounds	Gold Coast	Petiver, "Catalogue," 684	
Mignamigna Tree	Poison antidote	No description	No description	Kongo, Angola	Merolla, "Voyage to Congo," 658	No description
Mofrissasonho Tree	Poison antidote	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 601; Dapper/Ogilby, *Africa*, 555	Ogilby's translation refers to the plant as "Mofrossasonho"
Ncassa Tree	Toothache, sore gums	Internal	No description	Kongo, Angola	Merolla, "Voyage to Congo," 614-615	No description
Niaukony Tree	"Remedy in many Diseases"	No description	No description	Kingdom of Kquoja	Dapper, *Naukeurige Beschrijvinge*, 388; Dapper/Ogilby, *Africa*, 383	See also Hair, "Early Seventeenth-Century Vocabulary," 135. Hair writes that it may be related to sasswood or may refer to a pepper tree
Nicoffo Tree	Diarrhoea	Internal	After binding the patient's body with a belt around the naval, the body is annointed with castor oil, while being fed fruit from the Nicoffo and Chirico trees boiled in water or baked	Kongo	Cavazzi, *Istorica Descrizione*, 115; Cavazzi/Labat, *Relation Historique*, I:462	

Table 1: *Materia Medica* Plants (continued)						
Obrang	Testicular swelling	External	Boil plant in water and wash area	Gold Coast	Petiver, "Catalogue," 684	Petiver names Obrang: "Glycyrrhizae folio singulari, Frutex Guineensis spinis gemestis, nob"
Oranges	Good for the sick	Internal	Eat fruit	Gold Coast	Hemmersam, "Description of the Gold Coast," 112	*Citrus sinensis*
Palm oil	Heals wounds from worm removal; strengthener; rheumatism, joint pain, and cold limbs; back and belly pain; invigorates nerves	External	Palm oil is smeared on the wound caused by worm removal, and then covered over with leaf, instead of a plaster; as a strengthener and to invigorate nerves add to food; for rheumatism, joint pain, and back and belly pain, create an ointment from palm oil and apply warm to the body every day	Gold Coast	Hemmersam, "Description of the Gold Coast," 122; Bosman, *A New and Accurate Description*, 285; Barbot, "Description of the Coasts," 204; Smith, *New Voyage to Guinea*, 163	
Palm wine	Diuretic; prevents bladder and kidney stones	Internal	Drink cold	Kongo, Senegambia, Gold Coast	Lopes, *Relatione del Reame di Congo*, 41; Lopes/Bal, D*escription du Royaume de Congo*, 77; Barbot, *Barbot on Guinea*, I:125, 136, n. 10; *Golden Coast* 65; De Marees, *Description and Historical Account*, 164; Müller, "Description of the Fetu Country," 224	*Raphia gentilii*, *Raphia laurentii*
Palm tree fibers	Wound care	External	Create bandage from palm tree fibers to heal large wounds	Kongo (Imbangalas)	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:127-128	*Raphia gentilii*, *Raphia laurentii*
Pao del Cebra	Fever	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 601; Dapper/Ogilby, *Africa*, 556	This is described as serpent's wood. Ogilby's translation refers to the tree as "Poa del Cebra," likely an error

Table 1: *Materia Medica* Plants (continued)						
Papaw Tree	Fever	Internal	Eat seeds from the fruit	Sierra Leone	Winterbottom, *An Account*, II:29	*Carica papaya* Linn; See Macfoy, *Medicinal Plants*, 64. Today the seeds are eaten to expel worms
Pepper	Flatulence	Internal	Eat pepper	Kongo, Angola	Merolla, "Voyage to Congo,"635	Species unspecified
Physical nut	Purgative, induce vomit	Internal	Eat one or two seeds	Gillyfree, Upper Guinea	Moore, *Travels into the Inland Parts*, 68	
Pimento	Oedematous swelling, dropsy; strengthens stomach	Internal	For stomach, pickle in vingar, add lime juice, and drink	Gold Coast	Hemmersam, *Description of the Gold Coast*, 112; Bosman, *New and Accurate Description*, 305; see also Barbot, "Description of the Coasts," 199	
Pineapple	Quenches thirst in fevers; cures mouth sores and promotes circulation in the tongue and gums	Internal	No description	Sierra Leone	Winterbottom, *An Account*, II:17	
Plantain	Diarrhoea remedy; headache	Internal and External	Roasted and eaten for diarrhoea; for headache, apply leaves cold to the forehead	Gold Coast	Brun, "Voyages of 1611-20," 85; Winterbottom, *An Account*, II:18	
Pocumma	Dysentery	Internal	Pounded, dried, baked in bread, and eaten	Gold Coast	Petiver, "Catalogue," 684	
Purgera Tree	Used in many medicines	No description	Extract essential oil from the fruit	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:126-127	
Quéequee	Headache	External	Make decoction from leaves and bath forehead in it	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom writes that "Quéequee" is called "Maquéequee" in Temne
Santeo	Cleanses and removes film over eyes	External	Boil and wash eyes with warm water	Gold Coast	Petiver, "Catalogue," 684	
Sá-Pea Tree	Digestion	Internal	Chew like kola to assist digestion; create tonic from bark	Sierra Leone	Winterbottom, *An Account*, I:77	

Table 1: *Materia Medica* Plants (continued)						
Serigbailee	Vermifuge	Internal	Take four or five kernels from the seeds, powder, mix with boiled rice and eat every morning	Sierra Leone	Winterbottom, *An Account*, II:28	Winterbottom describes "Serigbailee" as a Soosoo word; other names provided are "Leligunt," (Temne), and Connarus africanus
Sora	Analgesic	Internal	Boil and drink	No description	Petiver, "Catalogue," 684	Shrub, similar in size and shape to Sena
Spice Pepper Tree	Stomach ache and diarrhoea	Internal	Add fruit from the tree to rice or soup and eat	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 82-83; 215, n. 56	This has been identified as *Xylopia aethiopicum*
Takula	Fever, chitangas (veneral disease)	External	Powder, mix with palm oil, and apply to body	Kongo, Loango	Lopes, *Relatione del Reame di Congo*, 14-15, 69; Lopes/Bal, *Description du Royaume de Congo*, 32, 122; Andreas Josua Ulsheimer, "Voyage of 1603-1604," 26; Brun, "Voyages of 1611-20," 47; Dapper, *Naukeurige Beschrijvinge*, 576; Dapper/Ogilby, *Africa*, 536	Called cambout in French; described as camwood or African sandalwood in English, and *nkula* in Kikongo, as well a tavilla/aquilla in Portuguese sources. This is *Baphia nitida*, red sandalwood
Tamba	Purifies blood, breaks up phlegm	Internal	No description	Angola	Cavazzi, *Istorica Descrizione*, 12; Cavazzi/Labat, *Relation Historique*, I:77	Root, similar to parsnip
Teeboorakee	Headache, sudorific	External	No description	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom describes "Teeboorakee" as a Temne word. Aromatic taste and smells like sage
Teechee	Headache	External	Create decoction of leaves and bathe forehead	Sierra Leone	Winterbottom, *An Account*, II:20	Winterbottom describes "Teechee" as a Temne word
Tetié	Stomachic, strengthens the stomach	Internal	No description	Gold Coast	Barbot, *Description of the Coasts*, 198	Plant and leaf similar to rape, sour tasting like sorel
Tetrephoe	Dysentery	Internal	Boil in broth and consume	Gold Coast	Petiver, "Catalogue," 684-685	
Tetruma	Whitlow	External	Pound, reduce to powder, and apply to deep abcesses or sores on finger	Gold Coast	Petiver, "Catalogue," 685	Petiver refers to Tetruma as "Laurustini facie Arbor Guineensis, nob"

Table 1: *Materia Medica* Plants (continued)						
Tobacco	Bitios de Kis	Internal	Pound leaves, take juice, mix with salt and vinegar, steep for two hours, pound in a mortar, and insert into anus for as long as the patient can bear	Angola	Dapper, *Naukeurige Beschrijvinge*, 598; Dapper/Ogilby, *Africa*, 554	*Bitios de Kis* is an inflammatory rectal disease.
Tóma	Oedematous swelling, dropsy	External	Powder bark, moisten with water to form a cataplasm, apply to dropsical swellings. Causes a discharge of fluid and heals quickly	Sierra Leone	Winterbottom, *An Account*, II:25	This is a poisonous tree when ingested
Tóngbee	Vermifuge	Internal	Make decoction from the leaves and drink every morning	Sierra Leone	Winterbottom, *An Account*, II:28	Winterbottom describes "Tóngbee" as a Temne word. Other names for the plant are Téngbee in Bullom and Tchaóokee in Fula.
Tuffo	Sore eyes	External	Boil in water, create decoction, and wash eyes	Gold Coast	Petiver, "Catalogue," 685	Petiver refers to Tuffo as "Flos Solis Guineensis fol. scabro, flore minore, nob"
Tunkámúnto o	Headache	External	Boil leaves in water and wash forehead with the warm water	Sierra Leone	Winterbottom, *An Account*, II:19	Winterbottom notes that "Tunkámúntoo" is a Temne word. Leaves are used
Unguin	Back pain	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 685-686	Similar in shape and appearance to Common Bay
Unnamed	Used in many medicines	No description	Odiferous resin is used	Angola	Cavazzi, *Istorica Descrizione*, 14; Cavazzi/Labat, *Relation Historique*, I:83	This is described as a tree, similar to a plum tree
Unnena	Leg swelling	External	Boil in water and wash legs in water	Gold Coast	Petiver, "Catalogue," 686	Petiver refers to Unnena as "Lychinis Guineensis fructu Caryophylloide, foliis hirsutis Rorismarini angustioribus, nob"
Zaffo Tree	Fortifies the brain	Internal	Bake fruit over hot fire until it becomes odoriferous and aromatic, then eat	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*,25; Cavazzi/Labat, *Relation Historique*, I:125	Described as a fruit bearing tree, similar to plums, tree the size of an Italian oak

Table 2: *Materia Medica* Animals						
Animal	Part of Animal Used	Symptom/Illness	Administration	Treatment	Region	Source References
Abada, horse-like animal with one horn in forehead and one behind neck	Horn	Poison antidote	No description	No description	Benguela	Dapper, *Naukeurige Beschrijvinge*, 624; Dapper/Ogilby, *Africa*, 574
Abada, horse-like animal with one horn in forehead and one behind neck	Bones	Pain relief	External	Grind bones into a fine powder, mix with water, and create a plaister	Benguela	Dapper, *Naukeurige Beschrijvinge*, 624; Dapper/Ogilby, *Africa*, 574
Alligator	Bile	Treatment for lumbago	External	Scarify skin, then rub alligator bile into the sore area	Sierra Leone	Winterbottom, *An Account*, I:266
Chelone fish	Oil	Fish oil helps heal wounds and burns	External	First kind of oil comes from fish after it has been left in the sun and more oil can be derived from the fish by roasting the fish	Loanda	Cavazzi, *Istorica Descrizione*, 44; Cavazzi/Labat, *Relation Historique*, I:192-193
Crocodiles	Bezoar stone in the stomach	Poison antidote	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 44; Cavazzi/Labat, *Relation Historique*, I:194
Elephant	Bezoar stone in head	Has "a Medicinal quality"	No description	No description	Kongo	Dapper, *Naukeurige Beschrijvinge*, 568; Dapper/Ogilby, *Africa*, 530
Elephant	Bezoar stone in stomach	Excellent remedy	No description	Must be taken from an older animal	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 33; Cavazzi/Labat, *Relation Historique*, I:154
Elephant	Leg bones	Cures asthmas, sciatica, and cold humors	No description	Distill leg bones in water under the sun	Kongo	Merolla, "Voyage to Congo," 637
Elephant	Tusks	Medicinal virtues	No description	No description	Upper Guinea	*Golden Coast*, 34
Engalli - Wild boar	Tusks	Poison antidote	Internal	Take filings from teeth, mix with liquor and drink	Kongo	Dapper, *Naukeurige Beschrijvinge*, 569; Dapper/Ogilby, *Africa*, 531

Table 2: *Materia Medica* Animals (continued)						
Engalli - Wild boar	Tusks	Reduces fever	Internal	Rub teeth against a stone, mix filings in water and drink	Kongo	Dapper, *Naukeurige Beschrijvinge*, 569; Dapper/Ogilby, *Africa*, 531; Zucchelli, *Relazioni del Viaggio*, 99-100
Engalli - Wild boar	Stone in the head	Reduces fever	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:173
Engalli - Wild boar	Stone in the head	Poison antidote	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:174
Engalli - Wild boar	Tusks	Fever remedy by way of its diaphoretic properties	Internal	Reduce tusks to powder	Kongo	Merolla, "Voyage to Congo," 606
Engalli - Wild boar	Tusks	Poison antidote	Internal	Reduce tusks to powder and mix with juice from mateba, a palm tree		Merolla, "Voyage to Congo," 606
Gulungos and Viadi - species of deer or wild goats	Bezoar stone in the stomach	Poison antidote	No description	Must be taken from older animals (Cavazzi, *Istorica Descrizione*); males are better and should be taken from freshly killed animal (Merolla, "Voyage to Congo")	Kongo, Angola, Matamba	Cavazzi, Istorica Descrizione, 35-36; Cavazzi/Labat, Relation Historique, I:161-162; Merolla, "Voyage to Congo," 607
Hen	Breath from the hen's mouh	Cures scorpion's sting	External	Rub moisture from hen's mouth onto wound caused by scorpion bite	Gold Coast	Barbot, "Description of the Coasts," 221
Hey	Liver	Recovers sight	External	Apply raw liver to eyes to regain sight	Angola	Dapper, *Naukeurige Beschrijvinge*, 599; Dapper/Ogilby, *Africa*, 555
Hippopotamus	Left Claw	Cures dysentery	No description	No description	Angola	Battell, "Strange Adventure," *Hakluytus Posthumous*, VI:403
Hippopotamus	Penis and stones in the ear	Dissolves kidney & bladder stones, diuretic	No description	Pulverize, dissolve in water, and take by spoonfuls	Kongo	Merolla, "Voyage to Congo," 611
Hippopotamus	Tusks	Stops hemorrhage and cures hemmorhoids	No description	No description	Senegambia	Barbot, "Description of the Coasts," 73

Table 2: *Materia Medica* Animals (continued)						
Hippopotamus	Hides	Stops diarrhoea, cures dysentery, stanches hepatic blood	No description	No description	Senegambia	Barbot, *Barbot on Guinea*, I:50; 156, n. 7; Barbot, "Description of the Coasts," 73
Human Child	Penis	Cures scorpion's sting	External	Rub child's penis against the wound caused by the scorpion bite	Gold Coast	Barbot, "Description of the Coasts," 221
Human Woman	Mother's milk	Partial cure for eyes exposed to venom from the *suis*, *npsisi*, or *nsuis* snake	External	Wash eyes with mother's milk and the sufferer is no longer blind but the cure is partial and although eyesight is returned, the eyes are immobilized as if they were paralyzed	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 46; Cavazzi/Labat, *Relation Historique*, I:199
Human Woman	Mother's milk	Cures blindness caused from venom from the *copras*	External	Wash eyes with mother's milk	Kongo	Merolla, "Voyage to Congo," 637
Impalanca	Bezoar stone in the stomach	Poison antidote	No description	Must be taken from a freshly killed animal	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:160
Impanguazze - species of buffalo	Bone marrow	Reanimates and restores movement to paralzyed or numb limbs	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 34; Cavazzi/Labat, *Relation Historique*, I:157-158
Impanguazze - species of buffalo	Bone marrow	For cold humors and aches	No description	No description	Kongo, Angola, Matamba	Merolla, "Voyage to Congo," 607
Large serpent	N/A	Cures madness	No description	The mad person must have his hands and feet tied, and is thrown into the lagoon near Gimbo amburi where the serpent lives and the serpent takes him to the bottom of lake. Twenty-four hours later, the person is returned to shore, healed from madness	Kongo	Cavazzi, *Istorica Descrizione*, 84; Cavazzi/Labat, *Relation Historique*, I:348
Leuta	Bile	Bile is an antidote to is poison and to the venom of many other snakes	No description	Bile must be pure and unadulterated	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 47; Cavazzi/Labat, *Relation Historique*, I:202-203

Table 2: *Materia Medica* Animals (continued)						
Monkey	Bezoar stone in the stomach	Remedy for dizziness and palsy	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 40; Cavazzi/Labat, *Relation Historique*, I:178
Monkey		Cures many common maladies	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 40; Cavazzi/Labat, *Relation Historique*, I:178
Ncocco - similar to an elk	Horn	Protects against epilepsy and apoplexy	External	Need only faith and touch the flesh and you are protected	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:158-160
Ncocco - similar to an elk	Horn	Protects against heart failure	External	Need only faith and touch the flesh and you are protected	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:158-160
Ncocco - similar to an elk	Hoof	Cures epilepsy	No description	You must observe when the Ncocco itself falls into an epileptic fit, watch which of its hooves it uses to scratch behind its ear, kill the animal, and cut off that foot - all whilst the sun is in the sign of Aries. In Merolla the astrological reference is removed and the animal merely needs to be pushed over, not in an epleptic fit. To recover from the blow, the animal will scratch his ear and the hoof he uses to do so is the one containing medical efficacy.	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:158-160; Merolla, "Voyage to Congo," 606
Ndemba, species of Abada	Skin	Cures dysentery	Internal	Dry skin, reduce to power and soak in water	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170
Ndemba, species of Abada	Skin	Cleans wounds	External	Roast skin over the fire	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170
Ndemba, species of Abada	Skin	Cleans ulcerated skin	External	Roast skin over the fire	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170

Table 2: *Materia Medica* Animals (continued)						
Ndemba, species of Abada	Horns on feet	Reduces fevers	Internal	Reduce horns on feet to powder, and create infusion	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170
Ndemba, species of Abada	Horns on feet	Assists in childbirth	Internal	Reduce horns on feet to powder, and create infusion	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170
Ndemba, species of Abada	Blood	Remedy for fluxions, hemorrhoids, and hemorrhages	External	Mix the animal's blood with wine and apply to the affected parts	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170
Nsuis - black poisonous snake	Bones in the neck	No description	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 46; Cavazzi/Labat, *Relation Historique*, I:198-199
Nsuis - black poisonous snake	Bones in the neck	No description	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione,* 46;Cavazzi/Labat, *Relation Historique*, I:198-199
Poisonous serpent	Backbone	Worn as an amulet	External	Wear as an amulet around the neck	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Ogibly, *Africa*, 559
Quinbungi - similar to a wolf	Intestines	Cures cholic and abdominal complaints	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 36; Cavazzi/Labat, *Relation Historique*, I:162-163
Rattlesnake	Head and rattle of the rattesnake	Reduces fever	No description	No description	Kongo	Lopes, *Relatione del Reame di Congo*, 33; Lopes/Bal, *Description du Royaume*, 61
Rattlesnake	Head and rattle of the rattesnake	Cures heart palpitations	No description	No description	Kongo	Lopes, *Relatione del Reame di Congo*, 33; Lopes/Bal, *Description du Royaume*, 62
Scorpions	Bruised scorpion	Cures scorpion bite	External	Try to kill the scorpion who made the bite, bruise it	Gold Coast	Barbot, "Description of the Coasts," 221

Table 2: *Materia Medica* Animals (continued)						
Sea cow	Bone in the head	Removes kidney and bladder stones	Internal	Beat the bone into powder, mix in wine, and drink	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 560
Sea cow	Bone in the ear	Protects against noxious air	External	Wear as an amulet	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 560
Sea cow	Ribs	Stenches blood	External	Wear as a bracelet	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogibly, *Africa*, 559; Merolla, "Voyage to Congo," 610. See also da Lucca, *Relations sur le Congo*, 116
Sea cow	Skin	Protects against noxious air	External	Wear as a necklace	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 42; Cavazzi/Labat, *Relation Historique*, I:188
Sea cow	Skin	Promotes blood flow	External	Wear as a necklace	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 42; Cavazzi/Labat, *Relation Historique*, I:188
Sea cow	Bone behind ear	Remedy for many maladies	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 42; Cavazzi/Labat, *Relation Historique*, I:188
Suté - kind of rodent	No description	Cure for epilepsy	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:173

Table 3.1: Illness Category – Venereal Disease						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Chitangas (Syphilis)	Chicongo	External	Powder the pith, mix with palm oil, and apply to body. Portuguese adaptation mixed pith with vinegar and applied to pulse.	Kongo and Loango	Lopes, *Relatione del Reame di Congo*, 14; Lopes/Bal, *Description du Royaume de Congo*, 32	Chicongo is described in the sources as gray sandalwood. However, white sandalwood (Indian sandalwood or santalum album) is not native to Africa.
Chitangas (Syphilis)	Takula	External	Powder, mix with palm oil, and apply to body	Kongo and Loango	Lopes, *Relatione del Reame di Congo*, 69; Lopes/Bal, *Description du Royaume de Congo*, 122; Dapper, *Naukeurige Beschrijvinge*, 576; Dapper/Ogilby, *Africa*, 536	
Chitangas (Syphilis)	Unidentified ointments and herbs	Internal and External	"Oyntments and Physical Herbs taken inwardly"	Angola	Dapper, *Naukeurige Beschrijvinge*, 598; Dapper/Ogilby, *Africa*, 554	
Chitangas (Syphilis)	Caustics	External	Apply caustics to the affected parts of the body	Kongo	Cavazzi, *Istorica Descrizione*, 114-115; Cavazzi/Labat, *Relation Historique*, I:459	
Enlarged scrotum full of sores	Salt	External	Rub and wash sores to clean and prevent corruption and rot	Gambia	Dapper, *Naukeurige Beschrijvinge*, 358; Barbot, *Description of the Coasts*, 79	

Table 3.1: Illness Category – Venereal Disease (continued)						
Gonorrhea	Ascindoe	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 680	Petiver names Ascindoe: "Frutex Guineensis spinosus foliis subrotundis crenatis floribus filamentosis, nob"
Gonorrhea	Canto	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 682	
Gonorrhea	Limes	Internal	Boil limes in water until most of water has evaporated and then drink the decoction two or three times a day	Upper Guinea	Winterbottom, *An Account*, II:34	

Table 3.2: Illness Category – Brain, Nerves						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Chiongo (nervous disease)	Luquiri	Internal	Beat leaves, reduce to powder, make an infusion and ingest	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 13, 31; Cavazzi/Labat, *Relation Historique*, I:80, 146	Chiongo is described as a nervous disease presenting with headache, dizziness, convulsions, shaking limbs. Cavazzi/Labat's translation refers to the plant as "Luqui" and "Liquivri"
Dizziness, palsy	Bezoar stone in the stomach of monkeys	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 40; Cavazzi/Labat, *Relation Historique*, I:178	
Epilepsy	Nail on the hoof of Ncocco, similar to an elk	No description	You must observe when the Ncocco itself falls into an epileptic fit, watch which of its hooves it uses to scratch behind its ear, kill the animal, and cut off that foot - all whilst the sun is in the sign of Aries. See Merolla for an alternative treatment	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:158-160; Merolla, "Voyage to Congo," 606	In Cavazzi/Labat's translation it is written as "Neocco"
Epilepsy	Suté, kind of rodent	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:173	
Fainting	Chisecco tree	No description	Reduce to powder, mix with water and apply to the forehead and temples to prevent fainting	Kongo	Merolla, "Voyage to Congo," 635	

Table 3.2: Illness Category – Brain, Nerves (continued)						
Madness	Large serpent	No description	The mad person must have his hands and feet tied, and then thrown into a lagoon where the serpent lives and the serpent takes him to the bottom of lake. Twenty-four hours later, the person is returned to shore, healed from madness	Kongo	Cavazzi, *Istorica Descrizione*, 84; Cavazzi/Labat, *Relation Historique*, I:348	
Paralyzed or numb limbs	Bone marrow of the Impanguazze - species of buffalo	No description	No description	Kongo, Angola, Matamba	Cavazzi, Istorica Descrizione, 34; Cavazzi/Labat, Relation Historique, Vol. 1, 157-158	
Sciatica	Leg bones from elephant	No description	Distill leg bones in water under the sun	Kongo	Merolla, "Voyage to Congo," 637	
Weak brain	Fruit from the zaffo tree	Internal	Bake fruit over hot fire until it becomes odoriferous and aromatic, then eat to fortify brain	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:125	
Weak nerves	Palm oil	Internal, external	General use of palm oil in food and in anointing the body to invigorate nerves	Gold Coast	Smith, *New Voyage*, 163	

Table 3.3: Illness Category – Headaches						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Excessive heat in the head	Dancreta	External	Boil in water and wash head	Gold Coast	Petiver, "Catalogue," 683	Petiver names Dancreta as "Convolvulus quinque folius Guineensis foliis non serratis. nob"
Headache	Chicongo	External	Roast pith and inhale smoke	Kongo and Loango	Lopes, *Relatione del Reame di Congo*, 15; Lopes/Bal, *Description du Royaume de Congo*, 32	
Headache	Asto	Internal	Dry to powder and sniff	Gold Coast	Petiver, "Catalogue," 678	Petiver names Asto as "Erysimum lignosum Guineense tomentosum, nob"
Headache	Issong	External	Make decoction and wash head	Gold Coast	Petiver, "Catalogue," 683	
Headache	Most medicinal plants in Sierra Leone	External	Apply externally to forehead	Sierra Leone	Winterbottom, *An Account*, II:17	
Headache	Abúnk (Temne) leaves	External	Bruise leaves between two stones, create a paste with water, rub into the forehed twice a day for at least one week	Sierra Leone	Winterbottom, *An Account*, II:17-18	
Headache	Cooteè (Temne) leaves	External	Bruise leaves between two stones, create a paste with water, rub into the forehed twice a day for at least one week	Sierra Leone	Winterbottom, *An Account*, II:18	
Headache	Lime bush leaves	External	Beat leaves in mortar, heat, wrap in cloth, and apply warm to the forehead	Sierra Leone	Winterbottom, *An Account*, II:18	
Headache	Plantain leaves	External	Apply leaves cold to the forehead	Sierra Leone	Winterbottom, *An Account*, II:18	
Headache	Comamboy (Temne)	External	Finely scrape seed and rub on forehead, similar effect to cantharides	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 86-87; Winterbottom, *An Account*, II:18	One other name provided by Winterbottom is Mamboy (Bullom)

Table 3.3: Illness Category – Headaches (continued)						
Headache	Apúntokellee (Temne)	External	Bruise leaves and smaller branches, apply cold to the head as a poultice	Sierra Leone	Winterbottom, *An Account*, II:19	Other names provided by Winterbottom are Issumpellén (Bullom), Santáy (Susu), Mimosa Involuta
Headache	Mabúnk (Temne)	External	Powder leaves, soften with water, and apply to forehead	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Matakkee (Temne)	External	Dry leaves, reduce to powder, soften with water, and apply to the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Manai (Temne)	External	Rub fresh panicles over the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Mattopper (Temne)	External	Rub leaves over the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Quéequee (Temne)	External	Create decoction from leaves and bathe forehed	Sierra Leone	Winterbottom, *An Account*, II:20	One other name provided by Winterbottom is Maquéequee (Temne)
Headache	Teechee (Temne)	External	Create decoction from leaves and bathe forehed	Sierra Leone	Winterbottom, *An Account*, II:20	
Headache	Teeboorakee (Temne)	External	Cures headache when accompanied by sore throat	Sierra Leone	Winterbottom, *An Account*, II:20	
Headache	Tunkámúntoo (Temne)	External	Boil leaves in water and wash forehead with the warm water	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Agbunto (Temne)	External	Infuse whole plant in water and drink warm to produce perspiration, and then leaves are rubbed upon the forehead	Sierra Leone	Winterbottom, *An Account*, II:20	
Headache	Abák (Temne)	External	Dry leaves, reduce to powder, soften with water, and apply to the forehead	Sierra Leone	Winterbottom, *An Account*, II:19	
Headache	Mapóor (Temne)	External	Dry leaves in the sun, powder, mix with water to form a cataplasm, and apply cold to the forehead	Sierra Leone	Winterbottom, *An Account*, II:20	
Headache	Scoparia Dulcis leaves	Internal	Make infusion from the leaves, warm, and drink like tea	Sierra Leone	Winterbottom, *An Account*, II:17	
Headache	Makóotay (Susu)	External	Dry leaves in the sun, powder, mix with water to form a cataplasm, and apply cold to the forehead	Sierra Leone	Winterbottom, *An Account*, II: 20	

Table 3.4: Illness Category – Fevers						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Fever	Boiling pot of leaves	External	Patient sits over the pot with a cloth over ttheir head which reaches to the ground and it is a diaphoretic	Upper Guinea	Winterbottom, *An Account*, II:22	
Fever	Cassia fistula, Pipe cassia	No description	No description	Kongo	Dapper, *Naukeurige Beschrijvinge*,567; Dapper/Ogilby, *Africa*, 529	
Fever	Chichere fruit	Internal	Eat fruit	Kongo	Merolla in Churchill, 634	
Fever	Chicongo tree	External	Powder pit, mix with palm oil, apply over entire body two or three times	Kongo and Loango	Lopes, *Relatione del Reame di Congo*, 69; Lopes/Bal, *Description du Royaume de Congo,*122	
Fever	Chicongo tree	External	Beat root, mix with oil of dates, and apply over entire body two or three times	Kongo	Dapper, *Naukeurige Beschrijvinge*, 576; Dapper/Ogilby, *Africa*, 536	
Fever	Chisecco tree	No description	Reduce to powder and mix with water	Kongo	Merolla, "Voyage to Congo," 635	
Fever	Coconut milk	Internal	Drink coconut milk	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 26; Cavazzi/Labat, *Relation Historique*, I:129-130	
Fever	Head and rattle of the rattlesnake	No description	No description	Kongo	Lopes, *Relatione del Reame di Congo*, 33; Lopes/Bal, *Description du Royaume de Congo*, 61	
Fever	Horns on feet of Ndemba, species of Abada (horse-like animal)	Internal	Reduce horns on feet to power, make into an infusion, and drink	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170	
Fever	Leaves from the Killéeng tree	External	Bruise leaves use to bathe the body	Sierra Leone	Winterbottom, *An Account*, II:24	

Table 3.4: Illness Category – Fevers (continued)						
Fever	Maniples fruit	Internal	Mix juice with water and drink	Senegambia	Barbot, "Description of the Coasts," 31; Barbot, *Barbot on Guinea*, I:82, n. 21	Barbot borrowed this information from Dapper and misspelled it as "Naniples"
Fever	Pao del Cebra, Serpents Wood	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 601; Dapper/Ogilby, *Africa*, 556	
Fever	Stone in the head of Engalli, wild boar	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:173	
Fever	Tusks from Engalli, or wild boar	Internal	Rub tusks against a stone, mix filings in water and drink	Kongo	Dapper, 569; Ogilby, 531	
Fever	Tusks of the Engalli, or wild boar	Internal	Reduce tusks to powder	Kongo	Merolla, "Voyage to Congo," 606	

Table 3.5: Illness Category – Gastro-Intestinal						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Abodominal complaints and colic	Intestines of the Quinbungi, similar to a wolf	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 36; Cavazzi/Labat, *Relation Historique*, I:162-163	
Biliary colic	Lime juice and melegueta	Internal	Mix lime juice with maleguetta pepper and drink	Gold Coast	Bosman, *New and Accurate Description*, 224-225; Barbot, "Description of the Coasts," 277	
Diarrhoea	Hippopota mus hide	No description	No description	Senegambia	Barbot, *Barbot on Guinea*, I:150	
Diarrhoea	Multi-part remedy involving castor oil and fruit from the Nicoffo and Chirico trees	Internal & External	After binding the patient's body with a belt around the naval, anoint body with castor oil, while being fed fruit from the Nicoffo and Chirico trees boiled in water or baked	Kongo	Cavazzi, *Istorica Descrizione*, 115; Cavazzi/Labat, *Relation Historique*, I:462	
Diarrhoea	Pepper from spice tree	Internal	Add to rice and soup and eat	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 82-83; 215, n. 56;	
Diarrhoea	Plantain	Internal	Roast and eat	Gold Coast	Brun, Brun, "Voyages of 1611-20," 85	
Diuretic	Kola nut	Internal	Suck out juice or eat with salt and malaguetta pepper	Gold Coast	Bosman, *New and Accurate Description*, 305	See also Barbot, "Description of the Coasts," 199
Dysentery	Guava	Internal	Fruit	Gillfree, Upper Guinea	Moore, *Travels into the Inland Parts*, 68	
Dysentery	Hippopota mus hide	No description	No description	Senegambia	Barbot, *Barbot on Guinea*, I:150	

Table 3.5: Illness Category – Gastro-Intestinal (continued)						
Dysentery	Left claw of hippopotamus	No description	No description	Angola	Battell, *Strange Adventure*, Vol. 6, Hakluytus, 403	
Dysentery	Pocumma	Internal	Pound, dry, and bake in bread	Gold Coast	Petiver, "Catalogue," 684	
Dysentery	Skin of the Ndemba, species of Abada (horse-like animal)	Internal	Dry skin, reduce to powder, soak it in water and consume	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170	
Dysentery	Tetrephoe	Internal	Boil in broth and consume	Gold Coast	Petiver, "Catalogue," 684-685	
Dysentery, nutriment	Cormantyn apple	Internal	Boil fruit with wine and sugar	Gold Coast	Bosman, *New and Accurate Description*, 292; Barbot, "Description of the Coasts," 200	
Gas	Pepper	Internal	No description	Kongo	Merolla, "Voyage to Congo," 635	
Gas	Stone in Engeriay fruit	Internal	No description	Zambia/Ingombe	Battell, "Strange Adventure," *Hakluytus*, VI:375	
Purgative	Affunnena	Internal	Boil in wine and drink, produces bowel movement	Gold Coast	Petiver, "Catalogue," 678	
Purgative	Bumbunny	Internal	Boil in wine and drink, induces vomiting	Gold Coast	Petiver, "Catalogue," 682	
Purgative	Physical nut	Internal	Eating one or two kernels	Gillfree, Upper Guinea	Moore, *Travel to the Inland Parts*, 68	
Stomach ache	Asserida	Internal	Chewed	Gold Coast	Petiver, "Catalogue," 680	
Stomach ache	Cuttosoe	Internal	Boil in water and drink	Gold Coast	Petiver, "Catalogue," 628	See also Anonis non spinosa minor glabra procumbens fl. Luteo in Sloane, *Catalogus Plantarum*, 75

Table 3.5: Illness Category – Gastro-Intestinal (continued)						
Stomach ache	Heniecoe	Internal	Boil in wine and drunk	Gold Coast	Petiver, "Catalogue," 683	
Stomach ache	Herbs	External	Grind up herbs, mix with wet earth and apply to the stomach	Gold Coast	Hemmersam, "Description of the Gold Coast," 122	
Stomach ache	Pepper from spice tree	Internal	Add to rice and soup and eat	Sierra Leone	Donelha, *Descrição da Serra Leoa*, 82-83; 215, n. 56	
Upset stomach, digestive distress	Bark from the Sá-Pea tree	Internal	No description	Sierra Leone	Winterbottom, *Account,* Vol. 1, 77	
Upset stomach, digestive distress	Kola nut	Internal	Chew and eat	Kongo/San Salvador	Lopes, *Relatione del Reame di Congo*,41; Lopes/Bal, *Description du Royaume de Congo*, 77	
Upset stomach, digestive distress	Kola nut	Internal	Drink with water or eat with malaguetta pepper	Upper Guinea	Winterbottom, *Account*, Vol. 1, 76	
Upset stomach, digestive distress	Palm oil	Internal, external	General use of palm oil in food and in anointing the body	Gold Coast	Smith, *New Voyage to Guinea*, 163	
Upset stomach, digestive distress	Pimento	Internal	Pickle in vinegar and lime juice	Gold Coast	Bosman, *New and Accurate Description*, 305; see also Barbot, "Description of the Coasts," 199	
Upset stomach, digestive distress	Tetié	Internal	No description	Gold Coast	Barbot, "Description of Coasts," 198	

Table 3.5: Illness Category – Gastro-Intestinal (continued)						
Vomiting	Expressed juice of the scraped stem of the Cattop reed	Internal	Drink expressed juice of the scraped stem of the cattop reed, sometimes it is mixed with a decoction of the leaves of the yúffo tree and drunk to relieve vomiting	Sierra Leone	Winterbottom, *An Account*, II:17	
Vomiting	Infusion of lime juice	No description	No description	Sierra Leone	Barbot, *Barbot on Guinea*, I:150	
Vomiting	Infusion of pepper	Internal	Create warm infusion of pepper and drink to relieve vomiting or eat a few gently bruised pepper pods to relieve vomiting	Sierra Leone	Winterbottom, *An Account*, II:17	
Weak stomach	Coconut	Internal	No description	Angola	Battell, "Strange Adventure," *Hakluytus*, VI:406	
Weak stomach	Fruit from Collera Tree	Internal	Soak in water to lessen bitterness and then eat to strengthen stomach	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:125	
Weak stomach	Fruit from the Gegero Tree	Internal	Drink liquor derived from the fruit to strengthen stomach	Kongo, Angola, Matamba	Cavazzi, Istorica Descrizione, 25; Cavazzi/Labat, *Relation Historique*, I:126	
Weak stomach and viscera	Bark from the conde plant	No description	Liquid substance in the bark	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 29; Cavazzi/Labat, *Relation Historique*, Vol. 1, 139-140	

Table 3.6: Illness Category – Worms						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Worms	Argól (Temne)	Internal	Beat bark to powder, boil with a small amount of piper ethiopicum, mix in rice and eat every morning	Sierra Leone	Winterbottom, *An Account*, II:28	Another name provided by Winterbottom is Coóontang (Bullom)
Worms	Argól (Temne)	External	Reduce bark to powder, mix with water to create cataplasm and apply to children's stomach when worm infestation is suspected	Sierra Leone	Winterbottom, *An Account*, II:29	Another name provided by Winterbottom is Coóontang (Bullom)
Worms	Assrumina	External	Pound and rub on the legs	Gold Coast	Petiver, "Catalogue," 680	
Worms	Concon	External	Pound, mix with oil, and rub on legs	Gold Coast	Petive, "Catalogue," 682	
Worm – *Ascaris lumbricoides*	Kanónter	Internal	Bruise young leaves, either dry or fresh, from the plant, mix with rice or fish	Sierra Leone	Winterbottom, *An Account*, II:28	
Worms	Palm oil	External	Apply palm oil to the place where the worm emerges	Gold Coast	Müller, "Description of the Fetu Country," 152	
Worms	Palm oil, pepper, leaves	External	Worm is pulled out several inches, cut off, palm oil is smeared on the sore, and a green leaf is applied in place of a plaster. To remove the swelling that occurs after this procedure, they cut into the skin to release the pus and fluid, and then wash the area with a mixture of pepper and other herbs until the area stings; then they apply palm oil and a leaf to relieve the pain.	Gold Coast	Hemmersam, "Description of the Gold Coast," 122	
Worms	Papaw Tree	Internal	Eat seeds from fruit	Sierra Leone	Winterbottom, *An Account*, II:29	*Carica papaya* L.

Table 3.6: Illness Category – Worms (continued)						
Worms	Serigbailee, (Susu)	Internal	Powder four or five kernels from the seeds, mix with boiled rice and eat every morning	Sierra Leone	Winterbottom, *An Account*, II:28	Other names for the plant given by Winterbottom are Leligunt, (Temne), Connarus africanus
Worms	Tóngbee (Temne)	Internal	Make decoction from the leaves and drink every morning	Sierra Leone	Winterbottom, *An Account*, II:28	Other names for the plant given by Winterbottom are Téngbee (Bullom); Tchaóokee (Fula)

Table 3.7: Illness Category – Poisoning						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Poisoned	Abada - horse-like animal with one horn in forehead and one behind neck	No description	No description	Benguela	Dapper, *Naukeurige Beschrijvinge*, 624; Dapper/Ogilby, *Africa*, 574. See also Merolla, "Voyage to Congo," 607	Efficacy varies based on when the animal is killed
Poisoned	Bile from leuta snake	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 47; Cavazzi/Labat, *Relation Historique*, I:202-203	
Poisoned	Bruised scorpion	External	Try to kill the scorpion who made the bite, bruise it	Gold Coast	Barbot, "Description of the Coasts," 221	
Poisoned	Coconut	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 600; Dapper/Ogilby, *Africa*, 556	Described as possibly being the same as coconuts in the Maldives called "Komorri"
Poisoned	Crocodiles - bezoar stone in the stomach	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 44; Cavazzi/Labat, *Relation Historique*, I:194	
Poisoned	Engalli, wild boar - tusks	Internal	Reduce tusks to powder and mix with juice from a palm tree called mateba	Kongo	Merolla, "Voyage to Congo," 606	What Merolla calls "mateba" may be "matambi/matombe" in Cavazzi, Istorica Descrizione Istorica Descrizione, 6; Cavazzi, Istorica Descrizione/Labat, Relation Historique, I:48
Poisoned	Engalli, wild boar - stone in the head	No description	No description	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 39; Cavazzi/Labat, *Relation Historique*, I:173	

Table 3.7: Illness Category – Poisoning (continued)						
Poisoned	Gulungo and viadi - bezoar stone in the stomach	No description	Must be taken from older animals (Cavazzi, Istorica Descrizione); males are better and should be taken from freshly killed animal (Merolla)	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35-36; Cavazzi/Labat, *Relation Historique*, I:161-162; Merolla, "Voyage to Congo," 607	
Poisoned	Impalanca - bezoar stone in the stomach	No description	Must be taken from a freshly killed animal	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:160	
Poisoned	Mignamigna Tree - bark, fruit, leaves	No description	No description	Kongo	Merolla, "Voyage to Congo," 658	
Poisoned	Mofrissasonho Tree	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 601; Dapper/Ogilby, *Africa,* 555	Written in Ogibly as "Mofrossasonho"

Table 3.8: Illness Category – Genitourinary						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Bitios de Kis (inflammatory rectal disease)	Lemon wedge suppository	Internal	Upon first sign of symptoms, insert quarter of the lemon with rind into anus and hold there with the finger as long as the patient can bear it	Kongo, Angola	Dapper, *Naukeurige Beschrijvinge*, 598; Dapper/Ogilby, *Africa*, 554	
Bitios de Kis (inflammatory rectal disease)	Tobacco leaves suppository	Internal	Later stage treatment, take extracted juice from tobacco leaves mix with salt and vinegar, steep for two hours, pound in a mortar, and insert into the anus for as long as the patient can bear	Kongo, Angola	Dapper, *Naukeurige Beschrijvinge*, 598; Dapper/Ogilby, *Africa*, 554	
Bitios de Kis (inflammatory rectal disease)	Orore de Bitios	No description	One of the restorative remedies used by Africans	Kongo, Angola	Cavazzi, *Istorica Descrizione*, 115-116; Cavazzi/Labat, *Relation Historique*, I:464-465	Cavazzi notes Africans using this herb but does not provide details
Diuretic	Palm wine	Internal	Drink fresh and cold	Senegambia, Gold Coast, Kongo, Angola	Lopes, *Relatione del Reame di Congo*,41; Lopes/Bal, *Description du Royaume de Congo*, 77; Barbot, *Barbot on Guinea*, I:25, 136, n. 10; Barbot, "Description of the Coasts," 203-204; *Golden Coast*, 65	
Testicular swelling	Obrang	External	Boil in water and wash area	Gold Coast	Petiver, "Catalogue," 684	Petiver names "Obrang" as Glycyrrhizae folio singulari, Frutex Guineensis spinis gemestis, nob

Table 3.8: Illness Category – Genitourinary (continued)						
Kidney and bladder stones	Bone in the head of sea cows	Internal	Beat the bone into powder, mix in wine, and drink		Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 560	Ogilby writes these as "Ambisangalo" and "Pesyengoni." The male bone is described as being more effective than the female.
Kidney and bladder stones	Hippopotamus - penis & stones in ear	Internal	Pulverize, dissolved in water, and take by the spoonful	Kongo	Merolla, "Voyage to Congo," 611	
Kidney and bladder stones	Angariaria tree - wood, root, and fruit	No description	No description, removes pain from the disorder	Kongo	Merolla, "Voyage to Congo," 635	
Swelling in the groin	Assaba	External	Warm in water and rub groin	Gold Coast	Petiver, "Catalogue," 680	

Table 3.9: Illness Category – Liver Disorders						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Liver disorders	Kola nut	Internal	Chew and eat	Kongo	Lopes, *Relatione del Reame di Congo*,41; Lopes/Bal, *Description du Royaume de Congo*, 77	

Table 3.10: Illness Category – Heart, Blood, Fluids						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Anasarcous swellings	Leaves from the castor oil plant	External	Steep leaves in hot water and wrap around legs as hot as the patient can bear, and repeat until the heat has dissipated, for 15 or 30 minutes. Dry the limb, let the patient rest, and it induces copious perspiration in the swollen limb	Sierra Leone	Winterbottom, *An Account*, II:24	
Cold humors	Leg bones from elephant	No description	Distill leg bones in water by the sun	Kongo	Merolla, "Voyage to Congo," 637	
Cold humors and aches	Impanguazze, species of buffalo	No description	Bone marrow is used	Kongo	Merolla, "Voyage to Congo," 607	
Dropsical and other swellings	Pimento	No description	No description	Gold Coast	Hemmersam,"Description of the Gold Coast," 112	
Dropsical swellings	Bark from the tóma, poison tree	External	Powder bark, moisten with water to form a cataplasm and apply to dropsical swellings. Causes a discharge of fluid and heals quickly	Sierra Leone	Winterbottom, *An Account*, II:25	
Fluxions	Fruit from the cassavero tree	Internal	Drink liquor derived from the fruit	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, *Relation Historique*, I:125-126	Fluxions refer to an excessive flow of bodily fluids towards an organ. In Labat's translation the tree is called "Cassanévo"
Fluxions, hemorrhoids, and hemorrhages	Blood from the ndemba, species of abada (horse-like animal)	External	Mix animal's blood with wine and apply to the affected parts	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170	

Table 3.10: Illness Category – Heart, Blood, Fluids (continued)						
Hardness of the spleen	Embotta tree	Internal	Make broth from the root, especially the part of the tree that gets morning sun	Angola	Dapper, *Naukeurige Beschrijvinge*, 599; Dapper/Ogilby, *Africa,* 555	
Heart palpitations	Head and rattle of the rattlesnake	No description	No description	Kongo	Lopes, *Relatione del Reame di Congo*, 33; Lopes/Bal, *Description du Royaume de Congo*, 61	
Hemorrhaging blood	Amea	Internal	Dry to powder and sniff to coagulate blood	Gold Coast	Petiver, "Catalogue," 678; see also Pajamirioba/Pojo mirioba in Sloane, *Catalogus Plantarum*, 148	
Hemorrhoids and hemorrhage of hepatic blood	Hippopotom us tusk	No description	No description	Senegambi a	Barbot, *Barbot on Guinea*, I:150; Barbot, "Description of the Coasts," 73	
Internal bleeding	Bone in the head of sea cows	External	Worn as a bracelet	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 559	
Internal bleeding	Sea cow ribs	No description	No description	Kongo	Merolla, *Breve, e Succinta Relatione*, 52-53; Merolla, "Voyage to Congo," 610	
Leg swelling	Attrow	External	Boil, create decoction, and wash swollen areas	Gold Coast	Petiver, "Catalogue," 680	Petiver names it as Kali Guineense foliis Polygoni floribus verticilli in modum dispositis, nob
Leg swelling	Unnena	External	Boil in water and wash legs in water	Gold Coast	Petiver, "Catalogue," 686	Petiver names it as Lychinis Guineensis fructu Caryophylloide , foliis hirsutis Rorismarini angustioribus, nob

Table 3.10: Illness Category – Heart, Blood, Fluids (continued)						
Oedematous swellings	Leaves from dee/lay (Bullom), malip (Temne), lóogree (Susu)	External	Warm leaves in an iron pot and then rub down the swollen legs forcefully; create decoction from leaves in water and use as a fomentation and to bathe the legs	Sierra Leone	Winterbottom, *An Account*, II:24	
Oedematous swellings	Leaves from the comamboy (Bullom), mamboy (Temne)	External	Beat leaves in a mortar and apply cold to the legs	Sierra Leone	Winterbottom, *An Account*, II:26	
Promotes blood flow	Sea cow skin	External	Skin used to make necklaces and worn	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 2; Cavazzi/Labat, *Relation Historique*, I:188	
Purifies blood	Salt	Internal	Mix with water and drink every day	Mali	Cadamosto, *Voyages of Cadamosto*, 21-22	
Purifies blood & phlegm	Tamba root	Internal	No description	Angola	Cavazzi, *Istorica Descrizione*, 12; Cavazzi/Labat, *Relation Historique*, I:77	

Table 3.11: Illness Category – Eyes, Nose, Throat, Respiratory						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Asthma	Bones from elephant legs	No description	Distill leg bones in water under the sun	Kongo	Merolla, "Voyage to Congo," 637	
Blindness	Raw liver of hey	External	Apply raw liver of hey to eyes to recover sight	Angola	Dapper, *Naukeurige Beschrijvinge*, 599; Dapper/Ogilby, *Africa*, 555	
Cattarh	Cassavero fruit	Internal	Drink fruit juice	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat,*Relation Historique*, I:125-126	
Colds	Gum Almesiga	No description	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 602; Dapper/Ogilby, *Africa*, 557	Similar in smell to Gum Elemmi
Decongestant	Mening	Internal	Dried, reduced to powder, and sniffed	Gold Coast	Petiver, "Catalogue," 684	Petiver names it as Ricinus Guineensis Hederoe quinquefol. Virginianae facie, foliis hirsutis, nob
Film on eyes	Santeo	External	Boil and then wash eyes with water to remove film	Gold Coast	Petiver, "Catalogue," 684	
Sore eyes	Tuffo	External	Boil in water, create decoction, wash eyes	Gold Coast	Petiver, "Catalogue," 685	Petiver names it as Flos Solis Guineensis fol. scabro, flore minore, nob.

Table 3.12: Illness Category – Dermatology						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Poxed skin	Attrummaphoe	Internal	Boil and drink to dry out poxes	Gold Coast	Petiver, "Catalogue," 681	Petiver names Attrummaphoe as Colutea languinosa Floribus parvis filiquis pilosis deorsum tendentibus; also used in Kerala, India to treat Phrensy
Scabies	Aclowa	External	Dry plant and rub on the body	Gold Coast	Petiver, "Catalogue," 677	Petiver names it as Colutea Scorpioides Guineensis Tragacantha Foliis
Scabies	Afoba	External	Pound, mix with oil, and apply to body	Gold Coast	Petiver, "Catalogue," 678	
Tatooed skin	Bullanta	External	Make infusion and wash freshly tattooed skin to heal	Sierra Leone	Winterbottom, *An Account*, I:106	
Ulcerated skin	Skin of the ndemba, species of abada (horse-like animal)	External	Fire roast skin and apply as a cleanser	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, *Relation Historique*, I:170	
Ulcers and skin eruptions	Leaves of the Luquiri plant	External	Extract essential oil from the leaves and applied	Angola	Cavazzi, *Istorica Descrizione*, 13; Cavazzi/Labat, *Relation Historique*, I:80	Written in Labat's translation as "Luqui"

Table 3.13: Illness Category – Dental						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Mouth sores	Pineapple	Internal	No description – cures mouth sores and promotes circulation in the tongue and gums	Sierra Leone	Winterbottom, *An Account*, II:17	
Mouth ulcers and produces saliva	Loonee (Bullom) tree	Internal	Chew bark, sometimes with kola, to clean mouth ulcers and produce saliva	Sierra Leone	Winterbottom, *An Account*, I:76-77	Other names provided by Winterbottom are Alloop (Temne) and Lazzar (Susu)
Swollen and painful face and gums	Apúntokell ee (Temne),	External	Create decoction from the leaves and small branches and bathe face and gums	Sierra Leone	Winterbottom, *An Account*, II:19	Other names provided by Winterbottom are Issumpellén (Bullom), Santáy (Susu), Mimosa Involuta
Toothache	Asasi	Internal	Boil and then place in mouth	Gold Coast	Petiver, "Catalogue," 679	
Toothache	Caggow	Internal	Boil in water and wash teeth	Gold Coast	Petiver, "Catalogue," 682	
Toothache and sore gums	Ncassa tree	No description	No description	Kongo	Merolla "Voyage to Congo," 614-615	
Ulcerated gums and teeth due to scurvy	Aputtasy	Internal	Create decoction in water and wash teeth with it	Gold Coast	Petiver, "Catalogue," 679	

Table 3.14: Illness Category – Aches & Pains, Pain Management						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Back pain	Unguin	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 685-686	
Back pain	Palm oil	Internal, external	Consume palm oil in food and anoint the body with palm oil	Gold Coast	Smith, *New Voyage to Guinea*, 163	
Cold humors and aches	Bone marrow from Impanguazze	No description	No description	Kongo	Merolla, "Voyage to Congo," 607	
Lumbago	Bile from alligator	External	Scarify skin and then rub sore area with alligator bile	Sierra Leone	Winterbottom, *An Account*, I:266	
Pain in any part of the body	Sora	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 684	
Pain, inward pain	Abada (horse-like animal)	External	Grind bones into a fine powder, mix with water, and make into a plaister	Benguela	Dapper, Naukeurige Beschrijvinge, 624; Dapper/Ogilby, Africa, 574	
Rheumatism, joint pain, cold limbs	Palm oil	External	Create ointment with palm oil and apply warm to the body	Gold Coast	Barbot, "Description of the Coasts," 204	
Weaknesss	Acroe	Internal	Boil in wine and drink to recover strength	Gold Coast	Petiver, "Catalogue," 678	
Weakness	Atanta	Internal	Put in broth and restores strength	Gold Coast	Petiver, "Catalogue," 680	Petiver names Atanta “Rhus Guineense trifoliatum scabrum serratum, nob.”
Weakness	Emphrue	Internal	Boil and drink to restore strength	Gold Coast	Petiver, "Catalogue," 683	Petiver names Emphrue as “Mori folio non crenato Arbor Guineensis, nob.”
Weakness	Palm oil	Internal	Add to food to restore strength	Gold Coast	Bosman, *A New and Accurate Description*, 285	

Table 3.15: Illness Category – Smallpox						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Smallpox	Aconcroba	Internal	Boil in wine and drink	Gold Coast	Petiver/Smyth, 678	
Smallpox	Apobee	Internal	Boil and drink	Gold Coast	Petiver/Smyth, 679	Petiver names Apobee"Chrysanthemum acaulon Guineense, foliis longis angustis, nob"

Table 3.16: Illness Category – Hunger, Thirst						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Hunger	Kola nut	Internal	Chew with bark from the rosa tree to suppress appetite	Sierra Leone	Donelha, *Descrição da Serra Leoa,* 85; 217, n. 63-64	
Lack of appetite in the sick	Ambettuway	Internal	Boil and drink	Gold Coast	Petiver, "Catalogue," 678	
Lack of appetite in the sick	Count Fruit	Internal	Drink the juice	Kongo	Merolla, "Voyage to Congo," 634	
Lack of appetite in the sick	Mabocche Fruit	Internal	Eat the fruit	Kongo	Merolla, "Voyage to Congo," 635	
Nutriment for dysentery	Cormantyn apple	Internal	Boil fruit with wine and sugar	Gold Coast	Bosman, *A New and Accurate Description*, 292; Barbot, "Description of the Coasts," 200	
Nutriment for the sick	Chiarabbo	Internal	Cook fruit with vegetables, meat, or fish and eat	Kongo	Caltanisetta, *Diaire Congolais*, 33	Plant is similar to a mustard tree that produces a yellow flower, and the fruit is green, tender, and shaped like a pyramid. Bontinck identified it as "Quiabo" and "Quingombe" in Kikongo and "Kiabu" and "Kingombo" in Kimbundu. See Caltanisetta, *Diaire Congolais*, 32.
Thirst in a fever	Pineapple	Internal	No description	Sierra Leone	Winterbottom, *An Account*, II:17	
Thirst in a fever	Pith from the Cattop reed (Temne)	Internal	Bruise, boil in water and drink	Sierra Leone	Winterbottom, *An Account*, II:17	
Thirst	Kola nut	Internal	Chew and eat to quench thirst	Kongo/San Salvador	Lopes, *Relatione del Reame di Congo*, 41; Lopes/Bal, *Description du Royaume de Congo*, 77	

Table 3.17: Illness Category – Injuries, Wounds						
Illness/Symptom	Medicine	Administration	Treatment	Region	Source References	Notes
Boils	Dinjohn	External	Warm over fire and apply to boil	Gold Coast	Petiver, "Catalogue," 683	
Bruised Limbs	Gum Almesiga	External	No description	Angola	Dapper, *Naukeurige Beschrijvinge*, 602; Dapper/Ogilby, *Africa*, 557	Similar in smell to Gum Elemmi
Cuts and wounds	Aguaguin	External	Make into a plaster and apply to skin	Gold Coast	Petiver, "Catalogue," 679	
Cuts and wounds	Metacoe	External	Pound and apply to cuts and wounds	Gold Coast	Petiver, "Catalogue," 684	
Deep abcess or sore on the finger ("whitlow")	Tetruma	External	Pound, reduce to powder, and apply	Gold Coast	Petiver, "Catalogue," 685	Petiver names Tetruma as "Laurustini facie Arbor Guineensis, nob."
Dirty wounds	Skin of the ndemba, a species of abada (horse-like animal)	External	Fire roast skin and apply to wound to clean	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, Relation Historique, I:170	
Heals circumcision	Green herbs	External	No description	Kingdom of Kquoja	Dapper/Ogilby, 402	
Hemorrhaging blood after an injury or violent blow	L'isanda tree	External	Make decoction from leaves and apply to wound to clot blood	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 24; Cavazzi/Labat, Relation Historique, I:123	
Hemorrhaging blood after an injury or violent blow	L'isanda tree	External	Make decoction from leaves and apply to wound	Kongo	Cavazzi, *Istorica Descrizione*, 24; Cavazzi/Labat, Relation Historique, I:123	
Open wounds	Palm tree fibres	External	Apply to the wound to close wound	Kongo	Cavazzi, *Istorica Descrizione*, 25; Cavazzi/Labat, Relation Historique, I:Relation Historique, I:127-128	
Open wounds and sores	Pepper and herbs	External	To remove swelling, cut into the skin to release the pus and fluid, and then wash the area with a mixture of pepper and other herbs until the area stings; then apply palm oil and a leaf to relieve the pain	Gold Coast	Hemmersam, "Description of the Gold Coast," 122	

Table 3.17: Illness Category – Injuries, Wounds (continued)						
Wounds	Green plants	External	Boil in water, make into a decoction, and apply to the wound	Gold Coast	Bosman, *A New and Accurate Description*, 110	
Wounds and burns	Oil from Chelone fish	External	Remove oil by putting fish in the sun and after taking oil in this method, roast fish and remove the rest of the oil	Loango	Cavazzi, *Istorica Descrizione*, 44; Cavazzi/Labat, Relation Historique, I:192-193	
Wounds and burns	Unicorn tails	External	Soak unicorn tails in water and apply	Sierra Leone	Donelha, *Descrição da Serra Leoa*,115	
Wounds, sores	Salt	External	Rub and wash sores with salt to prevent rot	Gambia region	Dapper/Ogilby, *Africa*, 358; Barbot, "Description of the Coasts," 79	

Table 4: Reproduction						
Description	Medicine	Administration	Treatment	Region	Source References	Notes
Helps childbirth	Horns on feet of *n*demba, species of abada (horse-like animal)	Internal	Reduce horns on feet to power, make into an infusion, and consume	Kongo	Cavazzi, *Istorica Descrizione*, 38; Cavazzi/Labat, V*relation Historique* I:170	
Increases fertility	Plant with a yellow flower	External	Wash woman's abdomen and rub with the plant before she loses her virginity	Gold Coast	Müller, "Description of the Fetu Country," 216	
Semen	Liquid substance in the bark	No description	No description – good for semen	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 29; Cavazzi/Labat, *Relation Historique*, I:139-140	In Labat's translation the plant is "Comte"

Table 5: Preventative Medicine						
Description	Medicine	Administration	Treatment	Region	Source References	Notes
Diuretic, prevents bladder and kidney stones	Palm wine	Internal	Drink cold	Kongo/San Salvador	Lopes, *Relatione del Reame di Congo*, 41; Lopes/Bal, *Description du Royaume de Congo*, 77	
Diuretic, prevents bladder and kidney stones	Palm wine	Internal	Drink fresh	Sengambia	Barbot, *Barbot on Guinea*, I:125, 136, n. 10	
Diuretic, prevents bladder and kidney stones	Palm wine	Internal	Drink fresh	Gold Coast	Barbot, *Barbot on Guinea*, I:125, 136, n. 10	
Diuretic, prevents bladder and kidney stones	Palm wine	Internal	Drink fresh	Gold Coast	Barbot, *Barbot on Guinea*, I:125, 136, n. 10; Barbot, "Description of the Coasts," 203-204; *Golden Coast*, 65	In the 1732 version with this section borrowing much from Marees, Dapper, Villault, and Bosman
General preventative	Chicongo (similar to gray sandalwood)	External	Powder pith, mix with oil, apply over entire body	Kongo and Loango	Lopes/Pigafetta, 14; Bal, 32; Ogilby, 518; Dapper, 553	
General preventative	Palm oil	External	Apply to body	Sierra Leone	Winterbottom, *An Account*, I:103	
Preserves stomach	Kola	Internal	Chew and eat	Kongo/San Salvador	Lopes, *Relatione del Reame di Congo*, 41; Lopes/Bal, *Description du Royaume de Congo*, 77	
Preventative against venereal disease	Poisonous serpent	External	Wear backbone as an amulet around the neck	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 559	
Prevents "bloudy issues"	Blue stone	External	Wear stone about the middle of the body	Senegambia	Jobson, *Discovery of the River Gambra*, 135	
Prevents scurvy	Lemons	Internal	Include in sauces and wash teeth with juice	Gold Coast	Barbot, "Description of the Coasts," 204	
Prevents scurvy	Limes	Internal	Include in sauces and wash teeth with juice	Gold Coast	Barbot, "Description of the Coasts," 204	

Table 5: Preventative Medicine (continued)						
Protects against a nervous disease called Chiongo, common in Oacco	Luquiri Plant	Internal	Beat leaves, reduce to powder and add to food and drink	Angola/Oacco	Cavazzi, *Istorica Descrizione*, 13; Cavazzi/Labat, *Relation Historique*, I:80	Used by the Africans in Oacco to treat *Chiongo*, a nervous disease, but Europeans use the plant as a preventative against the disease
Protects against epilepsy, apoplexy, and heart failure	Ncocco (similar to elk)	External	Need only faith and to touch the flesh and you are protected	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 35; Cavazzi/Labat, *Relation Historique*, I:158-160	In Labat's translation it is written as "Neocco"
Protects against noxious air	Sea Cow	External	Wear ear bone as an amulet	Angola	Dapper, *Naukeurige Beschrijvinge*, 605; Dapper/Ogilby, *Africa*, 560	This is described as a Portuguese remedy
Protects against noxious air	Sea Cow	External	Wear skin as a necklace	Kongo, Angola, Matamba	Cavazzi, 42; Labat, Vol. 1, 188	
Protects against the ill effects of rain and weather	Palm oil	External	Apply to body every day	Gold Coast	Barbot, "Description of the Coasts," 204	
Protects against throat disorders	Suis, Npsis, Nsuis (snake)	No description	Bones in the neck used	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 46; Cavazzi/Labat, *Relation Historique*, I:198-199	
Protects against venereal disease	Suis, Npsis, Nsuis (snake)	No description	Bones in the neck used	Kongo, Angola, Matamba	Cavazzi, *Istorica Descrizione*, 46; Cavazzi/Labat, *Relation Historique*, I:198-199	
Prevents liver disorders	Coconut	Internal	No description	Angola	Battell, "Strange Adventure," *Hakluytus Posthumous*, VI:406	

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