PROFESSIONALIZING SCIENCE: BRITISH GEOGRAPHY, AFRICA, AND THE EXPLORATION OF THE NILE

By

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Dissertation

Submitted to the Faculty of the

Graduate School of Vanderbilt University

in partial fulfillment of the requirements for

the degree of

DOCTOR OF PHILOSOPHY

in

History

December 16, 2023

Nashville, Tennessee

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For my mother and father,
Guillermina Acevedo and Santos Chavez

ACKNOWLEDGEMENTS

The road to my doctoral work has been long. But there are numerous people I would like thank for bringing me to this point in my academic journey.

I would first like to thank my dissertation committee, headed by Dr. Moses Ochonu. The composition of my committee has changed drastically since I entered Vanderbilt in 2016 due to departures and some amount of departmental chaos. From Moses, I had my first foray in studying the history of Africa in 2017 along with two other students. In 2018, doing an independent study with him on colonial and imperial history was both revelatory and a respite from intra-departmental drama that disrupted the lives of many graduate students, mine included. I am indebted to Moses for helping reach the finish line with this project, and I am grateful for his helpful notes and our conversations through the years.

I would like to thank the other members of my committee. Dr. Helmut Walser Smith supported me since I applied to Vanderbilt in late 2015. Among my most cherished memories of my time as a graduate student was my time in two of his seminars, one on the History of Cartography and the other on European History co-taught with Dr. Frank Wcislo. The discussions and readings in both courses were illuminating, as were the pizzas and wine. Working with Dr. Smith as his teaching assistant in the height of the pandemic was a gratifying experience, and our conversations each week helped keep me on task.

Not long after, I had the opportunity to be a teaching assistant for Dr. Tasha Rijke-Epstein's course on the Global History of Waste. There are very few courses in my entire collegiate experience where I learned so much from both Dr. Rijke-Epstein's readings and from my weekly discussions with the students. I am fortunate to have gotten to known Dr. Rijke-Epstein that semester, despite the continued pandemic preventing a formal face-to-face meeting. I am grateful for her joining my committee and helping me finish this project.

Along with Dr. Ochonu, Dr. Jonathan Lamb has been in my committee since the beginning. I am grateful for his support, his feedback on both my prospectus and during comps. I am grateful that, even as an emeritus, Dr. Lamb is willing to continue serving on my committee after all this time. Likewise, I would like to thank Dr. James Epstein for his mentorship and support during the disruptive events of Spring 2018. Our weekly talks on British history often veered to the topics of baseball, politics, and philosophy, but I value those conversations and for his support.

I would also like to thank Dr. Lauren Benton for her role as my committee chair after 2018 and her support for my research in Britain, my fellowship at the Huntington, and for guiding my prospectus defense. Even after leaving my committee given her departure, I am grateful for her help. In addition, I would like to thank other members of Vanderbilt's faculty, including Dr. Oleg Molvig, Dr. Samira Sheikh, Dr. Emily Greble, and Dr. Peter Lorge for their support during my time at Vanderbilt. Finally, I am grateful to both the History department and the university itself for their support by way of the J. Léon Helguera and the Provost Graduate Fellowships.

I would be remiss if I did not thank someone else. I am cognizant that I would not be at Vanderbilt, not become familiar with the History of Science, and not be supported during my rough first year here with the support of Dr. Alistair Sponsel. His support and help during my first two years at Vanderbilt are indescribably important to me. Regardless of what happened, I will always be indebted and grateful to him.

My decision to pursue graduate work was instigated by my undergraduate studies at the University of North Texas. When I first encountered Edward Said's *Orientalism* in my Modern Middle East course, it profoundly changed how I thought about history. Taking further courses on Islamic history with Dr. Nancy Stockdale and on decolonization with Dr. Neilesh Bose solidified my commitment to enter graduate school. That both of them suggested graduate studies unsolicited was very encouraging. Along with Dr. Roberto Calderon, these professors would help me complete my Master's thesis *The Shifting Borders of Egypt* in 2015. I am grateful to Drs. Stockdale, Bose, and Calderon for their support in further pursuing my graduate studies at Vanderbilt University.

Unbeknownst to me, I had an undiagnosed case of Attention Deficit Hyperactivity Disorder and Depression. Looking back at my life, my initial failures in college at the University of Texas at Austin resulted of these mental health problems. But at the time I blamed myself and felt ashamed for letting my family down. I was filled with anguish and regret, not working through my emotions and closing my life off to would-be friends. I will not lie, I was alone through most of my time at Vanderbilt. Fortunately, in my penultimate year at Vanderbilt, I finally pushed myself to seek help at the University Counseling Center. My therapist, Dr. Courtney Williams, was critical in helping navigate my past trauma and to help temper my ADHD and Depression. Our sessions from 2021-2022 were profound and brought me inner peace. My diagnosis of ADHD by Spring 2022 and my subsequent treatment ultimately changed my life. I was finally able to feel "normal," to face challenges head on, to manage my work as an educator, doctoral candidate, and as myself.

This all coincided with my time William J. Vaughn Fellow at the Robert Penn Warren Center at Vanderbilt. For the first time in years, I was a part of an academic community of peers. I am grateful for my weekly chats with Dr. Holly Tucker, her support for my rather late admittance to the fellowship program, and her leadership of the Robert Penn Warren Center. Likewise, I want to thank Elizabeth Meadows and Terry Tripp for their work in making me and the other fellows feel welcomed and respected. Finally, I would like to thank my cohort of fellows for their feedback, support, and camaraderie: Courtney Brown, Zach Feldman, Hannah Hicks, Willnide Lindor, Erick MacPhail, and Taryn Marashi.

Likewise, I would like to thank Nick Hyer for his help in my final year. Our biweekly conversations helped me develop better study habits, writing goals, and strategies to manage my time between work, writing, and life. Nick not only encouraged me to keep myself accountable, but to also believe in my ability to succeed. I am grateful for his help and support during the final stretch in wrapping up my writing, as well as the Graduate School for their many initiatives to help graduate students reach their goals.

Beyond Vanderbilt, I want to thank the Huntington Library for graciously offering the Dibner Research Fellow in the History of Science for 2019, as well as their hospitality as I perused the archives there. Likewise, I want to thank the staff at the Royal Geographical Society, the British Library, the Wellcome Library, the Bodleian Library at Oxford, the National Archives at Kew, and the Palace Green Library at Durham University for their help through the years. I have come to love Britain and cannot wait to visit again someday.

What made my time at Vanderbilt brighter was my involvement with the student organization LACS (Latin American and Caribbean Student Association). I met so many people like myself, Latinos who felt isolated at Vanderbilt. There I met numerous friends that made me feel a part of something larger than myself. I want to thank them for their support.

I met Eugenia Zavaleta Lemus in LACS as well. Our friendship developed into something more, and I cannot imagine my completion of this project without her love and support. As a fellow doctoral candidate, she understands well what writing a dissertation entails. As my confident, biggest supporter, and love, there are not enough words to describe how I grateful I am to her. Te amo mucho, Eugenia. Thanks for being the best partner in the world.

Living in Tennessee, I have been separated from my family for many years. Returning to Texas to see my sister, Zulema, and my nephew and niece, Lukas and Emma, has always been gratifying and bittersweet. I appreciate their love and support for me, as well as the support shown by my extended family of my *primos y tias.* Thank you.

Por último, quiero dar las gracias a mi madre y a mi padre, Guillermina Acevedo y Santos Chávez. Trabajaron muy duro por mí y por Zulema. Ustedes sacrificaron tanto y creyeron en mí durante los tiempos más difíciles. Esta tesis es para los dos. Los quiero mucho y siempre estaré agradecido de tener los mejores padres del mundo.

Miguel Angel Chavez
6 November 2023

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INTRODUCTION

The exploration of Africa by Western travellers during the eighteenth and nineteenth centuries presaged the conquest of the continent. The explorers of this era came to symbolize the contradictory face of European rule over Africa. David Livingstone came to symbolize the promise of the civilizing mission, whose death elevated him to the status of a martyr of British virtue and piety. Henry Morton Stanley came to symbolize the wanton destruction and greed of European imperialism, exemplified by his role in fostering the creation of the Congo Free State and its attendant genocide. Mythologized by Anglo-American audiences in the intervening century, the contestation of these explorers' legacies has grown in response to the process of decolonization, the growing awareness towards the disastrous impact of imperialism, and the emergence of recent social movements, such as Black Lives Matter, in the twenty-first century.[1]

But the reason for the mythologising of these figures is due to the drama, personalities, and legacies of these explorers. Unsurprisingly, this subject has been examined in both popular literature and in academic studies. Works like Alan Moorehead's *White Nile* (1960) and *Blue Nile* (1962) and the recent writings of Tim Jeal provide a thorough overview of this era of exploration, detailing key figures and events.[2] These works convey the stakes of the exploratory

[1] This connection is made evident by the growing chorus within Britain and the United States to remove monuments associated with racist and imperialistic historical figures. In the American context, the removal of statues of Confederate generals such as Robert E. Lee and Thomas "Stonewall" Jackson was due to these figures fighting for the cause of slavery. In the British context, the removal of statues has centred on figures associated with both the Atlantic slave trade (such as Edward Colston) or figures associated with the colonisation of Africa, such as Cecil Rhodes or Henry Morton Stanley. For a story regarding the removal of a statue of Stanley in his hometown of Denbigh, Wales, see: "Black Lives Matter: Public to decide on HM Stanley statue in Denbigh," *BBC News*, 25 June 2020, https://www.bbc.com/news/uk-wales-53156106 (accessed 19 September 2023).

[2] Alan Moorehead, *The White Nile*. (New York: Harper, 1960); Alan Moorehead, *The Blue Nile* (New York: Harper & Row, 1962); For the works of Tim Jeal, see: Tim Jeal, *Livingstone* (New Have: Yale University Press, 2013); Tim Jeal, *Explorers of the Nile: Triumph and Tragedy of a Great Victorian Adventure* (New Haven: Yale University Press, 2011); Tim Jeal, *Stanley: The Impossible Life of Africa's Greatest Explorer* (New Haven: Yale University Press, 2007).

project in Africa, with Jeal's work connecting the various expeditions of the latter-nineteenth century to the political developments in both Africa and the metropole. Taking this further, Dane Kennedy's *The Last Blank Spaces* (2013) connects the exploratory project in Africa with that of Australia, observing how the mapping of these two continents by British geographers shared similarities in methods, objectives, and struggles.[3] Adrian Wisnicki's *Fieldwork of Empire* (2021) takes this further by examining the African contribution in the creation of expeditionary literature and the mapping of Africa itself.[4] In short, the mythologising literature of nineteenth-century exploration has given way to a literature that pays heed to the impact of the exploratory project on Africans, and how Africans contributed to the creation of scientific knowledge for metropolitan audience.

But while these historians have ably commented on the intersection of exploration with empire, colonialism, and subaltern history, questions remain as to what led to the emergence of this particular form of exploration. Indeed, what differentiated the exploration of Africa in the nineteenth-century from other forms of "exploration" that occurred before and after? While these studies provide details about the individual backgrounds of notable explorers, how did these backgrounds compare to that of metropolitan geographers and other "men of science?" In other words, what is the context of the explorer within British science? For all their involvement in empire building, the act of exploration was fundamentally legitimised as a scientific endeavour. In turn, as a scientific endeavour, exploration in Africa reflected the social, political, and personal prerogatives found in Victorian Britain. Ultimately, what can this science – both mythologised and contested – tell us about nineteenth-century Britain and its empire?

[3] Dane Keith Kennedy, *The Last Blank Spaces: Exploring Africa and Australia* (Cambridge: Harvard University Press, 2013).
[4] Adrian Wisnicki, *Fieldwork of Empire, 1840-1900: Intercultural Dynamics in the Production of British Expeditionary Literature* (London: Routledge, 2021).

In charting the development of British geography and of explorers in Africa, I identify the mid-nineteenth century as an inflection point in the organization, practice, and perception of science. I evaluate how geographers fashioned their personas as scientists to respond to prevalent social, professional, and ideological pressure. These pressures reflected the changes within Britain itself, as it confronted numerous seismic transitions in its society: the Second Industrial Revolution, the rise of political Liberalism, the continued salience of abolitionism in British political life, the decline of the gentry, and the transformation of science in the context of professionalisation. Explorers harnessed these changes, consciously or not, to propel themselves as both "men of science" and as celebrities. In turn, geography became Britain's imperial science, critical in what would become eventual British rule in Africa. Even when the era of African exploration came to an end by the beginning of the twentieth century, the field sciences practiced by both British and African knowledge producers reflected the ideals and assumptions that were first articulated by explorers.

As Johannes Fabian noted in his study of Central African exploration, to understand how modern field science developed its practices and institutions, one must "go back to its beginnings."[5] By starting with the founding of the Royal Geographical Society (RGS) in 1830 and tracing the development of British exploration along the Nile and in East Africa into the early-twentieth century, I show how the story of British exploration and geography reflected the embeddedness of British science to the imperial project, to British society, and to the violence committed by that society on Africans. The legacy of which still reverberates today.

[5] Johannes Fabian, *Out of Our Minds: Reason and Madness in the Exploration of Central Africa* (Berkeley, University of California Press, 2000): xii-xiii.

On Exploration and Geography

As Venessa Heggie has recently remarked, exploration is non-laboratorial scientific research, conducted in the field.[6] The work of nineteenth-century explorers is, in its contribution to scientific knowledge production, similar to both the naturalists of centuries past and to contemporary field sciences such as geology, cultural anthropology, and field epidemiology. Field sciences have been chronically understudied by historians of science due to the nature of the sources produced by field scientists, which consisted of monographs that combined the publishing of scientific findings with self-serving narratives meant to excite lay audiences.[7] The exploratory project in Africa was a scientific project that sought to map and chart new territories within this context of field science. It is true that the production of such knowledge abetted imperialism, colonialism, and domination. But science cannot be separated from the political, ideological, and social realities from where it emerged.

Geography was no exception. This is seen in the transition of *who* composed the community of geography through the course of the nineteenth century, of which explorers were but a subset. As I show in chapter 1, explorers came from social groups that had previously not been part of the scientific community, such as career military men, adventurers, sportsmen, missionaries, and merchants. Drawn from diverse backgrounds, the British travellers of the late-nineteenth century drew financial and scholastic support from institutions such as the Royal Geographical Society.[8] This diversity in backgrounds further signalled a diversity in geographers' motivations, such as receiving recognition and plaudits from metropolitan geographers. By assessing referee reports of submissions to the RGS's scholarly journal, I show

[6] Vanessa Heggie, "Why Isn't Exploration a Science?," *Isis* 105, no. 2 (June 2014): 318-334.
[7] Heggie, "Why Isn't Exploration a Science?," 324.
[8] As I will mention in this study, I differentiate an *explorer* from a *traveller* on the basis of self-identification and whether one is consciously producing what they consider to be scientific knowledge.

how travellers in the 1830s onward increasingly came to write accounts that emphasized the verification of eyewitness testimony and the need to survey and measure new lands. But at the same time, metropolitan lay audiences became increasingly fascinated by the stories of travellers operating in unfamiliar spaces. By leveraging anxieties about the loss of masculinity in the face of white-collar work back in Britain, travellers such as John Petherick found a new path to legitimise their status as a scientific authority: by writing popular narratives that presented the explorer in an heroic light. These two seemingly contradicting strategies were nonetheless synthesised by explorers by means of *self-fashioning* a scientific persona. By 1860, explorers in Africa transitioned their image to metropolitan audiences: initially providers of geographical data akin to the artisanal informants to eighteenth-century naturalists, explorers became geographical authorities in their own right.

In chapter 2, I continue this investigation into *self-fashioning* by examining the conflicts among metropolitan geographers and explorers in the context of the Nile Question of the 1860s. Trustworthiness was, by far, the most important trait in determining an explorer's status as a scientific authority. However, how that trust was developed was not only based on an explorer's ability to collect data or verifiable eyewitness testimony, but also on factors based on personality traits, perceived ideological commitments, and rumoured moral transgressions. In examining John Petherick's downfall as a respected explorer, John Hanning Speke's fraught rivalry with James MacQueen, and Samuel White Baker's elevation as a celebrity, I show how the perceived moral impropriety of an explorer had a greater role in determining their trustworthiness than the actual findings or theories that explorer possessed.

Given the success of figures like Baker, geographers became vocal in their patriotic fervour and their enthusiasm for the imperial project after 1864. In the race to discover new

lands, the potential of wealth and celebrity proved a tempting desire for many geographers. In chapter 3, I examine how explorers touted enthusiasm for moral missions, such as religious conversion and abolitionism, within a larger discourse I term *the rhetoric of development*.[9] Before the Victorian era, gentlemanly scientist's idealized view of science as a disinterested pursuit was hegemonic across all scientific disciplines in Britain. Yet, by the late-nineteenth century, this view was replaced by a wholesale embrace of the civilising mission. In combining their exploratory accounts with this *rhetoric of development* – that is, voicing support for abolitionism, economic development, and the civilisational uplift of Africans – explorers gave a moral purpose to their work that served to justify the role of the explorer to metropolitan audiences. In analysing Samuel White Baker's expedition of 1869-1873 and the commercial ambitions of Verney Lovett Cameron after 1880, I show how explorers destabilised the old "disinterested" model of scientific work with an activist mission that wedded geographical science with imperial ambitions. While lending credibility to explorers among metropolitan audiences, this *rhetoric of development* was done with an assumption of African inferiority and lack of agency.

In recent decades, historians have increasingly examined the issue of cross-cultural contact between science and Sub-Saharan Africans. David Lambert's *Mastering the Niger* (2013) and Wisnicki's *Fieldwork of Empire* provide useful models for how historians of exploration can acknowledge both developments in Britain and recognize the incorporation of non-Western

[9] This history of exploration has matured considerably in the past few decades. The postcolonial turn – and especially the works of Edward Said and Michel Foucault – have greatly influenced the writing of histories of the exploration and geography to speak to the intersection of colonialism and science. J.B. Harley's writings on the history of cartography further revealed the manner by which the creation of maps reflected the prerogatives of institutions and states. See, Michel Foucault, *The Order of Things: An Archaeology of the Human Sciences* (New York: Pantheon Books, 1971); Edward W. Said, *Orientalism* (New York: Pantheon Books, 1978); John Brian Harley, "Deconstructing the Map," in *The New Nature of Maps: Essays in the History of Cartography*, edited by Paul Laxton (Baltimore: John Hopkins University, 2001): 150-168

geographies in their analysis of regional exploratory projects.[10] With this in mind, I take my analysis in chapter 4 to the issue of violence. In the course of my investigation, I have noticed that the use of corporal punishment on African labourers and informants to maintain discipline was ever present in the expeditionary literature of the nineteenth century. I first examine the ideological roots of corporal punishment in the context of the civilising mission examined in the previous chapter. I argue that the use of corporal punishment by explorers like David Livingstone, Samuel White Baker, and Henry Morton Stanley presaged the establishment of colonial disciplinary regimes after 1884. I further show that the writing of disciplinary actions in expeditionary narratives served as a self-serving strategy to elevate the reputations of explorers as "bringers of civilisation." This self-fashioning of a moralistic persona was done without regard to the human misery such violence caused. All told, this violence was inseparable from the scientific work of exploration.

Finally, I conclude this study by tracing the development of field and laboratorial science in the early-twentieth century. Using Anglo-Egyptian Sudan as a case study, I examine the legacy of exploration on the work of the Wellcome Tropical Research Laboratories in Khartoum, the founding of the Gordon Memorial College, and the medical research of John Christopherson and his team of Sudanese and Egyptian contacts. I argue that the legacy of exploration was evident in the work of these institutions and scientists, from the continued reliance on exploratory accounts written decades earlier, to the continued salience of the *rhetoric of development* in guiding the work of these institutions. In assessing the field reports written by Egyptian and Sudanese doctors and medical practitioners, I end this study by showing the

[10] David Lambert, *Mastering the Niger: James MacQueen's African Geography & the Struggle Over Atlantic Slavery* (Chicago: University of Chicago Press, 2013); Lambert covers how the mapping of the Niger River was part of larger discussions concerning the future of the Trans-Atlantic slave trade.

inherent collaborative nature of exploratory science, and the centrality that Africans had in creating British scientific knowledge.

The Nile and Scientific Change

My focus on the Nile Valley and East Africa is due to several considerations. First, the search for the source of the Nile was the defining exploratory mission of the mid-nineteenth century. Long a mystery to Europeans since antiquity, the Nile Question provided an early rationale to explore the African interior. The nineteenth century proved a turning point in the search for the river's source. With Napoleon's brief conquest of Egypt in 1798, the region became accessible to European scientists in the fields of archaeology, Egyptology, and linguistics.

Second, the political and military reforms of Muhammad Ali Pasha (r. 1805-1848) further increased contact between Europe and Egypt, with European military officers, miners, and engineers arriving to Egypt to reform the region's military and economic systems.[11] This infusion of Westerners into Egypt occurred with the simultaneous Egyptian conquest of Sudan. It is in this context that a small (but increasing) number of Europeans visited and settled in Khartoum, which made it a hub of Western activity in Sudan until the Mahdist Revolt of the 1880s. It was from Khartoum that the first travellers attempted to surmount the obstacle of the Sudd marshes, including the Welsh engineer-turned-explorer John Petherick.

Third, concurrent with developments in Sudan, East Africa became an alternative venue for exploratory missions. In the 1850s, expeditions started from Zanzibar and ventured into the African interior in order to avoid the Sudd. The expeditions of Richard Francis Burton and John Hanning Speke after 1857 exemplified this development. In Sudan, the dominant imperial power

[11] For a detailed examination of Muhammad Ali's reforms in Egypt, see Khaled Fahmy, *All the Pasha's Men: Mehmed Ali, His Army, and the Making of Modern Egypt* (Cairo: American University in Cairo, 2002).

was not Britain, but Egypt. In East Africa, Zanzibar was the dominant political power, with organised kingdoms dominating the African Great Lakes region. Unlike in Australia or the settler colonies of Southern Africa, Nile explorers did not envision that the regions they were exploring would become British. Until the Urabi Revolt of 1882, British agents and explorers assumed that Egypt would rule over Nile Valley for the foreseeable future. Indeed, explorers like Charles Gordon and Samuel White Baker not only functioned as RGS-backed geographers but also served as Egyptian military governors over Sudan and Equatoria.[12]

The dual blows of the Urabi Revolt (1882) in Egypt and the Mahdist War (1884-1899) in Sudan furthered the militarization and institutionalization of exploration as an overt arm of British imperialism. But with the creation of the Anglo-Egyptian condominium over Sudan in 1899, the establishment of Gordon Memorial College in Khartoum and the resumption of field scientific work in Sudan offers an opportunity to compare and contrast science before and after the establishment of a colonial context. Colonial institutions in Sudan provide an opportunity to examine how geographic science was conducted at the same time the RGS's prestige was in sharp decline.

Professionalisation

The development and professionalization of British geography was not exclusive to the British Isles or Africa. The work of Italian, American, and German geographers augmented the work of the Royal Geographical Society.[13] Beyond the geographers themselves, exploratory missions across the continent were reliant on the labour and knowledge provided by locals.

[12] The Egyptian province of Equatoria includes the territories of modern-day South Sudan and Uganda.
[13] Previously mentioned was the case of Clarence Melville Brownell, the American physician-cum-traveller desired to become an explorer in his attempt to join Petherick's expedition. In the aftermath of the American Civil War, the Union veteran Charles Chaillé-Long was hired by Egypt, along with a hundred other veterans, to help in the training of the Egyptian Army. Chaillé-Long used this opportunity to serve with Charles Gordon in Sudan, who served as both governor and RGS explorer. It was there that Chaillé-Long contributed to the exploration of Central Africa, discovering minor lakes and rivers in the process.

Egyptian soldiers, Sudanese cooks, and African informants made the exploratory missions of the Nile multi-ethnic and multilingual affairs. The exploration of Africa predated British colonialism in the region, but this practice continued after the imposition of colonial rule after 1884. In examining the process of professionalization of British geography within this colonial context, I engage with questions surrounding the emergence of so-called "colonial science" as distinct from metropolitan science.

The Nile Valley differed from other regions in that self-identified explorers coexisted with other travellers in the region. Egyptian travel narratives are numerous, and would-be explorers who sought to differentiate themselves from other travellers found strategies (such as data collection of measurements) to highlight their scientific credentials.[14] Nonetheless, these travel narratives were used by explorers like Charles Melville Brownell and Baker for large portions of their exploratory missions. Thus, in the Nile Valley, the difference between travel narrative and exploratory diary was not all clear beyond the assertion of creating scientific knowledge. Explorers faced pressure from "below" to fashion their narratives to be more "scientific" than contemporary travel narratives.

In sum, the exploration of the Nile Valley presents an ideal focus for an examination of the issues of self-fashioning, professionalization, transnational science, institutional support, and the civilising mission writ large. Changes in epistemology differentiated exploratory science from travel narratives by prioritizing the quantifiable measurement of the world. These innovations allowed would-be explorers to craft their work to signal their scientific credentials,

[14] For example of this travel literature, see: Frederick Lewis Norden, *Travels in Egypt and Nubia* (London: Lockyer Davis and Charles Reymers, 1757); James Bruce, *Travels to Discover the Source of the Nile in the Years 1768, 169, 1770, 1771, 1772, and 1773* (Dublin: Graisberry and Campbell, 1790); Maxime du Camp, *Le Nil (Égypte et Nubie)* (Paris, Librairie Nouvelle, 1855), Edward William Lane, *An Account of the Manners and Customs of the Modern Egyptians, Vol 1 and 2* (London, Charles Knight, 1836); David Roberts, *The Holy Land, Syria, Idumea, Arabia, Egypt & Nubia* (London: Day & Son, 1855).

allowing for the possibility of individuals outside the circle of gentlemanly science to present themselves as scientists. The Nile also allowed aspiring explorers to venture deep into Sudan and access local knowledge to facilitate the exploration of Central Africa. The exploration of the Nile showed how disparate individuals, from differing backgrounds, navigated social, cultural, and economic conditions to create and disseminate geographical knowledge, and to contribute to the region's eventual colonisation.

Research Methodology

The core of my research relied on assessing the writings of explorers themselves. Explorers recorded their findings and daily activities through copious journal writing. Data collection and a commitment to accurate measurements saw explorers of different social backgrounds to position themselves as scientists, men who could speak objectively through data instead of social standing or prior reputation. Field diaries were the sources on which explorers based their professional publications. From articles published in the *Proceedings of the Royal Geographical Society* to travel narratives sold to popular audiences, the literature produced by geographers depended on the writing and reproduction of these diaries.

Looking at lesser-known figures in Nile exploration revealed common practices in measuring and surveying that explorers used to show their scientific credentials to the wider scientific community. This is seen in the journals of Clarence Melville Brownell, an American traveller who would join John Petherick's 1861 White Nile expedition.[15] Brownell's daily logs began with a compulsive record keeping of temperatures taken throughout the day, followed by a measurement of wind direction, and ending with a comment on the weather. Brownell was not alone in this habit. Samuel White Baker, Julian Alleyne Baker, John Petherick, John Hanning

[15] The Clarence Melville Brownell Collection, GB-0033-SAD, Durham University; For more on Brownell, see chapters 2 and 4.

Speke and other explorers in the Nile Valley all recorded measurements in their field journals or in separate charts sent to metropolitan experts for verification and publication.

In doing preliminary research at the Royal Geographical Society, I discovered discrepancies between field journals and published accounts of the same expeditions. These discrepancies go beyond the rewording of events to include drastic reinterpretation of events and themes. Samuel Baker's journals provides an example of this, covering his 1860s expeditions along the Nile Valley. Baker's published revulsion to the horrors of the Nile slave trade elided his unsympathetic musings on the plight of the slaves in his field journals. To fashion a travel narrative for a British public who viewed slavery as anathema to British values, Baker recast himself as a strident abolitionist. To understand why explorers like Baker refashioned their personas to conform to acceptable British norms, assessing the changes made between field journals and published works in the context of wider social and economic pressures is critical.

Beyond the writing of explorers themselves, I make use of referee reports derived from the Royal Geographical Society's Journal Manuscript Collections. Submissions to *The Journal of the Royal Geographical Society of London* were evaluated by a metropolitan geographer who would determine whether or not a given submission was suitable for publication. In reading through many dozens of these reports from the 1830s through the 1890s, I can evaluate what referees considered "scientific" and what was not, and how their standards changed over time. Further, these collections often included the submissions themselves, providing further writings from would-be explorers as they sought to publish their measurements and findings.

To evaluate the opinions of metropolitan audiences, "armchair geographers," and of learned institutions towards explorers, I have relied on the correspondence, published articles, governmental papers, and the transcripts of meetings found at a variety of institutions, such as

the National Archives at Kew, the Bodleian Library at Oxford University, the Wellcome Library, the British Library, and the Huntington Library. Newspapers and magazine articles from British and American newspapers were also used in the course of this study, along with a rich secondary literature on exploration, imperialism, the history of science, political philosophy, and on the study of violence to inform my writing.

In assessing all these sources, I seek to understand the rhetoric, strategies, and techniques geographers used to position themselves as scientists and agents of the civilising mission. More than that, I wish to understand in what ways the act of exploration and the discipline of British geography reflected the societal and political assumptions of British society in the nineteenth century. While it is a truism in science studies to acknowledge the embeddedness of societal norms and values in the production of scientific knowledge, *what* norms and values differed by discipline, region, and time period. As much as this study is concerned with how explorers fashioned their personas to be perceived as "men of science," I am equally interested in how the field of geography became an *imperial science* and tool of colonialism along the Nile Valley.

My analysis and research has been informed by historians of science, the study of British political philosophy, the history of colonialism in Africa, and the history of empire. My aim is to contribute to these fields by demonstrating how exploration served as a microcosm of imperial science, imperial rule, and to the debt Western science owes to the knowledge and labour of Africans working within these expeditions. This study seeks to take seriously the history of exploration as a part of the wider history of science. Finally, this study seeks to contribute to our understanding of British imperial history by emphasising the contingent nature of British rule along the Nile Valley by the end of the nineteenth century.

By the start of the twentieth century, gentlemanly geography had been transformed into a specialized professional. But this transformation was not inevitable. It resulted from numerous geographers navigating the pressures and expectations brought to bear by their peers, by the lay public, and by their desire to make their craft into a profession. By understanding how British geography professionalized and developed during the nineteenth century, we may better understand how and why the creation of our contemporary scientific world was born, in part, with the exploration of the Nile.

CHAPTER 1

Professionalizing Science: British Geography, Africa, and the Exploration of the Nile

The history of how science professionalized in the nineteenth century is the history of empire, class, and transnational networks. Professionalization brought middle-class "men of science" into scientific communities at a time when the middle class increased their political and economic representation in wider society. Industrialization and colonialism brought a transnational dynamic that connected British scientific communities with continental, transatlantic, and colonial networks of knowledge production. As "men of science" navigated these changes, they also changed science, developing new conventions about the scientific method, research management, and presentation of scientific findings.

The history of British geography offers a venue to study this process of scientific professionalization. More than any other scientific discipline, geography was linked with the rapid expansion of the British Empire in the latter-nineteenth century. The role of geography – and of self-declared explorers – in the colonisation of Africa by the end of the century has been fraught as a rightful accounting of history in various African societies has challenged a shrinking, if still reactive, metropolitan nostalgia for a dead empire. Certain explorers, such as David Livingstone, Henry Morton Stanley, Richard Francis Burton took on a mythologised role in the English-speaking world, where the unassuming science of geography became connected with drama, celebrity, Christian piety, and wanton violence. Geography was an imperial science, whose apogee in influence and relevance coincided with the height of Britain's global power.

This era coincided with a period of scientific professionalization. Scientific disciplines took form, with private businesses employing and training "men of science" beginning in the mid-nineteenth century. From chemistry to engineering to medicine, scientific disciplines

became less dominated by those with the means to self-finance scientific research. The salaried scientist emerged by the end of the century. Despite the difference in environment and image, the archetypal Victorian explorer of Africa emerged from the same social, economic, and political pressures that led to the professionalization of laboratorial and academic sciences.

This chapter examines the process of professionalization in the work of field geography from around the founding of the Royal Geographical Society in 1830 to the 1880s. I begin this chapter by situating my work within the context of the historiographies of *gentlemanly science* and the *professionalization* of the natural sciences in the nineteenth century. My work builds on this historiography in emphasizing the contingency of the professionalizing of British geography in the mid-nineteenth century, as this process was brought about by both the concurrent changes in British society and by the individual choices made by would-be explorers to promote their work and status to metropolitan audiences. I then discuss the founding of the Royal Geographical Society, the historiography of the society, and how the society served as a gatekeeper of disciplinary geography by means of refereeing submissions to *The Journal of the Royal Geographical Society of London*. I end the chapter by examining on how the changing role of masculinity in Britain because of the Industrial Revolution brought about anxieties on the nature of masculinity. Through all these factors, so-called "explorers" were able to present themselves as scientific authorities.

Gentlemanly Science

To understand the development of scientific practice in nineteenth-century Britain, it is necessary to provide an overview of *gentlemanly science*: what it was and why this social organization of scientific work was the dominant form of scientific research in Britain until the

latter-nineteenth century.[16] This gentlemanly science was distinct from the professional science of the latter-nineteenth century that would define the manner in which scientists would operate to the present day. The gentleman scientist was defined by his conduct, the material relationship between his scientific work and wealth, and by the social connections he fostered, be it with his peers (e.g., scholars, scientists, and political and cultural figures) or with those beneath him on the social ladder (e.g., artisans). The Victorian gentleman man of science, then, personified Britain's stratified society.

The practice of gentlemanly science was rooted in the phenomenon of the gentleman. Originally meant to describe the youngest male members of the English nobility during the late Middle Ages, the term became synonymous with the landed gentry. The social, economic, and political dominance of Britain's landed elite shaped British history throughout the seventeenth, eighteenth, and nineteenth centuries. In their essay outlining the influence of the British gentleman in Britain's imperial ascendancy in the eighteenth century, P.J. Cain and A.G. Hopkins outline how cultural norms among the landed gentry took form with the emergence of capitalism and the bourgeoisie:

> By the close of the seventeenth century the landed magnates had ceased to be a feudal aristocracy and were ready to embrace a market philosophy. Nonetheless, they were still the heirs of a feudal tradition; and the landed capitalism which evolved in Britain after the Stuarts was heavily influenced by pre-capitalist notions of order, authority and status. Hence the emphasis which continued to be placed on land as an inalienable asset to be passed on intact [...] through the generations; the assumed primacy of relations, even economic ones, based upon personal loyalties and family connections; [...] the contempt

[16] For the purposes of this chapter, I will often use the term *scientist* and *man of science* interchangeably, even if the use of the former may be anachronistic. The term *scientist* was coined in 1834 by William Whewell to denote the commonalities among those men who studied the natural world despite differences in approach and methods. Whewell sought to give those working in the sciences a term analogous to that of *artist*, a term that included everything from painters, muralists, sculptors, musicians, writers, and poets. For more on Whewell, see: Richard Yeo, "Whewell, William (1794–1866), college head and writer on the history and philosophy of science," *Oxford Dictionary of National Biography*, 23 Sep. 2004; Accessed 5 April 2022, https://doi.org/10.1093/ref:odnb/29200.

> for the everyday world of wealth creation and of the profit motive as the chief goal of activity; and the stress laid on the link between heredity and leadership.[17]

In Cain and Hopkin's description, the English gentry had a contradictory relationship with the market economy coming into shape in Britain. On the one hand, the gentry were party to the growing importance of markets by means of investing in capitalistic ventures such as overseas plantations.[18] But the gentry also differentiated themselves against a rising middle class by means of promoting certain cultural and personal distinctions.

As numerous historians of science have noted, the cultural norms among British gentlemen shaped the practice and production of scientific knowledge.[19] Simon Schaeffer and Steven Shapin argue that the disagreement between Thomas Hobbes and Robert Boyle over the production of scientific knowledge (via Boyle's air-pump experiments) reflected a larger debate that concerned not only the question of scientific epistemology, but that the question of epistemology was bounded with questions of British class relations and politics.[20]

A key assumption underpinning gentlemanly science was the belief that scientific work – in whatever form – would be self-funded and self-financed. To be self-funded implied that the man of science was *disinterested*; that is, that he had no stake in the results of his observations,

[17] P.J. Cain and A.G. Hopkins, "Gentlemanly Capitalism and British Expansion Overseas I. The Old Colonial System, 1688-1850," *The Economic History Review* 39, no. 4 (November 1986): 504.
[18] This is evident in the banality of the ownership of Caribbean plantations as described by Edward Said in his view of Jane Austen's *Mansfield Park*; Edward Said, *Culture and Imperialism* (New York: Vintage Books, 1994): 59-62, 79-80.
[19] This is not to say that this approach is limited to science practiced in Great Britain.
[20] Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle and the Experimental Life* (Princeton: Princeton University Press, 2011): 110-154; To be more specific regarding Shapin and Schaffer's study, the question of replicability of Boyle's air-pump experiments was connected with the social arrangements used by Boyle to verify his experiments: the Royal Society. Hobbes challenged the Royal Society's merit to adjudicate over what was a *fact*, given the exclusionary nature of the Royal Society. In addition, Boyle faced difficulty replicating his experiments, which put into question the role of witnesses in the production of scientific knowledge. Boyle used his meticulous records to create "visual witnesses" to make up for the lack of replicability, whereas Hobbes disagreed. As Shapin and Schaffer put it: "Solutions to the problem of knowledge are solutions to the problem of social order" (332).

and no reason to lie or manipulate the results.[21] A gentleman who had the financial means to support his scientific work without the need to profit from his work was considered trustworthy by his peers. Conversely, suspicion was directed to the scientist – who sought to make a living from his work – as there existed the incentive to manipulate the work to increase potential profits.[22]

Anne Secord's study on the correspondence of gentleman naturalists and lower-class artisans is representative of the literature on gentlemanly science insofar that Secord emphasizes the social context of scientific knowledge production.[23] By assessing this correspondence, Secord describes the myriad strategies artisans used to be recognized by gentlemen patrons and the social expectations of patronage by these same gentlemen naturalists. By delivering botanical samples and information, artisans expected reciprocity from gentlemen in the form of patronage or payment. In turn, gentlemen expected artisanal deference towards their social betters. The goal was not for artisans to become gentlemanly naturalists but to establish the recognition that they had the scientific skills to be accepted into the wider community of natural scientists.[24] Like Cain and Hopkins, Secord describes a social world where gentlemanly norms predominated, and where those norms affected how scientific knowledge was produced and shared. As seen with the Boyle and Hobbes debate of the seventeenth century, the issue of trust was the central

[21] Secord, "Corresponding Interests," 384.
[22] Ironically, this need to make a living off a one's scientific work also became one of the hallmarks of scientific professionalization.
[23] Anne Secord, "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History," *The British Journal for the History of Science* 27, no. 4 (December 1994): 383-408; Secord's article comprehensively details the main aspects of the gentlemanly scientist at the turn of the nineteenth century. The theme of the gentlemanly scientist emerges in histories of the early modern era surrounding the formation of the Royal Society and the circle of scientists exemplified by Sir Francis Bacon. Along with Steven Shapin and Simon Schaffer's *Leviathan and the Air-Pump* see: Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994).
[24] Secord, "Corresponding Interests," 388, 408.

concern among nineteenth-century gentlemanly scientist, to gauge one's trustworthiness as a man of science was to gauge one's personal character:

> It was the assumption that behavior reflected character that underlay the nineteenth-century preoccupation with conduct. The relation between the two 'allowed for moral judgement to be made on social grounds.'
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> The endless discussions of manners, however, were primarily concerned with how gentlemen appeared to one another and the maintenance of polite society. Being able to judge the true character of others was critical for a gentleman, as his rank within his own social class was determined by his 'connexions.'[25]

This does not mean that gentlemen naturalists were always able to comport themselves to the idealized conduct of the gentleman. As Secord concedes, the correspondence of naturalists show that individual naturalists often fell into the habit of cheating, lying, and abusing the unstated rules of gentlemanly science.[26] Despite these abuses, the overall assumption of honesty among gentlemen was maintained among the social network of gentlemanly scientists.[27]

The connection between shifting social norms and scientific reputation is further elaborated in studies of the mid-nineteenth century. In his study of British geology in the 1830s, Martin Rudwick contextualizes geological debates on the dating of geological strata within the framework of gentlemanly science.[28] Rudwick argues that the controversy demonstrated the ways in which social contexts shaped scientific debates, arguing that the "contexts of discovery and justification are thus not only descriptively inseparable, but also analytically indistinguishable."[29] Like Secord, Rudwick describes how class distinctions oriented a scientist's

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[25] Secord, "Corresponding Interests," 390-391.
[26] Secord, "Corresponding Interests," 392.
[27] Secord, "Corresponding Interests," 392; In addition to honesty and a commitment to "disinterestedness," there were also rules.
[28] Martin Rudwick, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists* (Chicago: University of Chicago Press, 1985).
[29] Rudwick, *Great Devonian Controversy*, 438; This is to say that the question of how a scientific fact is *discovered* is the same question as how the fact was *justified*. Rudwick reiterates Shapin and Schaeffer's famous conclusion in *Levithan and the Air-Pump*: "As we come to recognize the conventional and artefactual status of our forms of knowing, we put ourselves in a position to realize that it is ourselves and not reality that is responsible for what we

reputation among his peers. That is, the scientific reputation of a person was fluid, depending not just on the quality and quantity of the work produced by the scientist but also on how the wider scientific community perceived that work.[30] To be seen as competent by their peers, scientists had to earn their reputation and maintain it in a manner that comported with elite British society.[31] The process of professionalization disrupted the structure and expressions of scientific reputation, but did not obviate the centrality of reputation as a marker of scientific legitimacy.

Professionalization and the Natural Sciences

Despite studies assessing the issue of gentlemanly science and the need of non-gentlemen scientists to make a living, historians of the natural sciences have agonized over the question of the *professionalization* of the natural sciences.[32] At its simplest, the professionalization of science refers to the transformation of the practice of science into a *profession*; that is the application of "uniform high standards of expert knowledge and skill to an occupation."[33] But among historians of science, the question of professionalization has been fraught with controversy.[34] Nonetheless, with regards to science practiced in nineteenth century Britain, the process of professionalization was tied with changes brought to British society by the Industrial

know. Knowledge, as much as the state, is the product of human actions. Hobbes was right;" Shapin and Schaeffer, *Leviathan and the Air-Pump*, 344.

[30] Rudwick, *Great Devonian Controversy*, 420.

[31] Rudwick, *Great Devonian Controversy*, 420.

[32] Jim Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: University of Chicago Press, 2010).

[33] Charles E. McClelland, "Professionalization," *The Oxford Encyclopaedia of the Modern World* (Oxford: Oxford University Press, 2008), https://www.oxfordreference.com/display/10.1093/acref/9780195176322.001.0001/acref-9780195176322-e-1288.

[34] The controversy has been fuelled, in part, by the different trends of professionalization and specialization in scientific fields in different countries. As noted by Jean G. O'Connor and A.J. Meadows, "The foremost is that, in Britain, the creation of a recognized career structure for scientists lagged behind the situation in Germany" (77). For more, see: Jean G. O'Connor and A.J. Meadows, "Specialization and Professionalization in British Geology," *Social Studies of Science* 6 (1976): 77-89.

Revolution. In turn, these changes will affect how men outside the gentry would self-fashion their personas as "men of science" in the context of British geographical science.

Writing in 1967, George Daniels defined the process of the professionalization of science as "the process by which "[the] amateur was in the process of being replaced by the trained specialist - the professional who had a single-minded dedication to the interests of science."[35] More recently, Paul Lucier defined the professional scientist as "men of science who engaged in commercial relations with private enterprises and took fees for their services."[36] J.B. Morrell associates the process of scientific professionalization with the concurrent processes of scientific *specialization*; an increased self-consciousness "about the aims and the characteristics of their work;" an active "search for public recognition of scientists and their work;" the formation of scientific societies to advocate for scientific research; the increase in full-time scientific jobs; and the inclusion of experimental scientific research as a "legitimate activity" in several Western universities.[37]

In charting the transformation of gentlemanly science towards professionalization, historians of science have sought to avoid the teleological trap of professionalization's inevitability. As Adrian Desmond puts it, historians of science look at the process less on charting a "Whiggish" trajectory for how science professionalized than "investigating the "transformation of work practises [sic], boundary marking, and social relations in an

[35] George H. Daniels, "The Process of Professionalization in American Science: The Emergent Period, 1820-1860," *Isis* 58, no. 2 (Summer 1967): 151-152.
[36] Paul Lucier, "The Professional and the Scientist in Nineteenth-Century America," *Isis* 100, no. 4 (December 2009): 699; Both Lucier and Daniels focused their work on tracing the development of science in the United States, not Great Britain. However, the process of professionalization was similar in both countries and occurred at roughly at the same time (i.e., the mid-nineteenth century).
[37] J.B. Morrell, "The Patronage of Mid-Victorian Science in the University of Edinburgh," *Science Studies* 3, no. 4 (October 1973): 353-354.

industrializing society."[38] Both Morrell and Jan Golinski argue that despite some attempts to jettison the process of professionalization by certain historians of science, that there is still some use in understanding the concept the process of professionalization, insofar one can "isolate important changes in the social profile of science in this period."[39] Instead of viewing the professionalization of science as the inevitable result of science's increasing "autonomy" from the "external influences" of society writ large, one should instead pay heed to the fact that scientists and scientific work are embedded within society and culture. Or as Peter Galison and Andrew Warwick put it:

> Understanding science as a cultural activity, then, means learning to identify and to interpret the complicated and particular collection of shared actions, values, signs, beliefs and practices by which group of scientists make sense of their daily lives and work.[40]

British geography, like all sciences, was a cultural activity and reflected the mores and prerogatives of British society. Changes in British society – such as changes in the composition and power of social classes, the nation's geopolitical standing, and ideological shifts in how Britons viewed themselves in relation to one another and to the wider world – all transformed what it meant to be a geographer and an explorer.

In assessing Joseph Dalton Hooker's life and career, Jim Endersby shows the daily life of a scientist and the many cultural, social, financial, and practical difficulties scientists encountered. According to Endersby, scientific institutions of the nineteenth-century were not in themselves markers of scientific credibility.[41] Instead, "good manners, courtesy, and an aura of respectability had to do the work" for any would-be scientist to build a reputation for

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[38] Adrian Desmond, "Redefining the X Axis: "Professionals," "Amateurs" and the making of Mid-Victorian Biology - A Progress Report," *Journal of the History of Biology* 34 (2001): 5.
[39] Jan Golinski, *Making Natural Knowledge: Constructivism and the History of Science* (Cambridge: Cambridge University Press, 1998): 68.
[40] Peter Galison and Andrew Warwick, "Introduction: Cultures of Theory," *Studies in History and Philosophy of Modern Physics* 29, no. 3 (1998): 288.
[41] Endersby, *Imperial Nature*, 29.

themselves.[42] Despite inheriting both his father's directorship at Kew Gardens and his father's social connections, Hooker struggled to maintain a sustainable living during his early career.[43] There are hints of the mechanisms in which the professionalization of botany occurred. Still, this transition was uneven in Endersby's study, with the narrative of Hooker's career occurring contemporaneously with Charles Darwin. Further, Hooker's role at Kew would become the arbiter of information exchange for botany worldwide. As Endersby notes, Hooker's ability to transform Kew occurred concurrently with the expansion of the British Empire, allowing Kew to become the centre of imperial botany.[44] Kew Garden's transition in becoming the centre of imperial botany was inseparable from the social pressures that shaped Hooker's career.

Rudwick and Endersby are indicative of the historiography of the professionalization of the natural sciences. This scholarship detail how individuals sought to balance the need to keep up with social expectations of being disinterested men of science while also maintaining a livelihood. But these studies reveal the complexity of how the natural sciences professionalized; the peculiar ways in which the informal social relationships among gentlemanly naturalists transformed into a profession by the end of the nineteenth century. This is in contrast to histories of other scientific fields that were straightforwardly transformed during the Second Industrial Revolution, such as chemistry, medicine, and physics.[45] In those fields, the path of gentlemanly science towards professionalization came with the growth of private industry, where the potential

[42] Endersby, *Imperial Nature*, 29.
[43] Endersby, *Imperial Nature*, 6.
[44] Endersby, *Imperial Nature*, 110.
[45] For an example on the professionalization in biology, see Lynn Nyhart, *Modern Nature: The Rise of the Biological Perspective in Germany* (Chicago: University of Chicago Press, 2009); For an example of professional astronomy, see Simon Schaffer, "Astronomers Mark Time: Discipline and the Personal Equation," *Science in Context 2* (1988): 115-145; For a look at the professionalization of British physics and engineering, see Crosbie Smith, *Science of Energy: A Cultural History of Energy Physics in Victorian Britain* (London: Athlone, 1998).

of immense profits overcame existing social taboos.[46] In the natural sciences, these networks included both gentlemen and lower-class men, the latter being necessary for the gathering and delivery of specimens and data as detailed by Secord.[47]

Inherent in the professionalization of the natural sciences is the inclusion of middle-class practitioners as men of science. The process of professionalization partially resulted from the changes to the economic and social relations of Victorian Britain wrought by the Industrial Revolution.[48] But it also resulted from the conscious efforts of middle-class practitioners and outsiders to upend the gentlemanly order. The active role of those working outside the established networks of gentlemanly science included the networking of outsiders, the self-fashioning of "scientific" personas, and the active campaigning against the old order. But opportunities *outside* of Britain, in either the settler-colonies of Australia, Canada, or New Zealand, or the world beyond British rule, provided promising ground for middle-class practitioners of science.

One example can be seen in Adrian Desmond and James Moore's biography of Charles Darwin and the conflict between Darwin's supporters and the old guard of Cambridge dons and the Anglican Church.[49] After the publication of Darwin's *On the Origin of Species* (1859),

[46] For examples on the intersection of professionalization and industry, see: Simon Schaffer, *Late Victorian Metrology and Its Instrumentation: Manufactory of Ohms** (Washington: Spie Optical Engineering Press, 1992); Bruce J. Hunt, "The Ohm is Where the Art Is: British Telegraph Engineers and the Development of Electrical Standards," *Osiris* 9 (1994): 48-63; Bruce J. Hunt, "Scientists, Engineers and Wildman Whitehouse: Measurement and Credibility in Early Cable Telegraphy," *British Journal for the History of Science* 29, no. 2 (Jun. 1996): 155-170.

[47] This process mirrored the job of later field explorer and the metropolitan geographer. But whereas the former were not considered "men of science," the latter were by the end of the nineteenth century.

[48] E.P. Thompson, *Customs in Common* (London: Penguin Books, 1993): 14; As stated by Thompson: "The industrial revolution and accompanying demographic revolution were the backgrounds to the greatest transformation in history, in revolutionising "needs" and in destroying the authority of customary expectations. This is what most demarks the "pre-industrial" or the "traditional" from the modern world. Successive generations no longer stand in an apprentice relation to each other."

[49] Adrian Desmond and James Moore, *Darwin: The Life of a Tormented Evolutionist* (New York: Warner Books, 1992).

Thomas Henry Huxley became one of the leading champions of Darwin's theory of evolution by natural selection. Huxley came from a subset of British men of science who chafed under the dominance of the gentlemanly scientists and actively sought to overturn the old order.[50] Huxley and his cadre "sneered at the cloistered Cambridge mentality and the privileged, old-boy network" that had dominated British science for the previous two centuries.[51]

> Huxley's London teachers were scientific outsiders who sneered at the cloistered Cambridge mentality and the privileged, old-boy network. Yet incongruously, here Darwin was, playing Huxley's 'Father confessor.' Little did the group know that the Downe recluse, once educated to the cloth, was to supply the iconoclastic science to match their ambitions.
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> For the moment they had their own strategy, which involved creating a new tightly knit, highly regulated 'profession.' It meant selling themselves to the public as 'scientists,' a respectable white-collar body who should be decently paid for providing a public utility - however novel 'knowledge' was a commodity. The profession had to be self-validating. Science could owe no allegiance to theology, and Huxley rushed around, baiting bishops, making a public show of dissociation. Proper pay, too, would bring in talent and push out the dilettantes.[52]

In addition to the anti-clerical framing of Huxley's defence of Darwin, Desmond's and Moore's description includes a useful summary of the goal of scientific professionalization among some British scientists in the 1860s: as an effort to transform scientific work in the service of science itself, and to do so in a way to both weed out amateurs and compensate expertise and competence.[53] Differentiating between the amateur and the professional "man of science" was further marked by Huxley's contention that there existed a difference between those who

[50] Desmond and Moore, *Darwin*, 431-432.
[51] Desmond and Moore, *Darwin*, 431-432.
[52] Desmond and Moore, *Darwin*, 431-432.
[53] As will be seen in Chapter 3 of this work, the transformation of scientific practice as serving a "public utility," in Desmond and Moore's words, explains why geography as a tool of development (and later empire) was presented as scientific in much with its aims as with its means.

theorize (as possessing "book-knowledge) and those who do (those who are "workers"), with those with hands-on expertise being more reliable authorities in scientific work than dilettantes.[54] And yet the process of professionalization was not linear nor inevitable: Charles Darwin himself was very much a gentleman scientist, whose land-derived wealth was the foundation of his own scientific work.[55]

The conscious and unconscious changes to British natural sciences occurred within the field of geography during the mid-nineteenth century. In charting the professionalization of British geography by way of institutions, individuals, and the societal and political changes of Victorian Britain, this study is indebted to a rich historiography in both the subject of gentlemanly science and the professionalization of the natural sciences.

Geography became the site where the process of professionalization was most evident. Geography became the science most associated with the growth of the British Empire and an increasing interconnected world, where the barriers of travel lessened as a result of steamships plying the world's oceans. Geography transitioned from a practice of data collecting to facilitate the work of mapmaking to become an imperial science during the mid-to-late nineteenth century. The field's growth in Britain was facilitated by the growth of the Royal Geographical Society (RGS), which connected the network of British cartography with that of the Royal Navy, travellers, members of Parliament, and merchants. The diversity of characters within the RGS proved welcoming for outsiders to join the emerging discipline. Before charting how would-be explorers presented themselves as *men of science*, it is necessary to first touch upon the role the

[54] Ruth Barton, "'Men of Science': Language, Identity, and Professionalization in the Mid-Victorian Scientific Community," *History of Science* 41 (2003): 73–74; Specifically, Huxley's demarcation between "workers" and those reliant on "book knowledge" was noted in an 1854 review of George Henry Lewes's *Comte's Philosophy of the Sciences*, where Huxley lambasted Lewes's grasp of chemistry as being indicative of the lack of authority amateurs had in commenting on scientific knowledge.
[55] Alistair Sponsel, *Darwin's Evolving Identity: Adventure, Ambition, and the Sin of Speculation* (Chicago: University of Chicago Press, 2018): 277.

Royal Geographical Society played in this transition. I begin with a short historiographical review of the history of the RGS, followed by an examination of the RGS's process of adjudicating submissions to its journal.

Geography and Professionalization

As J.B. Morrell has stated, an aspect that helped defined the process of scientific professionalization in Victorian Britain was the proliferation of learned societies during the nineteenth century.[56] For the field of geography, the Royal Geographical Society (RGS) functioned as the primary geographical institution in Britain for the most of the nineteenth century. There was no other organization, public or private, that held the authoritative position of the RGS over British geography until the rise of geography departments at British universities by the close of the century, an effort spearheaded by the RGS itself. Given the close relationship between the RGS and the British state, the professionalization of geography took on a different character than in other fields where private industry coexisted with scholarly research. As such, charting the professionalization of British geography must begin by examining the role of the RGS in the development of geography into a scientific discipline.

The Royal Geographical Society of London (RGS) was founded in 1830, as a result from a meeting of the Raleigh Traveller's Club on 24 May 1830.[57] From its inception, the organising principles of the RGS were travel and empire. The success of the meeting resulted in an effort to receive state backing, even if such support was nominal. In a 1830 correspondence between the then-Home Secretary Robert Peel with King William IV, Peel requested royal patronage for the

[56] Morrell, "The Patronage of Mid-Victorian," 353-354.
[57] Felix Driver, *Geography Militant: Cultures of Exploration and Empire* (Oxford: Blackwell Publishers, 2001): 27; Elizabeth Baigent, "Founders of the Royal Geographical Society of London (act. 1828–1830)," *Oxford Dictionary of National Biography*, 28 Sep. 2006, Accessed 14 May 2018. https://doi.org/10.1093/ref:odnb/95334; It should be noted that the Raleigh Traveller's Club was a dining club and not a formal learned society.

nascent Geographical Society "for the encouragement of Geographical Science and Discovery [sic]."[58] This stance was elaborated in a prospectus published in 1831, outlining the aims set forth in the May 1830 meeting.[59] Participants in the Raleigh Traveller's Club meeting aimed to make the RGS into an accessible "centre" of British geography, where the hitherto scattered books, maps, and geographical information would be made publicly available by the RGS.[60] In addition, the RGS would be tasked with: collecting and disseminating "useful facts and discoveries" by geographers; to build a library of the "best books on Geography;" to procure instruments for travellers; to provide instructions to would be travellers on how to conduct geographical research; collaboration and communication with other geographical societies and British residents across the empire; and to foster communication with "philosophical and literary societies" given that members of the RGS would be members of other learned societies.[61]

Funding for the Royal Geographical Society had numerous sources. In addition to the request for royal patronage, Robert Peel also requested (on behalf of John Barrow, the RGS's first secretary) "fifty guineas annually" to promote the aims of the RGS, which William IV agreed.[62] The RGS was also funded by way of membership fees. In 1831, admission to the society required an initial payment of three shillings and an annual subscription of two shillings thereafter.[63] In 1854, the British government gave an annual grant of £500 per year to map the

[58] Robert Peel to King William IV, 22 October 1830, Home Office Papers, HO 44/21, National Archives, Kew, London.
[59] "Prospectus of the Royal Geographical Society," *The Journal of the Royal Geographical Society of London* 1 (1831): vii-xii.
[60] "Prospectus," vii.
[61] "Prospectus," vii-viii; As the prospectus put it: "for all of us are fellow-labourers in the different departments of the same vineyard, their united efforts cannot fail to mutually to assist each other" (vii).
[62] Robert Peel to King William IV, 22 October 1830, HO 44/21; King William IV to Robert Peel, 25 October 1830, HO 44/21; This was the equivalent of 1,020 shillings or £51.
[63] "Prospectus," x; A flat payment of 20 shillings would be sufficient for an indeterminate number of years thereafter.

society's Map Room accessible to the public.[64] Sales of the *Journal* also contributed to the RGS's finances. But more significant sources of funding were undisclosed donations by private donors, which including the financing of a new headquarters for the society by 1925.[65]

Beyond a commitment to foster geographical science among the British public was the society's goal of using geographical knowledge to further Britain's economic and geopolitical position on the world stage. As argued by Elizabeth Baigent, this strategy assured that the RGS took a leading role in guiding the course of geography within Britain, writing that:

> The founders [of the RGS] aligned geography with the priorities of government, and, by working in concert with the armed services, particularly the navy, and other prestigious learned societies, especially the Royal Society, adroitly won for the society a commanding position in exploration. Their strategy enabled the society to promote the cause of, and influence the course of, exploration to a degree quite out of proportion to its slender resources.[66]

Such influence would grow in the next four decades as the Royal Geographical Society took on an outward-facing and leading role in the promotion and dissemination of geographical knowledge in Britain and the wider Anglophone world.[67]

Despite the role of the RGS in the history of British geography and in the course of the British Empire, there had been a dearth of histories written about the society until the last two decades.[68] Of earlier scholars D.R. Stoddart comes closest to detailing the RGS's role in the professionalization of British geography.[69] Stoddart examines the Royal Geographical Society in the nineteenth century, explaining why the society saw a drastic change in its membership and its

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[64] *The Royal Geographical Society: Its Foundation and History Work and Publications Charter and Bye-laws House* (London: Royal Geographical Society, 1925): 7; This was increased to £1250 in 1912.
[65] *The Royal Geographical Society*, 7.
[66] Baigent, "Founders of the Royal Geographical Society."
[67] Driver, *Geography Militant*,
[68] Driver, *Geography Militant*, 25; Felix Driver observed that few histories of the RGS by the time he wrote *Geography Militant*.
[69] David R. Stoddart, "The RGS and the 'New Geography': Changing Aims and Changing Roles in Nineteenth," *The Geographical Journal* 146, no. 2 (July 1980): 190-202.

mission by the end of the century.[70] Stoddart explains the society's goals in pushing for the teaching of geography in British schools and universities, but he does not detail how professionalization came about or why it occurred. In focusing on how the RGS created geographic curricula in British universities, Stoddart does not mention the state of field expeditions that, in his words, were so intertwined with the geographic project.[71] Given the continued exploration of Africa through the early twentieth century, Stoddart's silence on this subject is surprising.[72]

Since Stoddart's study, historians of geography have expanded their scope of analysis from the formation of academic geography. As seen with the works of Matthew Edney and D. Graham Burnett, case studies of Victorian scientific practitioners speak to the issues of self-fashioning, epistemology, and the legacy of imperialism.[73] Felix Driver provides a thorough analysis of British geography in the nineteenth century, with an aim to assess "a set of cultural practices which involve the mobilization of people and resources, equipment, publicity and authority" that made British exploration possible.[74] What emerges is an image of nineteenth-

[70] Stoddart, "The RGS," 190, 194-95; Stoddart considers the turning point in the fortune of the RGS to be the death of Sir Roderick Murchison in 1871. Stoddart further asserts that the "Darwinian revolution" brought about the professionalization of British scientists, which while not elaborated on by Stoddart himself, relates to Desmond's and Moore's analysis of T.H. Huxley as an exemplar of the professionalization of science in the wake of Darwin's *On the Origin of Species* in 1859.

[71] Stoddart, "The RGS," 195.

[72] Stoddart's article is an early attempt to chart the history of academic geography. While the following sections will touch on more recent works that do a better (if still incomplete) job in describing the professionalization of geography, institutions like the Royal Geographical Society figure centrally in any attempt to detail this process, at least during the early days of the society's history. The creation of geographical departments in British universities offers another topic through to examine the relationship between institutions and the professionalization of British geography.

[73] D. Graham Burnett, *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado* (Chicago: University of Chicago Press, 2000); Matthew Edney, *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (Chicago: University of Chicago Press, 1990).

[74] Driver, *Geography Militant*, 8, 12, 25 ; Driver's work is one of the first attempts to comprehensively examine the role of the RGS in the context of exploration, the rise of academic geography, and the role of geography in the expansion of the British Empire; The focus on these "cultures of exploration" allows scholars to approach the study of British geography in a way that recognizes the variegated roots, personalities, and factors behind the discipline's evolution in the nineteenth century. Finally, I use *discipline* here even though the boundaries of "geography" were

century geography which was plagued by tensions between lofty ideals of science, salvation, and progress and the baser motives of imperialism, profit, fame, and racism. But those very tensions provided avenues for advancement, where missionaries, adventurers, journalists, former army officers could become scientific figures and international celebrities.

Driver provides case studies of individual explorers such as David Livingstone and Henry Morton Stanley, examining the diverse images assigned to those explorers. Was Livingstone a missionary, a scientist, or a harbinger of imperialism? Why did Stanley inspire so much disgust by geographers in the RGS but was nonetheless celebrated by his peers?[75] Driver's goal is not to land on one side of these questions, but to show that the conflicting motivations of individual explorers reflected the conflicting interests and prerogatives of geography writ large.

Regarding the RGS, Driver does not depict the institution as a monolithic, all-powerful guide of disciplinary geography. Instead, the RGS is described as a rudderless organization, lacking any clear vision for the organization and unable to agree on priorities. This lack of effective leadership was exacerbated by internal disputes between field explorers and so-called "armchair geographers."[76] In contrast, field explorers viewed their expeditions in far-off lands as the primary way in which someone could produce scientific knowledge. Driver is correct in framing the RGS as a "coalition of interests" rather than a "centre of calculation," writing: "it is indeed difficult to characterize a body which finds room for missionaries, anti-slavery campaigners, roving explorers, mountaineers, antiquarians, geologists and naturalists under its

not set through much of the nineteenth century. I do not think there is a better term to use here, which is why I will try to use *geography* and *disciplinary geography* as much as possible.

[75] Stanley is most known for is his meeting with David Livingstone in 1869 but was involved in the exploration of the Zambezi and Congo Rivers. Stanley's involvement in the establishment of the Congo Free State and the Emin Pasha Expedition in 1886-89.

[76] For more on the feud between so-called "armchair geographers" and explorers, see: Natalie Cox, "Armchair Geography: Speculation, Synthesis, and the culture of British exploration, c. 1830-1870" (PhD. thesis, University of Warwick, 2017); O.F.G. Sitwell, "John Pinkerton: An Armchair Geographer of the Early Nineteenth Century," *The Geographical Journal* 138, no. 4 (December 1972): 470-479.

umbrella as a coherent 'centre' at all."[77] This framing of the RGS as a "coalition of interests" and less a "centre of calculation" is useful in focusing our attention towards an understanding about the contingency of influences that would shape British geography in the nineteenth century, rather than view the RGS as part of a teleological progression from the voyages of James Cook to the gallivanting expeditions of Henry Morton Stanley.[78]

But it is the case that these disparate interests of the RGS did coalesce into an organization in 1830, with the RGS replacing the informal dining clubs of the African Association and the Palestine Association, along with the Raleigh Club. An aspiration for popularizing geography and serving British geopolitical interests explicitly motivated various denizens of three London dining clubs to transform their gatherings into a formal institution.[79] In the following decades, the RGS attracted a diverse membership, which made it Britain's most popular scientific institution by 1870.[80]

It is true that the association of the British Empire's growth in the mid-nineteenth century with the RGS's roving explorers did factor into the organization's popularity.[81] But why the mid-nineteenth century? What was it about this time that saw the Royal Geographical Society a leading role in shaping British geography? What was it about the RGS that made it attractive to a diverse membership of individuals who did not fit the profile of the gentlemanly scientist? As

[77] Driver, *Geography Militant*, 21, 36-37, 47; It should be noted that many of these individuals do not fit the social standing of the traditional *gentlemanly scientist*.
[78] Driver, *Geography Militant*, 25-26; As will be made clear in later chapters, I do not hold a high opinion of Stanley.
[79] David N. Livingstone, "Of Design and Dining Clubs: Geography in America and Britain, 1770-1860," *History of Science* 22, no. 2 (1991): 153-183.; Driver, *Geography Militant*, 32; As Driver points out, "the scientific world was undergoing a significant transformation, witnessed by the proliferation of specialist societies, including the Geological Society (1807), the Astronomical Society (1820), the Royal Asiatic Society (1823) and the Zoological Society (1826)."
[80] Driver, *Geography Militant*, 24; Driver is correct in stating that the diverse array of members indicates a lack of a central, organizing ideology or stance held by the RGS. But as seen with the examples of the gentlemanly scientists of the same era, a common concern for mapping the world was sufficient to bound these disparate parties together at least momentarily in common cause.
[81] Driver, *Geography Militant*, 26, 44.

will be seen in the case of Charles Beke and Ferdinand de Lesseps, the RGS's role as a referee of geographical reports and travel narratives made it the de facto authority of British geography. But what the society decided to publish in the pages of its journal was informed by a turn away from vivid travel narratives and towards travel narratives replete with data and measurements.

Charles Beke and Abyssinia

Motivated by his interest in geology and his idiosyncratic Biblical research, Charles Tilstone Beke planned an expedition for Abyssinia in 1840. Born in 1800 to a London, Beke's early adulthood was defined by an aborted start as a lawyer, a commercial career that took him across Europe, and a nine-month stint as the British consul at Leipzig.[82] But beyond this, Beke established himself as a Biblical scholar, one who would try to find a balance between the scripture and contemporary findings in geology, archaeology, and linguistics.[83] In 1834, Beke published his *Origines biblicae, or, Researches in Primeval History*, a work that would ultimately garner him scholarly attention, lead to his membership to various learned societies, and saw him awarded a doctorate degree from the University of Tübingen.[84] Beke's interests in Biblical history led him to pay particular attention to the Middle East. Here Beke merged Biblical exegesis along with a wider interest in British commerce and anti-slavery politics to fully examine the geography of East Africa.[85]

Eager to improve upon the work of an earlier 1835 French expedition to the region, Beke had a running correspondence with the then-president of the Royal Geographical Society (RGS),

[82] Donald Crummey, "Beke, Charles Tilstone (1800-1874), *Oxford Dictionary of National Biography*, 23 Sep. 2004; Accessed 13 September 2021, https://doi.org/10.1093/ref:odnb/1974; There is currently no published biography of Beke available beyond the summary provided in the *ODNB* and in older encyclopaedia entries.
[83] Crummey, "Beke, Charles Tilstone."
[84] Crummey, "Beke, Charles Tilstone."
[85] Crummey, "Beke, Charles Tilstone."; The merger of these interests will not be unique to Beke as later explorers, such as John Hanning Speke and Samuel White Baker, would mix in Biblically derived notions of race, geography, and ethnology to make sense of the peoples of Africa.

George Bellas Greenough.[86] For Beke, the "superficial and imperfect account" of the French expedition required a new expedition to "obtain more ample and correct information" on the geography and political situation in Abyssinia.[87] To undertake this mission, Beke asked for £500 in RGS funding. While the mission itself would not be "strictly within the sphere of the Royal Geographical Society," Beke assured Greenough that:

> I shall spent myself to the utmost in collecting and transmitting to Europe the fullest and most correct geographical, […], philological, and general information respecting Abyssinia and such other countries of Africa as directly or indirectly may come within the range of my enquiries.[88]

Beke's solicitation to the RGS was typical of would-be explorers in Africa, whereby the RGS could be used as a potential source of funds and institutional support for potential exploratory missions in Africa. In one sense, Beke's correspondence with Greenough showcased the RGS's in shepherding travellers seeking to contribute to the body of geographical knowledge. While it is important to be mindful of how cultural interests made the RGS more a "coalition of interests" rather than a "centre of calculation," Beke's request for financial backing was nonetheless an example of how the RGS functioned as a centre of institutional legitimacy for travellers and aspiring explorers.[89]

The Journal of the Royal Geographical Society of London

But the RGS's stature in disciplinary geography was not just limited in its potential for financial support for aspiring explorers. As seen earlier, the founding of the RGS brought about

[86] C. Beke to G.B. Greenough (President, RGS), letter, 19 July 1839, Journal Manuscript Collection, JMS/3/9, Royal Geographical Society, London, UK; George Ballas Greenough (1778–1855) was a founding member of both the RGS and the earlier Geological Society of London, serving as that society's first president (). For more on Greenough, see: Martina Kölbl-Ebert, "George Bellas Greenough (1778–1855): A Lawyer in Geologist's Clothes," *Proceedings of the Geologists' Association* 114, no. 3 (2003): 247-254; John Wyatt, "Greenough, George Bellas," *ODNB*; Accessed 14 September 2021, https://doi.org/10.1093/ref:odnb/11432.
[87] Beke to Greenough, 19 July 1839, JMS/3/9, RGS; specifically, Beke sought to learn more about the political situation in the sub-kingdom of Shoa.
[88] Beke to Greenough, 19 July 1839, JMS/3/9, RGS.
[89] Driver, *Geography Militant*, 21, 36-37.

the creation of a scholarly journal devoted to geographical findings. Since the publication of its first issue in 1831, *The Journal of the Royal Geographical Society* soon became the leading geographical journal in the United Kingdom.[90] While Felix Driver is correct in rejecting the image of the RGS as a hegemonic "centre of calculation," Driver unnecessarily downplays the instances where the RGS did serve as the gatekeeper of geographical knowledge in Britain.[91]

This was primarily done via the pages of *The Journal*.[92] Through the journal's refereed reviews, the RGS served as an arbiter in determining what was published and what was not in the pages of Britain's premier outlet for geographical knowledge. Submissions of reports describing exploratory missions from Africa, the Americas, Asia, Oceania, and (later) the Polar regions, were sent to the RGS's secretary in London to determine whether the travel narrative and measurements taken by a given expedition could be published in the pages of *The Journal*. But submissions to *The Journal* can tell us much about the prerogatives and concerns of the community of geographers operating in Victorian Britain. The practice of refereeing the journal – of having an expert evaluate a given submission and judging the work as being sufficiently rigorous and relevant to the field of geography – provides us an inside-look at how a cadre of experts evaluated potential contributions in the creation of scientific knowledge.

[90] The journal would have several name changes throughout its history. From 1831-1880, the journal was known as *The Journal of the Royal Geographical Society of London*. From 1857-1877, the RGS published an additional journal, *Proceedings of the Royal Geographical Society of London*. From 1879-1892, there was a transition and merger of the two journals into the *Proceedings of the Royal Geographical Society and Monthly Record of Geography*. Since 1893, the RGS's journal has been known as *The Geographical Journal*. For the sake of simplicity, I will refer to *The Journal of the Royal Geographical Society of London* as "the journal," "the RGS's journal, or *The Journal*. When referencing *Proceedings of the Royal Geographical Society of London*, I will opt to use *Proceedings* for the sake of brevity.

[91] This is not to say that Driver's notion of "cultures of exploration" is misplaced. Examining the cultural factors behind the practice of exploration is essential and in keeping with the last few decades in the historiography of the history of science. Rather, Driver is situating his work as an intervention against a sparse historiography on the RGS's role in British geography that assumed the society played central, totalizing role in the development of British geography. This project adds on Driver's contribution to the scholarship.

[92] Another way the RGS served as a gatekeeper of geographical knowledge production was in publicizing and fundraising on behalf of expeditions. More on this will be said in chapters 2 and 3.

By evaluating submissions to *The Journal* regarding the exploration of the Nile Basin from the 1830s to the 1850s, we can observe the development of a nascent scientific field take form. In addition, what was published – and what was rejected – from the pages of *The Journal* allows us to examine how referees considered relevant to the field of geography. For example, what type of submissions were rejected from the pages of *The Journal*? Likewise, what type of testimony was acceptable to the referees in London? To paraphrase Anne Secord, the major concern of referees, along with the RGS's cartographers and community of geographers, was the issue of trust.

There were a variety of strategies by which referees could gauge the trustworthiness of a submission to *The Journal*. Prior precedence mattered, with metropolitan geographers comparing recent submissions with past reports of the expedition's environs. As will be seen in the case of Charles Johnston's report of his Abyssinian expedition, the discrepancy between reports undermined the credibility of would-be explorers. Similarly, the inclusion of measurements – be it distances between settlements, the azimuth of Venus along the horizon in Bunyoro, the longitude of the Victoria N'yanza, or the precipitation levels and cloud cover of Khartoum – were used to gauge the trustworthiness of an exploratory account. If the explorer devoted more than a narrative, but included observable data deemed useful for RGS cartographers and geographers, the chances for his submission's inclusion went up considerably. A few examples of referee reports will be examined to determine why certain submissions were published by the RGS and why others were not.

Referee Reports

In an 1857 letter written between the RGS's secretary Norton Shaw to Francis Galton, who, among many things, served as a referee for *The Journal*, Shaw sought Galton's feedback on

whether a submitted report regarding Ferdinand de Lesseps's 1857 jaunt to Khartoum was worthy of publication in the society's journal. Shaw wrote:

> I have to request that on or before the June 20th you will return the Paper [sic], in a Sealed Packet, with a Report in writing, in which you will be pleased to state your opinion:-
>
> 1st, Whether the Paper be ORIGINAL [sic]?
> 2dly, Whether it should be printed in the Journal?
> 3dly, Whether it can be altered or abridge with advantage; and IN WHAT MANNER? [sic]
> 4thly, Whether any, and what Illustrations [sic], should accompany it?[93]

The letter itself was pre-printed, with Shaw adding his name and the date before sending it off to Galton. For his part, Galton found some value in de Lesseps's passing reference to missionary outposts along the White Nile. However, Galton declined to publish de Lesseps's submission to the journal, without elaborating further, although the existence of other travel narratives regarding visits to Khartoum may have played a role in Galton's decision.[94]

In addition to a lack of novelty in a given submission, the question of originality also mattered if a submission was previously published elsewhere. If a submission was printed elsewhere, the referee would reject the submission out of hand. In reviewing Lieutenant J. Christopher's submission regarding his expedition to the Somali coast, C.G. Renouard was satisfied with the quality of Christopher's work. "With the exception of a few short passages,"

[93] Norton Shaw, Sec. of the RGS, to Francis Galton, Letter, 13 June 1857, JMS/3/44, Journal Manuscript Collection, the Royal Geographical Society, London, UK.
[94] Shaw to Galton, 13 June 1857, JMS/3/44, RGS; This is not stated outright by Galton. However, de Lesseps was not the first Westerner to visit Khartoum. As a commercial and military centre on the convergence of the Blue and White Niles, Khartoum had received Western visitors by 1830, such as the American artilleryman and convert to Islam George Bethune English, as well as the Frenchman and mineralogist Frédéric Cailliaud. As such, I feel that de Lesseps account of visiting Khartoum was not novel enough for the RGS; For more on early European travellers to Sudan, see: Abbas Ibrahim Muhammad Ali, "A History of European Geographical Exploration of the Sudan, 1820-1865," *Sudan Notes and Records* 55 (1974): 1-15.

wrote Renouard, Christopher's expeditionary journal was "very fit for publication."[95] Yet, after praising Christopher's measurements and maps, Renouard cautioned:

> But before the Council determines to print any part of Lieut. Christopher's valuable communication, it will be well to enquire whether it has not already appeared in India, as it is not desirable to make the Geographical Journal a medium of replication.[96]

Likewise, a submission from the French explorer Charles E. Xavier Rochet D'Hericourt in 1841 was likewise rejected by an unnamed RGS referee as the submission was previously printed in a French journal.[97] Submissions based on chapters from travel narratives were also rejected. A translated introduction from Eduard Rüppell book *Reise in Abyssinien* (1840) was rejected by the RGS, despite Rüppell's reputation as a leading naturalist and explorer.[98]

The template outlined in the Shaw-Galton correspondence remained in place for intervening decades for hundreds of submissions from across hundreds of expeditions around the world. In a refereed report from 1900, Ernst Georg Ravenstein examined a submission regarding an 1895 expedition between Lake Turkana and the Nile undertaken by A. Donaldson Smith.[99] In a pre-printed cover letter for the Ravenstein's referee report, the criteria that Shaw and Galton used was little changed in the intervening four decades:

> We have to request that on or before the 17tth October you will return the Paper, in a Sealed Packet, with a Report in writing, in which you will be pleased to state your opinion:-
>
> 1st, Whether the Paper be ORIGINAL? [sic]

[95] G.C. Renouard Referee Report, March 1844, Journal Manuscripts Collection, JMS/3/20, the Royal Geographical Society, London, UK.
[96] Renouard Referee Report, March 1844, JMS/3/20, RGS.
[97] Charles E. Xavier Rochet D'Hericourt, "On the Red Sea, the country of Adel and the Kingdom of Shoa in Abyssinia," Report, Journal Manuscripts Collection, JMS/3/12, the Royal Geographical Society, London, UK; Rochet D'Hericourt's expedition of 1839 spanned the Red Sea coast of Africa, Adwal in modern-day Somalia, and Shewa in Abyssinia.
[98] "Introduction to a reading from Rüppell's *Reise in Abyssinien*, concerning Kordofan," 1840, Journal Manuscripts Collection, JMS/3/8, the Royal Geographical Society, London, UK; While this submission was rejected as an article in *The Journal*, a book review of *Reise in Abyssinien* was published in 1840. For more, see: "Reviewed Work: *Reise in Abyssinien* by Eduard Rüppell," *The Journal of the Royal Geographical Society of London* 10 (1840): 570-574.
[99] Referee Report by Ernst Georg Ravenstein, 1900, the Journal Manuscripts Collection, JMS/3/135, the Royal Geographical Society, London, UK.

2dly, Whether it should be accepted for publication by the Society?
3dly, Whether it can be altered or abridged with advantage; and IN WHAT MANNER?
4thly, Whether it is adapted for reading at one of the Evening Meetings?[100]

The only criteria to have changed was the fourth requirement, where the question of including illustration was changed with a question on reading the submission at one of the RGS's evening meetings.[101]

Charles Johnston's Abyssinian Expedition (1841-43)

The lack of originality was one reason a submission could be rejected by the RGS's referees. But another reason had to do with the perception that the submission lacked sufficient evidence, such as little-to-no measurements or the lack of a first-person account of a given location. This can be seen in an 1843 submission by Charles Johnston on his expedition to the Awash River in Abyssinia, now in modern-day Ethiopia.[102] Johnston served as a surgeon onboard the British East India Company steamer *Phlegethon* from 1840-1841. [103] Harbouring a desire to traverse Africa once his duties ended in India, Johnston contacted John Washington, then serving as the Secretary of the RGS, to discuss a potential expedition.[104] With both the

[100] L. Darwin and J.F. Hughes to E.G. Ravenstein, cover letter, 11 October 1900, Journal Manuscripts Collection, JMS/3/135, the Royal Geographical Society, London, UK.
[101] L. Darwin and J.F. Hughes to E.G. Ravenstein, JMS/3/135, RGS; It is unclear as to why this change occurred. One reason for this could be that the printing of illustrations became more affordable by the beginning of the twentieth century. The question of including of illustrations became redundant as maps, charts, drawings, and photographs could be printed in the pages of *The Journal* with little difficulty given advances in printing technologies; For his part, Ravenstein scribbled his answers to these questions on the back of the cover letter where he agreed that Donaldson's submission should be printed with only a minor alteration regarding adding a list of locations where Donaldson took his astronomical observations. Donaldson's paper was ultimately published in the RGS's journal in 1900. For more, see: A. Donaldson Smith, "An Expedition between Lake Rudolf and the Nile," *The Geographical Journal* 16, no. 6 (December 1900): 600-624.
[102] George Cecil Renouard, "Report on Mr. Johnson's Communication respecting the course of the River Hawash," report, 22 March 1843, Journal Manuscripts Collection, JMS/3/17, Royal Geographical Society, London, UK; Note that the referee report misspelled Johnston's name as "Johnson."
[103] Charles Johnston, *Travels in Southern Abyssinia Through the Country of Adal to the Kingdom of Shoa, In Two Volumes,* Vol. I (London: J. Madden and Co., 1844): v-vi.
[104] John Washington (1800-1863) was a founding member of the RGS and served as the society's first secretary from 1836-1841. J.K. Laughton credits Washington for essentially running the "whole work" of the RGS; J.K. Laughton, "Washington, John (1800-1863), *Oxford Dictionary of National Biography*, 8 October 2009, Accessed 7 July 2021, https://doi.org/10.1093/ref:odnb/28807a.

assistance of the RGS and the East India Company, Johnston acquired contacts to arrange his expedition, which coincided with a British diplomatic mission from Aden to the court of the Negus of Shewa in Abyssinia.[105] The British sought to open new markets for India, a goal which coincided with a desire to forestall French expansion into East Africa.[106] From 1841 to 1843, Johnston travelled from Aden to Shewa, compiling notes on the ethnography, geography, hydrology, and the political landscape of Abyssinia and the Horn of Africa.

After concluding his expedition, Johnston sent a report to the RGS in November 1843.[107] The report which Johnston submitted to the RGS was focused on the question of determining "the geographical position of the termination of the river Hawash."[108] Johnston began his report with an itinerary, giving a description of a landscape strewn with volcanic rocks. But at the heart of Johnston's report was the testimony of an Abyssinian informant known as "Ras," writing of the moment where Johnston received the news of the location of the river's terminus:

> Ras came up and, pointing with his spear in a direction to the North West, called my attention to a division or separation in the abrupt termination of the plain which extended to the Westward, which he assured me, is the final termination of the Hawash, the depression in front of it marking the situation of the Lake Abhibhad [sic], and was so fully confirmed by my other attendant that there could be no doubt of the correctness of the R'as's information [sic] [109]

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[105] Johnston, *Travels in Southern Abyssinia*, v-vi; The Kingdom of Shewa was commonly known as *Shoa* in English-language sources during the nineteenth century. As the modern region is transliterated as *Shewa*, I will opt to use this toponym. The Kingdom of Shewa was a *de jure* state within the larger Ethiopian Empire (known as Abyssinia in the nineteenth century). However, Shewa had *de facto* independence, with the Abyssinian Emperor little more as a figurehead. It would not be until the reign of Emperor Tewodros II (r. 1855-1868) that Abyssinia would return to centralized rule, with Tewodros's conquest of Shewa in 1855; The term *Negus* is the Ge'ez and Amharic term for king; For more on this period of Ethiopia history, see: John E. Flint (ed.), *The Cambridge History of Africa, Volume 5, from c. 1790 to c. 1870* (Cambridge: Cambridge University Press, 1976): 68.

[106] Flint, *The Cambridge History of Africa, Vol. 5*, 69.

[107] "Mr. Charles Johnston: An Account of the Great Lake recipient of the Hawash river, Abyssinia," cover page, 1844, Journal Manuscripts Collection, JMS/3/17, the Royal Geographical Society, London, UK.

[108] Charles Johnston to the Royal Geographical Society, 7 November 1843, Journal Manuscripts Collection, JMS/3/17, the Royal Geographical Society, London, UK.

[109] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS; A discrepancy emerges over Ras's name. Johnston's report originally spelt the name as "Zas." However, corrections made by the referee modified the spelling as R'as's or Ras. I will use "Ras" for the sake of simplicity; The lake that Johnston refers to as Lake Abhibhad [sic] is currently known as either Lake Abbe or Lake Abhe Bad, which lies in the border between modern-day Ethiopia and Djibouti.

In addition, Johnston claimed that Lake Abbe contained "an artificial island" with "a complete oasis."[110] For Johnston, the intelligence provided by his attendant and Ras was more than sufficient evidence to determine the terminus of the Awash River. The use of native intelligence was banal and used universally by field geographers. What was it about Johnston's use of this intelligence that led to the rejection of his submission by the RGS referee?

Johnston's claims went beyond identifying the river's terminus. Instead, he positioned himself as an authority on the geography of the Awash River by highlighting the novelty of his findings, along with the implications his findings would have on the geographical community's knowledge of the region. Johnston elevated his position as the first Westerner in the region, writing, "no other traveller having visited their neighbourhood [sic] before."[111] This claim was meant to bolster his authority to a community of geographers, as it implied possessing unique knowledge that prior geographers and cartographers lacked regarding Abyssinia's geography. Further, Johnston positioned his findings as being in dialogue with geographical and cartographical debates about the geography of Abyssinia. In the postscript to his report, Johnston speculated if the Awash River was the same river that the Portuguese had earlier identified as the "Hanato" River, which had appeared as "Hanata-ille" in a map produced by the Scottish geographer James MacQueen.[112] Taken together, Johnston made a claim to a discovery, one that needed to be taken seriously by the Royal Geographical Society.

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[110] Renouard, "Report on Mr. Johnson's" 22 March 1843, JMS/3/17, RGS.

[111] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS; Johnston's claim to being the first in this specific region was typical of Westerner travellers who discounted the knowledge and existence of non-Westerners in making claims of discoveries.

[112] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS; Johnston speculated that the "ille" in "Hanata-ille" as transcribed by James MacQueen was related to the name for "water" in a local language; Unfortunately, it is unmentioned which map Johnston was referencing in his report, as often times the cartographer may not necessarily credit the informants whose data was necessary for the compilation of a given map. However, there are several British-made maps found in the David Rumsey Collection which corroborates the conflation of the Awash River with the Hanato/Hanazo of Portuguese sources. For example, in John Pinkerton's map of Abyssinia

However, more significant for the community of metropolitan geographers was that Johnston's claims conflicted with other reports on the location of the Awash River, specifically the claims made by William Cornwallis Harris.[113] Harris led the British diplomatic mission to Shewa, which Johnston accompanied from 1841 to 1843.[114] Both Harris and Rupert Kirk, an assistant surgeon serving with the Bombay Medical Service, contended that the terminus of the Awash River was some thirty miles from where Johnston contended.[115] This discrepancy frustrated Johnston, who viewed Harris and Kirk's findings as being maliciously-motivated towards him and not grounded in any discernible evidence. Regarding Harris and Kirk, Johnston wrote:

> [...] but who choosing to make themselves out to be correct in defiance of all evidence complimented one with their disbelief until the positive proof which our return journey admitted, drew from these gentlemen the reluctant admission of the correctness of my previous observations.[116]

But while neither Harris nor Kirk could respond directly to the charge of maliciousness in Johnston's report to the Royal Geographical Society, scribbled to the side of the Johnston's claim was a disagreement about the "positive proofs" Johnston claimed vindicated him: "Which are in fact no proofs at all."[117] Throughout Johnston's report, such comments and edits marked

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and Nubia (1814), the river is known as the Hanazo. This name is also found in John Thomson's "Arabia, Egypt, Abyssinia, Red Sea" (1814). See: John Pinkerton, "Abyssinia, Nubia &c. Drawn under the direction of Mr. Pinkerton by L. Hebert," Map, in *Pinkerton's Modern Atlas* (London: Cadell and Davies, 1812): 56.; John Thomson, "Arabia, Egypt, Abyssinia, Red Sea &c," Map, in *A New General Atlas* [...] (Edinburgh: John Cumming, 1814): 46.

[113] Johnston's stance is what was described by the sociologist of science Augustine Brannigan: "Specifically, to say 'I discovered something" does not merely document an item of information about some phenomenon, but exhibits a stance or commitment to the relevance of the achievement, the possible ways in which it could be done, its factual validity, and a confidence in the fact that this deed was not preceded by any identifiable achievements." For more on the meanings associated with the act of "discovery," see: Augustine Brannigan, "Discovery as a meaningful action," in *The Social Basis of Scientific Discoveries* (Cambridge: Cambridge University Press, 1981): 63-88.

[114] H. M. Chichester and James Falkner. "Harris, Sir William Cornwallis (bap. 1807, d. 1848), army officer and traveller." *Oxford Dictionary of National Biography.* 23 Sep. 2004; Accessed 11 Jan. 2022. https://doi.org/10.1093/ref:odnb/12428.

[115] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS.

[116] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS.

[117] Johnston to the Royal Geographical Society, 7 November 1843, JMS/3/17, RGS.

the active involvement of the RGS's referee to determine whether Johnston's report was original, should be printed in the pages of *The Journal*, and could be altered or abridged to the advantage of the Society.

Johnston's report was refereed by George Cecil Renouard. A noted classicist, orientalist, and the then-honorary foreign secretary for the RGS, Renouard's involvement in refereeing Johnston's report took two forms. [118] First, Renouard took notes and annotated Johnston's review with commentary and corrections on improper spelling and word choice.[119] Beyond annotating Johnston's report, Renouard drafted a two-page response to Johnston's findings. Renouard compared Johnston's findings with those of two earlier explorers in Abyssinia: Johann Ludwig Krapf and Karl Wilhelm Isenberg, who travelled to Shewa between 1839-1844.[120] Renouard could not take Johnston's findings at face value and instead situated Johnston's claims with what was already known by geographers and prior travellers to Abyssinia. Regardless of Johnston's positioning as a discoverer of a new bit of geographical knowledge, Renouard did not see fit to publish Johnston's report as he felt that Johnston:

> [. .] seems to have had no opportunity of verifying the most important points by his own observations; the reports of native travellers are too vague + contradictory to inspire

[118] George Cecil Renouard (1780-1867) was served as the honorary foreign secretary of the Royal Geographical Society from 1836-1846. Prior to that, Renouard was elected to the Royal Asiatic Society in 1824, where he served on the translation committee and offered up translations on the Berber languages of North Africa. According to G.C. Boase, Renouard had an extensive correspondence with both orientalist and geographers that led him to be seen as an expert among both communities of scholars. In addition, Renouard had served as the Anglican chaplain for the British embassy in Istanbul (1804-1806) and at the British factory (i.e., a trade depot) at Izmir.

[119] Renouard, "Report on Mr. Johnson's" 22 March 1843, JMS/3/17, RGS; As an example, Renouard replaced Johnston's use of "formation" with "soil" in the phrase "this gravel like formation."

[120] Renouard, "Report on Mr. Johnson's" 22 March 1843, JMS/3/17, RGS; Johann Ludwig Krapf (1806-1864) and Karl Wilhelm Isenberg (1810-1881) were German Protestant missionaries, members of the Church Missionary Society. The Church Missionary Society, founded as the Society for Missions to Africa and the East in 1799, was initially composed of English, Scottish, and German Protestants who wanted to evangelize the Gospels to peoples in Africa, Australasia, and the Middle East. Still extant, the Church Missionary Society coexisted alongside other missionary organizations, such as the London Missionary Society. For more on the Church Missionary Society, see: Jeremy Best, *Heavenly Fatherland: German Missionary Culture and Globalization in the Age of Empire* (Toronto: University of Toronto Press, 2021); Klaus Fielder, *Interdenominational Faith Missions in Africa: History and Ecclesiology* (Oxford: Mzuni Press, 2018).

> any confidence, + the only astronomical determination given by Mr. Jonson [sic] seems to be irreconcilable with data previously obtained.[121]

For Renouard, Johnston's report could not be published in *The Journal* because the report deviated too much from prior findings without providing verifiable evidence. More important, the use of native reports required verification on the part of the Western traveller. Unmentioned in the Renouard's referee report was the disagreement and acrimony between Charles Johnston and William Cornwallis Harris on the terminus of the Awash River.

But while Renouard could determine whether a report could be submitted to the pages of *The Journal*, Johnston was able to publish his travel account elsewhere. In 1844, Johnston published a two-volume account of his journey to Abyssinia. Prefacing his narrative, Johnston briefly commented on his feud with Harris, but demurred in providing additional context.[122] Nonetheless, Johnston remained defiant, writing:

> The circumstances of this quarrel were most embarrassing to me, and have, I believe, occasioned considerable indignation on the part of those who had assisted me so far on my travels. Some respect, however, I do owe to myself, and feeling annoyed at being the subject of unworthy imputations, I have abstained from making any explanation whatever. Circumstances already have, in a great measure, exonerated me. The confidence of public men may be abused for a time but it cannot long be imposed upon.[123]

For his part, Harris mentioned this fracas in the second edition of his narrative of the diplomatic mission to Shewa.[124] However, Harris did not name Johnston when addressing this controversy. Instead, Harris referred to three individuals who had it out against him.[125]

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[121] Renouard, "Report on Mr. Johnson's" 22 March 1843, JMS/3/17, RGS.
[122] Charles Johnston, *Travels in Southern Abyssinia Through the Country of Adal to the Kingdom of Shoa, In Two Volumes, Vol. I* (London, J. Madden and Co., 1844): vii.
[123] Johnston, *Travels in Southern Abyssinia*, vii.
[124] William Cornwallis Harris, "Introduction," in *The Highlands of Ethiopia Vol. I of III* (London: Longman, Brown, Green, and Longmans, 1844); the only copy of this book I could find was via a transcribed copy posted on Project Gutenberg. For the link, see: https://www.gutenberg.org/files/35369/35369-h/35369-h.htm.
[125] Harris, "Introduction;" Whereas Harris is a fixture in Johnston's published narrative of the Abyssinian expedition, Harris does not bother naming Johnston once in his account.

Despite writing about different journeys, the submissions of Charles Johnston and Ferdinand de Lesseps share similarities that contributed to their respective submissions being rejected by the RGS's referees. In the case of de Lesseps's submission, a travel account of Khartoum did not meet the criteria of originality as de Lesseps was one of many Europeans to have visited the city. Likewise, regardless of the claims made by Johnston regarding the Awash and its terminus, his report was not in dialogue with the existing body of geographic knowledge accrued and curated by the RGS. Both reports were premised on the traveller being present in either Khartoum or Abyssinia, but hearsay was insufficient for the RGS's referees for publication in *The Journal*. Rather, RGS referees required corroborating evidence to bolster the claims made by travellers. As seen in Renouard's report on Johnston's submission, Johnston did not actually visit Lake Abbe nor did Johnston provide measurements that would cause Renouard to reconsider Johnston's claims of overturning geographical assumptions about the course of the Awash.

Measurements and Trust

For the RGS, submissions had to be both *verifiable* and *novel*. But it is not as if travellers were subordinate to the established geographers of the Royal Geographical Society. Indeed, debates between explorers and metropolitan geographers (so-called "armchair geographers") of mid-nineteenth century Britain is well-documented. But instead of constituting a curious sidenote to the history of disciplinary geography, these debates were concerned with the issue of *trust*: in this case, the relevance and validity of eyewitness testimony. As Daniela Bleichmar argues, "[at] the core of the notion of observation lay an individualistic rhetoric of *autopsia*—the process of having experienced or witnessed oneself, with one's own eyes."[126]

[126] Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012): 66.

This commitment to accurate and measured study required travellers and naturalists to not only provide travel narratives describing their encounters in far-off lands. Instead, such narratives required evidence to demonstrate the traveller's presence in these lands. In Bleichmar's study, the evidence produced by numerous Spanish naturalists and artists consisted of botanical illustrations of the New World.[127] Bleichmar claims that beyond the writing of travel narratives, the production of illustrations was a sign that the traveller was not merely "looking" at their subjects, but were instead demonstrating an "expert, disciplined, methodical observing" of territories and peoples.[128] In turn, this "expert looking" was connected with other activities, such as the collecting, classifying and cataloguing of botanical and animal specimens, along with the act of writing and drawing the observable world.[129] As Bleichmar explains:

> Naturalists considered visual skill the defining trait of their practice and the basis of their method. Collecting and classifying, the twin obsessions of early modern natural history, were predicated on the ability of the trained eye to assess, possess, and order. The eye provided the instrument with which to approach the world as well as the means to discipline it. For this reason, the process of becoming a naturalist revolved around visual training. Naturalists' notion of sight went beyond the physiological act of seeing to involve an expert type of viewing that involved training and specialized practices of observation and representation—not merely sight but rather insight.[130]

This need for *insight* among Spanish naturalists was shared by British geographers decades later, albeit in a different manifestation than illustrations. As seen with the rejections of de Lesseps and Johnston's submissions to *The Journal*, the act of being present in Africa was not sufficient in the creation of new geographical knowledge.

This need to trust eyewitness testimony was rooted in what Johann Fabian observes as a shared understanding of science:

[127] Bleichmar, *Visible Empire*, 79-122.
[128] Bleichmar, *Visible Empire*, 44.
[129] Bleichmar, *Visible Empire*, 44.
[130] Bleichmar, *Visible Empire*, 45.

> No matter how much they differed in national origin, professional training, and personal inclinations, the explorers of central Africa shared a conception of science as natural history.[…] Scientific knowledge is produced by observing nature. Knowledge of peoples, of their culture and social organization, is scientific when it is produced and presented following the rules that govern the observation of nature.[131]

As seen earlier, seventeenth and eighteenth-century men of science were drawn from the gentry, connecting their scientific reputation with their social status as gentlemen. Regarding scientific work practiced in Britain, the nineteenth century constituted a transition away from the gentlemanly mode of science towards a model that can be termed as *professional*. However, this transition took decades and continuities remained during the process of professionalization.

Science and Networks

Universities, learned societies, and social networks continued to matter with regards to the creation and proliferation of scientific knowledge. In addition, social bonds between men of science and their interlocutors – be they scientists or not – did not disappear with the process of professionalization. In describing the nature of the social networks among men of science and scholars at Cambridge University during the early Victorian era, Susan Faye Cannon description of that sociocultural context echoed in describing the social dynamics found contemporaneously at the Royal Geographical Society:

> The grouping was a loose convergence of scientists, historians, dons, and other scholars, with a common acceptance of accuracy, intelligence, and novelty. It was made up of persons each of whom knew many but not all of the others intimately. Face-to-face contacts were sometimes regular, as with the dons of the same college; sometimes often, as with leading members of the council of a scientific society; and sometimes periodic, as at christenings, Christmas celebrations, yearly terms of residence as a cathedra canon, and meetings of the British Association for the Advancement of Science. The chief agency of continual contact in such network was the personal letter, of which many thousands still remain unread by historians.[132]

[131] Johannes Fabian, *Out of Our Minds: Reason and Madness in the exploration of Central Africa* (Berkeley: California University Press, 2000): 180.
[132] Susan Faye Cannon, "Cambridge Network," in *Science in Culture: The Early Victorian Period* (New York: Dawson and Science History Publications, 1978): 30.

Nonetheless, while the personal letter remained the chief method of communication among British men of science throughout the nineteenth century, what changed was that the reputation of the claimant was not sufficient to alone carry the weight of a novel scientific – or geographic – claim. In the case of Ferdinand de Lesseps, despite a positive reputation shaped by his decades-long role as a French diplomat in North Africa, he was not able to get his RGS submission published.[133] More was required for the RGS to publish submissions to the pages of *The Journal*.

For would-be explorers, what was required was to demonstrate the "expert type of viewing" as described by Bleichmar. But how could travellers in distant lands demonstrate this to a community of metropolitan geographers? Susan Faye Cannon argued that nineteenth-century field science was committed to the "the accurate, measured study of widespread but interconnected real phenomena in order to find a definite law and a dynamical cause."[134] Using the career of Alexander von Humboldt as the exemplar of the changes undertaken in the nineteenth century, Cannon emphasized the cosmopolitan and holistic nature of "Humboldtian science," one where the act of measuring was central to the craft of scientific knowledge production. Cannon quipped that "thus the complete Humboldtian traveller, in order to make satisfactory observations, should be able to cope with everything from the revolutions of the satellites of Jupiter to the carelessness of clumsy donkeys."[135]

Cannon argued that antecedents in the eighteenth century, namely the voyages of James Cook, had a hand in the development of Humboldtian science, as well as the increased portability of measuring instruments such as quadrants, sextants, and chronometers meant that

[133] For more on the life of Ferdinand de Lesseps and his more noteworthy role as the chief proponent of the building of the Suez Canal, see: Ghislaine de Diesbach, *Ferdinand de Lesseps* (Paris: Perrin, 1998).
[134] Susan Faye Cannon, "Humboldtian Science," in *Science in Culture: The Early Victoria Period* (New York: Dawson and Science History Publications, 1978): 105.
[135] Cannon, "Humboldtian Science," 74.

both maritime and land-based travellers could use such instruments more easily and with greater accuracy than before.[136] This need for accuracy did not necessarily mean that measurements were, in themselves, useful or relevant for a given task.[137] Nonetheless, the early-nineteenth century saw a change in the practice and prerogatives of field sciences (e.g. natural history, botany, geology, and geographical exploration) that became the assumed way in which field geography was practice in Britain by the 1830s.

Charles Beke's Abyssinian Expedition (1840-43)

In assessing how British travellers argued on behalf of their claims, Felix Driver writes that "the credibility of claims to empirical knowledge was said to depend on accurate observation, above all else."[138] The centrality of measurements by geographers to demonstrate an "expert type of viewing," can be seen in the Charles Beke's report of his expedition to Abyssinia.[139] As seen at the beginning of this section, Beke had solicited funds to partially finance an expedition to Abyssinia. Along with his interests in geology and Biblical exegesis, Beke was further motivated by anti-slavery activism to help bring about knowledge of the African interior to facilitate the end of the African slave trade.[140] In a letter to John Washington, Beke approving cited the German missionaries Johann Ludwig Krapf and Karl Wilhelm Isenberg's own expedition to Shewa on the pervasiveness of the slave trade in Abyssinia.[141]

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[136] Cannon, "Humboldtian Science," 96-97.
[137] Cannon, "Humboldtian Science," 96; As Cannon wrote, "In short, if you find a 19th-century scientist mapping or graphing his data, chances are good that you have found a Humboldtian. Chances are good also that he will have spent considerable effort in mapping the wrong thing: maximum temperature instead of mean temperature, wind velocity instead of wind volume, latitude of plants instead of height above sea level."
[138] Felix Driver, *Geography Militant: Cultures of Exploration and Empire* (Oxford, UK: Blackwell Publishers, Ltd., 2001): 51.
[139] For more on Beke's reliance on local knowledge in Abyssinia, please refer to chapter 4 of this manuscript.
[140] C. Beke to G.B. Greenough, 19 July 1839, Journal Manuscripts Collection, JMS/3/9, Royal Geographical Society, London, UK.
[141] Charles Beke to Captain Washington, 15 June 1840, Journal Manuscripts Collection, JMS/3/9, the Royal Geographical Society, London, UK; For more on the role of the slave trade in the Nile and East African expeditions of the nineteenth century, see Chapter 3.

Beke further kept an excerpt of Eduard Rüppell's *Travels in Abyssinia* (1840) where the German naturalist described the state of slavery in Abyssinia.[142] But having justified his expedition on the basis of anti-slavery activism and a desire to open the region to British commerce, Beke's report of his 1841-1842 Abyssinian sojourn paid attention to the hydrology, meteorology, and geography of Shewa and greater Abyssinia.[143]

In an undated letter to Julian Jackson, the RGS's secretary from 1841-1847, Charles Beke spent the bulk of his letter discussing rivers draining to the Indian Ocean from the Horn of Africa.[144] Beke spent a month at the central Shewan town of Ankober, filling out a weather chart for March 1841.[145] Beke's commitment to charting Ankober's daily weather was not total, as entries for early March were missing from his log.[146] But Beke became more consistent after this, regularly filing entries for the temperature for the times of "Day," "Noon," "6 PM," "About Midnight," "6 AM," and an entry for "Remarks."[147] Beke's remarks included comments about the day's weather, such as cloudiness or whether it was rainy.[148] Beke resided in Ankober into August 1841, writing about his encounter with Johann Ludwig Krapf and the murder of a Frenchman, who Beke described as "a very indiscreet person."[149]

[142] Extracts from vol. 2 of Rüppell's *Travels in Abyssinia*, made by C. Beke., 15 June 1840, Journal Manuscript Collection, JMS/3/9, the Royal Geographical Society, London, UK.
[143] Beke to Greenough, 19 July 1839, JMS/3/9, RGS.
[144] Charles Beke to Julian Jackson, undated, Journal Manuscripts Collection, JMS/3/14, the Royal Geographical Society, London, UK; the letter is undated but is in the same collection as other documents relating to the aftermath of Beke's expedition. In addition, while the bulk of the letter is devoted to these East African rivers, the remainder is Beke lamenting the dangers facing Western travellers in Abyssinia, namely the murder of travellers by three local assassins. Beke viewed these "miscreants" as to be so dangerous that he wanted the President of the RGS (either George Greenough or William Richard Hamilton) to identify these individuals to warn future travellers.
[145] Register for Thermometer for Ankober, March 1841, Journal Manuscript Collection, JMS/3/14, the Royal Geographical Society, London, UK.
[146] Register, March 1841, JMS/3/14, RGS; for example, from 1-6 March 1841 the only entry filled out was for 3 March 1841.
[147] Register, March 1841, JMS/3/14, RGS.
[148] Register, March 1841, JMS/3/14, RGS; for example, from 1-6 March 1841 the only entry filled out was for 3 March 1841; On 11 March, Beke noted the occurrence of fog. On 17 (or 18) March, Beke recorded heavy rain occurring at 10 AM and lasting 2 hours, before resuming for a short time at 3:30 pm.
[149] Charles Beke to Unknown, 24 August 1841, Journal Manuscript Collection, JMS/3/14, the Royal Geographical Society, London, UK; According to Beke, the unnamed Frenchman was part of a French-led expedition led by Jean

George Cecil Renouard served as the referee for Beke's submission to the RGS, with Beke's letter to John Washington constituted the bulk of Renouard's review. Renouard was impressed with Beke's geographical, commenting that Beke's information on Shewa came "[...] with remarks tending to correct and enlarge our knowledge of that part of Abyssinia."[150] However, because the letter was a "private & confidential communication," there were some passages that were "not intended for publication."[151] Nonetheless, Renouard viewed the measurements taken by Beke (i.e. barometric, thermometric, and altitudes of mountains and lakes) as being " very fit for insertion in the Society's Journal."[152] In 1842, the Royal Geographical Society ultimately published two articles based on Charles Beke's journey to Abyssinia and Shewa.[153]

Why did Renouard see fit to approve Beke's submission for publication, while rejecting Johnston's submission? As seen with Johnston's submission, the lack of verifiable data, the incongruity of the data collected with prior samples, and the lack of a confirmation of native knowledge saw Renouard reject the submission with little hesitation. In contrast, Beke's submission was in dialogue with the exploratory work of Krapf, Isenberg, Rüppell, Combes, and D'Abbadie. Beke's measurements also mattered. In his published articles in *The Journal*, Beke provided astronomical, meteorological, and geospatial measurements that allowed metropolitan geographers to map, categorize, and see Abyssinia better than they had before Beke's

Alexandre Edmond Combes and Antoine Thomson D'Abbadie in the 1830s. However, both Combes and D'Abbadie led separate missions to Abyssinia.

[150] Referee's report by G.C. Renouard, ca. 1842, Journal Manuscripts Collection, JMS/3/14, the Royal Geographical Society, London, UK.

[151] Referee's report, ca. 1842, JMS/3/14, RGS.

[152] Referee's report, ca. 1842, JMS/3/14, RGS; In his RGS submission, Beke had claimed that he had included some maps for review. However, Renouard stated that there were no maps present in Beke's submission and could thus not judge them.

[153] Charles Tilstone Beke, "Communications Respecting the Geography of Southern Abyssinia," *The Journal of the Royal Geographical Society of London* 12 (1842): 84-102; Charles Tilstone Beke, "Route from Ankóber to Díma," *The Journal of the Royal Geographical Society of London* 12 (1842): 245-258.

contribution. This is evident in the following excerpt of Beke's article on Shewa, where Beke's positioned his measurements as improving upon the prior work of geographers:

> [May] 7th [1841] - Our friend the alaka [sic] would not allow us to proceed this day; and as I did not like to leave the neighbourhood without a single observation, I was not sorry at his friendly detention. During the night I had the only *chance* [sic] of an observation in the whole course of the journey - an observation by the double altitude of the moon's lower limb when *close on the meridian* [sic] was 104°28'; the index error of my sextant being 2'30". This would make the latitude 10°11'N.; which, as it corresponds very well with Mr. Krapf's and my own dead-reckoning, may be taken as the probable latitude of Sébcha. The clouds prevented me from observing the *exact* [sic] median altitude; and every other night has been too much overcast to admit of observations.[154]

In this entry, Beke detailed the methods used to determine the latitude of his location in Abyssinia, as well as the confounding factors that hindered his ability to take more accurate measurements.[155]

In the appendix to his article, a list is provided of the instruments and books used by Beke during his expedition. This collection included a sextant, an azimuth and pocket compass, two thermometers, another thermometer meant to measure altitudes; a pocket telescope for "general use;" a camera lucida "occasionally used" to make a few sketches; a "good pocket watch;" ruled papers for mapmaking; and copies of a nautical almanac, *Norie's Epitome of Astronomy and Navigation*, and *Jackson's Military Surveying*.[156] In contrast, Charles Johnston's published travel narrative contained a vague reference to Johnston's procurement of "instruments" for use in his expedition. However, neither Johnston's RGS submission nor his published travel narrative include a list of instruments used in the expedition. Further, there are no references to measurements taken by Johnston during his expedition. This is not to say that Johnston's

[154] Beke, "Communications Respecting the Geography," 96; In another article from Beke, Beke defines alaka/álaka as "chief." For more, see: Charles Tilstone Beke, "Abyssinia. Being a Continuation of Routes in That Country," *The Journal of the Royal Geographical Society of London* 14 (1844): 1-76.
[155] Beke, "Communications Respecting the Geography," 96.
[156] Beke, "Communications Respecting the Geography," 100.

narrative is bereft of ethnological descriptions of the people of Abyssinia. Rather the lack of measurements in Johnston's expeditions meant that Renouard and the RGS did not see Johnston's submission as adding much to their conception of geographical knowledge production. Finally, the use of instruments by travellers signalled both a commitment to adhere to the metropolitan standards of data collection and to signal one's commitment as men of science.[157]

Beke's article is structured as a travel narrative, where entries are written in the form of a diary based on dates and location. Beke narrated events, such as meetings with local notables and intelligence from enslaved individuals.[158] But more than that, Beke sought to situate his narrative within the context of prior geographical work and geographical measurements of the region. Beke's data collection – and in having the proper tools to collect that data – saw his submission be published, whereas Johnston's was not.[159] This discrepancy was not limited in data collection was not limited to the example of Beke or Johnston. Rather, the commonality of submissions like that of Johnston's saw the creation of a guides for would-be geographers to help them provide a more "scientific" account of their journeys.

Hints for Travellers

The early Victorian period (ca. 1837-1860) constituted a transitionary period in the history of British geography. As seen with Susan Faye Cannon's study, the expeditions of

[157] Dane Kennedy, *The Last Blank Spaces: Exploring Africa and Australia* (Cambridge: Harvard University Press, 2013): 57-59; Per Kennedy, "The importance explorers attached to cameras, sextants, chronometers, and other instruments was indicative of the way they sought to cast themselves as agents of scientific progress and enlightenment."

[158] Beke, "Communications Respecting the Geography," 86; For more on Beke's use of knowledge gained from locals, see Chapter 4 of this work.

[159] One point of further inquiry is how nineteenth-century would-be geographers were influenced by the continued publication of popular travel narratives; those works more invested in entertaining audiences than data collection. As we will see in the rest of this work, the distinction between popular and scientific travel narratives is not clear during most of the nineteenth century.

Alexander von Humboldt were emblematic of changes in field sciences dating back to the eighteenth century and the maritime voyages of James Cook and his contemporaries.[160] But this transition was not inevitable: it was contingent on a set of norms promoted and promulgated by geographical societies not just in Britain but across continental Europe. This process spanned decades, where older methods of surveying and traditional travel narratives continued to be produced while the model of Humboldtian science was privileged by the RGS and metropolitan geographers. In D. Graham Burnett's study of Robert Schomburgk's 1840s exploration of Guiana, older and haphazard methods of surveying and measurement collection continued to be used and promoted despite the practices of contemporaries such as Charles Beke.[161]

To promote best practices and technologies for would-be geographical explorers, the Royal Geographical Society published a guide, *Hints to Travellers*, in 1854. The impetus for this guide began in 1852, with a suggestion by the polymath (and RGS referee) Francis Galton. Galton requested for the need of such a guide to Roderick Murchison, the then-President of the RGS, stating:

> Sir, I beg earnestly to call the attention of the Council of the Geographical Society to a want which has been felt by many travellers, namely that of sound and detailed information on the subject of what instruments and what accessories, such as tables packings and stands, a traveller who proposes to visit really wild countries should procure in order to lay down a useful map of his journey.[162]

For his part, Francis Galton published his own book, *The Art of Travel*, in 1855 to provide advice based on his own experience travelling through southern Africa from 1850-1851. However, Galton's *Art of Travel* was narrowly focused on ensuring the survival of the reader with the first

[160] Cannon, "Humboldtian Science," 96-97
[161] Burnett, *Masters of All They Surveyed*. 37-38; According to Burnett, Schomburgk often relied on dead-reckoning and astronomical observations to find his way through the unknown interior. Further, Schomburgk often used "rhetorical strategies" to elevate the prior efforts of Walter Raleigh and Humboldt to legitimize Schomburgk's own efforts at being a geographer and surveyor.
[162] Francis Galton to Roderick Murchison, 18 May 1852, Journal Manuscripts Collection, JMS/21/20, the Royal Geographical Society, London, UK.

chapter devoted to where and how a traveller can find potable water.[163] After subsequent chapters on a variety of topics from bivouacking to handling cattle and horses on an expedition, Galton devoted the final two chapters on estimating the logistical needs of an expedition and the instruments needed to conduct the necessary measurements. Galton's book emphasized survival in an expedition, "whether they be explorers, emigrants, missionaries, or soldiers," with metrology being a secondary concern as explorers were not the only intended readership for the book.[164]

Where *The Art of Travel* reflected an attempt to primarily aid readers to traverse lands previously untrodden by Europeans, the RGS's *Hint to Travellers* was written as a guide for aspiring explorers. *Hints to Travellers* was first printed in an edition of *The Journal* in 1854, with a short preface written by two members of an RGS subcommittee tasked with the planning of *Hints*, Robert FitzRoy and Henry Raper.[165] The preface revealed the conflicted feelings among prominent RGS members regarding the role of the institution as the driver of British geography. When prospective travellers contacted the RGS for advice on travelling to a specific region of the world, the Council of the Royal Geographical Society did not hesitate to connect the prospective traveller with members already familiar with the region.[166] However, the FitzRoy and Raper argued that providing a general guide on travelling would be unfeasible for two reasons. First, they argued that such a guide would be voluminous and unwieldy, as "a complete

[163] Francis Galton, *The Art of Travel, or Shifts and Contrivances Available in Wild Countries* (London: John Murray, 1855): 1-15.
[164] Galton, "Preface," *The Art of Travel*; There was no page number for the preface, but it was the second page after the cover page.
[165] Henry Raper and Robert FitzRoy, "Hints to Travellers," *The Journal of the Royal Geographical Society of London* 24 (1854): 328-29; Robert FitzRoy (1805-1865) was a Royal Naval vice-admiral who served as the Governor of New Zealand from 1843-1845. Of course, Fitzroy is better known as serving as the captain of the second voyage of the HMS *Beagle* (1831-1836), where Charles Darwin's work would serve as the basis of his later theory of evolution by natural selection.
[166] Raper and FitzRoy, "Hints to Travellers," 328.

system of instructions" would "embrace every point which could present itself to the notice of the accomplished traveller."[167] More important, the writing of such a guide revealed disagreements among RGS fellows over the best practices of a would-be geographer.

Despite their reservations in fielding the guide, FitzRoy and Raper nonetheless suggested a few tools that would be "sufficient for the traveller's purpose" and "not too cumbersome or difficult to carry:"

> A sextant, horizon, pocket-sextant, Kater's compass, Rochon's micrometer, and a sympiesometer, two pocket-chronometers, two thermometers, two portable barometers, two aneroids, and two boiling thermometers. It would be very desirable to carry a second sextant or circle, an additional horizon, and another prismatic compass, in case of accidents. Writing and drawing materials, stationery, scales, tapes, and register-books, should be carried in convenient cases--water-tight, if possible. With these, or even a part of these materials, a complete map may be laid down.[168]

Numerous updates to *Hints to Travellers* – in 1864, 1871, 1878, 1883, and into the twentieth century – demonstrated how the RGS's guidelines and suggestions were never static, instead shifting in response to changes in technology, the experience gained from prior expeditions, and the priorities of the society. *Hints to Travellers* grew in length, ultimately becoming a volume spun from the pages of the journal. In the fifth edition of *Hints to Travellers*, the 300-page monograph functioned as a "convenient pocket book" for the "intelligent explorer" to record measurements that would be "valuable to science."[169]

[167] Raper and FitzRoy, "Hints to Travellers," 328; Specifically, FitzRoy and Raper understood that because the mission of the RGS was to explore and map the planet, the geographies, cultures, and circumstances that a traveller ventured into was so varied that a systemic guide for all eventualities was not feasible.
[168] Raper and FitzRoy, "Hints to Travellers," 329; As will be seen in chapter 4, suggestions for necessary gear in an expedition would balloon to include supplies of food, water, clothing, gifts, and weaponry that necessitated expeditions consisting of dozens of individuals, most of which was carried by the native inhabitants of the lands being traversed.
[169] H.H Godwin-Austen, John Knox Laughton, and Douglas W. Freshfield, Ed., *Hints to Travellers: Scientific and General* (London: Royal Geographical Society, 1883): iv; In this volume of *Hints*, the overwhelming bulk of the work is devoted to metrology, surveying, geology, and hydrology. The last third is devoted to a variety of other topics, such as ethnography, photography, and medical care in the field.

Even when measurements were taken and recorded in an expedition, submissions to *The Journal* were not automatic. In 1875, H.G. Prout submitted his meteorological measurements taken during an excursion from Khartoum to Obeiyad in Sudan.[170] Prout used French-made barometers to measure the air pressure, along with an indeterminate number of thermometers with him to measure both dry-bulb and wet-bulb temperatures.[171] However, Prout did not know the manufacturer for those thermometers, making it difficult for a referee to gauge the quality and reliability of the measurements taken.[172] Prout recognized the issues inherent with his measurements, stating that his "observations may have some popular interest they can have no scientific value."[173] Refereeing this submission, Francis Galton was equally dismissive of the scientific value of Prout's measurements:

> I regret to say that these observations are absolutely useless to us. Even as to the thermometers, the author himself says that they have no scientific value. He does not happen to remark the same concerning the barometric readings but it stands to reason that they must be even less reliable than the thermometric. The instruments are unverified and there is nothing to them that they were observed with the usual necessary precautions.[174]

Nonetheless, this setback did not dissuade Prout from submitting further observations to the RGS. In 1879, as part of an expedition by the Egyptian General Staff to Kordofan and Darfur, Prout took measurements as to the longitude and latitude of various towns along the expedition's

[170] Major H.G. Prout, "Thermometrical observations at Khartoum and from Khartoum to Obeiyad May 6 to July 6th, 1875," Report, Journal Manuscripts Collection, JMS/3/91, the Royal Geographical Society, London, UK.
[171] Measuring the wet-bulb and dry-bulb (i.e., air temperature) allows one to measure the relative humidity.
[172] Prout, "Thermometrical observations," JMS/3/91, RGS.
[173] Prout, "Thermometrical observations," JMS/3/91, RGS.
[174] Clement R. Markham and R.H. Jajor to Francis Galton, 15 December 1875, Journal Manuscripts Collection, JMS/3/91, the Royal Geographical Society, London, UK; The referee report took the form of a letter to be sent to Galton. However, Galton's comment was handwritten on the letter as his response. These comments were signed by him on 18 December 1875.

path.[175] Prout's submission was bundled with other submissions by the Egyptian General Staff, under the auspices of General Charles Pomeroy Stone and Colonel Erasmus Sparrow Purdy.[176]

Once more, Galton reviewed Prout's submission. Galton was amenable to the measurements of latitude and longitude taken by the expedition.[177] The latitude of five locations in Darfur and Kordofan were determined by night-time observation of stars such as Sirius and Ursa Major.[178] Even if the longitude was "determined by dead reckoning," Galton thought the results were suitable for publication in *The Journal*.[179] But regarding the barometric measurements taken in the expedition, Galton reiterated similar concerns regarding the thermometers used to measure the altitude of these locations, insofar that the lack of comparison with other thermometers and lack of identification casted doubt as to the reliability of the measurements.[180] It is a question as to why Galton accepted the rough calculations of longitude, but rejected Prout's barometric measurements. The key determinate appears to be Galton's belief that astronomical measurements *could* be compared by prior findings to determine if Prout's measurements were possible. In contrast, the barometric measurements could not be replicated elsewhere and demanded greater accuracy. As such, Prout's measurements were published in an

[175] Traductions d'un Rapport date d'Obeiyad (Kordofan), du 4 Janvier 1876 […], Report, 1876, Journal Manuscripts Collection, JMS/3/105, the Royal Geographical Society, London, UK.
[176] Cover Letter of "Observations to fix position of places in Darfur," 13 November 1876, Journal Manuscripts Collection, JMS/3/105, the Royal Geographical Society, London, UK; "Summary of Geographical and Scientific Results Accomplished by Expeditions Made by the Government of the Khedive of Egypt during the Three Years 1874-5-6," *Proceedings of the Royal Geographical Society of London* 21, no. 1 (1876-77): 65; Charles Pomeroy Stone (1824-1887) was an American military officer who fought in both the Mexican-American War and the America Civil War. After controversy regarding his conduct in the Battle of Ball's Bluff (1861), Stone was arrested, then released, over suspicions of treason. After the war, William Tecumseh Sherman recommend Stone as a viable candidate to lead and modernize the Egyptian Army. From 1870 to 1883, Stone served as the Chief of Staff for the Egyptian Army under Khedives Isma'il Pasha and Tewfik Pasha.
[177] Referee Report from Francis Galton, 15 November 1876, Journal Manuscripts Collection, JMS/3/105, the Royal Geographical Society, London, UK.
[178] "Latitude and Longitude of Stations on the route from 'Dara' to 'Hofrat el Nahas,'" 1876, Journal Manuscripts Collection, JMS/3/105, the Royal Geographical Society, London, UK.
[179] Referee Report, 15 November 1876, JMS/3/105, RGS.
[180] Referee Report, 15 November 1876, JMS/3/105, RGS.

article for the 1879 edition of *The Journal*.[181] Despite this, Prout's barometric measurements were again not published as it did not meet Galton's standards. But these standards were both idiosyncratic and rigorous in its adherence to accuracy and based on the peculiar demands of Galton. When assessing the development of professionalization in a scientific discipline, the standards of rigour and methodology are created by the community at large, reflecting the ideals and prerogatives of that community. But this also means that these standards are arbitrary in its prioritization of *certain* modes of data collection and by *who* created those standards. Galton's role as a referee and the author of the predominant guidebook for field geographers meant that Galton's peculiar standards influenced how disciplinary geography professionalized.

Both *Hints to Travellers* and the refereeing of journal submissions affected the writing of would-be explorers, even for those travellers who published their expeditionary reports outside of the purview of the Royal Geographical Society. By serving as a gatekeeper for the premier geographical journal in Britain (if not the Anglophone world) in the mid-to-late nineteenth century, the RGS became the default option for travellers to add their findings to the emergent scientific discipline of geography. But this gatekeeping also meant that certain modes of knowledge production – namely, knowledge from Africans themselves – was not prioritised by metropolitan referees. The standards of gatekeeping reflected not just peculiar prioritisation of certain practices but held assumptions about ability and legitimacy of non-Western people to produce scientific knowledge.

But among Westerners, travellers garnered scientific legitimacy in the face of social changes brought on by the emergence of white-collar work, urbanisation, and the Industrial

[181] H.G. Prout and W.J. Turner, "Notes upon some Astronomical Observations made in Kordofan and Darfur," *The Journal of the Royal Geographical Society of London* 49 (1879): 392-398.

Revolution. These societal changes added to the ability for those outside the circle of gentlemanly "men of science" to become members of that community.

Slaves of the Desk

As the historian John Tosh states in his study of nineteenth-century British industrialism and masculinity, that there was a close integration between "imperial impulses" and the "gender regime in Britain itself."[182] Tosh argues that Britain's turn to empire was a "negative response" to the impact of industrialization on British society. While initially the domain of the misfits of society, the allure of land in the empire and the possibility to write one's own future proved enticing for many men in the metropole.[183] The empire, then, became a site of where notions of masculinity could be practiced, maintained, and nurtured. In the 1850s and the 1860s, Eastern and Central Africa were not yet within the bounds of the empire. Nonetheless, the incursions of European missionaries and travellers into the region since the early-nineteenth century brought these regions to the attention of metropolitan audiences. The growing salience of the Nile Question – that is, the location of the White Nile's source – among British geographers by mid-century, had the effect of treating this region as being outside of boundaries of civilization, a place of possibilities. Later writing of his expedition to Lake Albert from 1863-65, Samuel White Baker would write about the perceived remoteness of the people of Central Africa:

> Cut off from the world, lost in the mysterious distance that shrouded the origin of the Egyptian Nile, were races unknown, that had never reckoned in the great sum of history - races that we have brought to light, whose existence had been hidden from mankind, and that now appear before us like the fossil bones of antediluvian animals. Are they vestiges of what existed in a pre-Adamite creation?[184]

[182] John Tosh, "Masculinities in an Industrializing Society: Britain, 1800–1914," *Journal of British Studies* 44 (April 2005): 342.
[183] Tosh, "Masculinities in an Industrializing Society," 339-340.
[184] Samuel White Baker, *The Albert N'yanza: Great Basin of the Nile and Explorations of the Nile Sources* (London: MacMillan and Co., 1888): 447.

But by itself, the remoteness from the metropole did not necessarily equate these regions with contemporary settler-colonies. However, the act of exploration provided that connection, where notions of toughness, moral steadfastness, and physical prowess could be idealized in the form of the explorer.

Writing about the masculine ideals adopted by polar explorers by the 1890s, Michael Robinson argues that in both the United States and Britain, anxieties emerged over the perceived deleterious effects of urban culture and "overcivilization,"[185] with the result being that the fruits of industrialization had caused a general decline of physical strength and an increase in mental illnesses among industrial societies.[186] Alongside a growth in the popularity of civic clubs and societies promoting outdoor activities such as mountaineering, Robinson contends that polar explorers, by virtue of being outside the negative effects of civilization, were perceived as preserving and embodying an otherwise endangered masculinity. For their part, these polar explorers adopted this idealized masculinity in their writings, further perpetuating this perception.[187]

There is no doubt that such anxieties of a weakening masculinity – and self-fashioning among polar explorers – occurred at the end of the nineteenth century. However, as seen with Tosh, industrialization and its resulting social effects did prompt those anxieties half a century earlier in Britain. Specifically, there was a curious fear of the detrimental effects of office work in various writings from the 1840s through the 1860s. William Howitt, writing in a 1841 book on his tour of famed English landmarks, expressed his worries about the increasing problems

[185] Michael Robinson, "Manliness and Exploration: The Discovery of the North Pole," *Osiris* 30 (2015): 94.
[186] Robinson, "Manliness and Exploration," 94.
[187] Robinson, "Manliness and Exploration," 94.

industrialization posed to English society.[188] Nonetheless, Howitt was also heartened by "an indefinable impulse" which identifies as "the nascent love of nature" when summer brings forth the "weavers and spinners, the thumpers and bumpers, the grinders and shearers, the slaves of the desk" to visit the outdoors.[189] In an 1862 article in *Blackwood's Edinburgh* magazine regarding the access of English watering places, the author, like Howitt, welcomed the summer, as it is "when the blue sky and warm breezes" woos the reader "from the desk or the counter."

The consequences of industrialization that fostered the professionalization and specialization of numerous scientific fields in Britain (and elsewhere) also contributed to the emergence of an anxiety that traditional understandings of manhood were unstable. This phenomenon can be seen in the review of travel literature concerning Sudan, a land well outside the bounds of civilisation to many in Britain. The narrative of John Petherick's sojourn in Sudan demonstrated how an individual operating outside the circle of gentlemanly science could nonetheless become seen as a trustworthy authority by fashioning an idealised persona of untamed, but virtuous, masculinity.[190]

In an 1861 book review of John Petherick's *Egypt, the Soudan, and Central Africa*, an uncredited *Blackwood's* writer extolled both Petherick's personal character and writing style. The review contrasted Petherick with the typical reader of *Blackwood's* magazine:

> The gentlemen of England who sit at home at ease and read of hardships in their rocking-chairs must think with no little amazement, and some little envy, of the physical and moral qualities constantly displayed by such adventurers as Mr. Petherick. Especially

[188] William Howitt, *Visits to Remarkable Places: Old Halls, Battle Fields, and Scenes Illustrative of Striking Passages in English History and Poetry* (Philadelphia: Carey and Hart. 1841): 258.
[189] Howitt, *Visits to Remarkable Places*,
[190] John Petherick (1813-1882) was a Welsh traveller, merchant, and mining engineer who gained fame in the late 1850s for his travel narrative of his time in Sudan. In 1845, Petherick arrived in Sudan as a mining engineer in service of the Egyptian administration of Sudan. From 1848 to 1859, Petherick engaged in the trade of both gum Arabic and ivory. In 1859, Petherick became the vice-consul of British interests in Khartoum. In 1861, Petherick published his narrative of his time in Sudan, *Egypt, the Soudan, and Central Africa*. For more, see: Bernard Verdcourt, *The Conchologists' Newsletter*, no. 132 (March 1995): 453-458.

> susceptible to such motions are we, the "slaves of the desk" - poor devils, for the most part, in all that respects physical energy.[191]

The review continues, stating Petherick is "a remarkable specimen of that Anglo-Saxon race which, in the strangely-mingled characteristics of knight-errant and trader, sends victorious children to every part of the habitable globe."[192] This, in contrast to the readership, who were composed of "men adventurous enough in the realms of imagination, but not in the least disposed to "rough it" in the bush."[193] Petherick's time in the Sudanese Nile is extolled, with the review noting instances of Petherick's bravery and virtuous conduct in the face of myriad adversities.

Petherick is presented as a heroic model of British masculinity, one where the virtues of masculinity was connected with the glories of exploration. In concluding the review, the reviewer explains their focus on Petherick's character, stating: "[we] have dwelt on the character of Mr. Petherick, because much of the charm and value of a traveller's work must depend on his personal qualities."[194] What goes unmentioned in the conclusion, however, is that the narrative casting Petherick as the virtuous exemplar of the masculine Victorian explorer was written by Petherick himself. But the location of Petherick's "exploits" mattered as much as Petherick's use of masculine tropes in self-fashioning a masculine persona. In the British cultural imagination, Africa's status as a "virgin" or "dark" continent made it a blank canvas where the imagination of the metropolitan reader could fill in the blanks while reading a travel narrative. This made the continent a proving ground for a masculinity that emphasised an imagined natural world, not

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[191] Anonymous, "Life in Central Africa," *Blackwood's Edinburgh Magazine* (April 1861): 440.
[192] "Life in Central Africa," 440, 452.
[193] "Life in Central Africa," 440; this disjuncture between the magazine's readership (those with imagination) and Petherick (roughing it in the bush) echoes the distinction made by T.H. Huxley, between those with book-knowledge lacking the expertise of workers with hands-on experience. As will be evident in the next chapter, the fact of being on the ground and operating beyond lands familiar to Europeans would be leveraged by self-proclaimed explorers as conferring expertise over metropolitan cartographers and audiences.
[194] "Life in Central Africa," 452.

bounded by known social conventions, and untainted by industrialisation and its perceived effeminising effects.

Much like the polar explorers of Robinson's study, then, Petherick wrote his narrative, whether intentionally or not, in a manner that invoked feelings of angst towards the deleterious effects of industrialization on British society and contrasted that to the adventures and drama found in first-hand in Africa. But another thing that this review tells us is that the trustworthiness of travel accounts – and later exploratory missions - depended upon the personal reputation of the explorer himself. In turn, personal reputation was dependent upon an individual following or transgressing societal norms and expectations. Whereas attempts to gatekeep the methodology of data collection was idealised as bringing a measure of "rigour" and "accuracy" to a nascent scientific field, Petherick's narrative in Sudan revealed that reputation based on social status did not disappear with the decline of the gentlemanly man of science. Instead, *how* a reputation was made or unmade had less to do with personal wealth or networking with gentlemanly peers, but more to do with an ability to build a public persona as a virtuous, masculine, and heroic figure operating outside the limits of "civilisation." That Western science became associated with civilising mission and colonialism meant that the subjective expectations that lent credibility to a man of science – in this case the "explorer" – was transformed, but not eliminated, in the era of professionalization.

Conclusion

At the centre of the process of professionalization and the emergence of the Royal Geographers Society as the centre of British geography is the issue of trust. Yet the question of whether a traveller accorded their expeditionary reports to the standards of the Royal Geographical Society can only partially explain whether a traveller was perceived as a

trustworthy "man of science" by his contemporaries in both the RGS and British society-at-large. Scientific knowledge production is embedded in the expectations and prerogatives of a given society, be it in the past or in the present. The Industrial Revolution and private investment in scientific ventures presaged the age of scientific professionalization in the latter-nineteenth century.

The discipline of geography was transformed by these forces, but on a greater level when it became an imperial science, inextricably connected with the growth of the British Empire. The emergence of the Royal Geographical Society after 1830 saw it become the "centre of calculation" for the discipline in Britain, if not the wider English-speaking world. The society's role in refereeing submissions to the *Journal of the Royal Geographical Society* saw certain methodologies of data collection and verification emerged, which in turn led would-be explorers to conform to the RGS's standards. The publication of Francis Galton's *The Art of Travel* (1855) saw the further standardization of methods that proved influential for later explorers through the remainder of the century, even if these standards were the result of Galton's own peculiarities.

The standardisation of practices within disciplinary geography did not end subjective measures of how to trust the testimony of an explorer in Africa. Travellers fashioned their personas in accordance with these social and political expectations could garner the admiration and trust given to exemplary explorers. Changes in British society in the mid-nineteenth century brought by the Second Industrial Revolution, the weakening of the gentry's pride of place in British politics, and the anxieties on the matter of manhood and nature contributed to an environment whereby travellers could present themselves as scientific authorities based on crafting a persona that allayed these anxieties.

But the emergence of these methods was not unchallenged by established metropolitan geographers. The old network of gentlemanly science, the development of scientific theories in the fields of geology and the natural sciences brought sharp disagreements to the fore. Coinciding with the height of Nile exploration, the debates between field and metropolitan geographers revealed how trustworthiness as a man of science relied less on accurate data collection than a commitment to uphold ideological programmes and moral standards of behavior.

CHAPTER 2

Reputation and Legitimacy in Solving the Nile Question

A year after from his ill-fated encounter with John Hanning Speke at a small supply depot in Gondokoro in 1863, John Petherick's reputation laid in tatters. The once-respected vice-consul of British interests in Khartoum, Petherick made a name for himself as a prominent explorer in Africa from 1845 to 1859. Operating in territories that are now part of Sudan and South Sudan, Petherick travelled into regions then-unvisited by other Europeans. The most significant of these journeys was to the Bahr el Ghazal river, located in the Sudd swamplands, an impenetrable obstacle for earlier expeditions.[1] After a final Nile expedition in 1858, Petherick returned to Britain in 1859, publishing a book of his exploits.[2] Due to his reputation as an explorer, the Royal Geographical Society (RGS) approached Petherick to help in solving the Nile Question and the growing dispute between John Hanning Speke and Richard Francis Burton.[3]

Speke and Burton's expedition of 1856-59 explored the Great Lakes Region of Africa, with the goal of determining the source of the Nile River. Instead, the expedition ended in a bitter dispute between Speke and Burton over whether the Victoria or Lake Tanganyika

[1] "Address: At the Anniversary Meeting of the Royal Geographical Society, May 28, 1869, by the Earl DeGray and Ripon, President.," *The African Repository* no. 6 (1 June 1861): 172; Bernard Verdcourt, *The Conchologists' Newsletter*, no. 132 (March 1995): 453-458.

[2] John Petherick, *Egypt, the Soudan and Central Africa*, 480; For more on the reception to Petherick's narrative, see "Slaves of the Desk" in chapter 1 of this work.

[3] I refer to the series of debates and controversies surrounding the source of the Nile as "the Nile Question." This is because to frame Speke's actions as a "discovery" is problematic given that the term not only implies the discovery of a geographical feature, but the discovery of peoples and communities long integrated with the global economy. For general readings on the Nile Question, see: Tim Jeal, *Explorers of the Nile* (New Haven: Yale University Press, 2011); Moorehead, Alan. *The White Nile* (New York: Harpers, 1960); For a reading on nineteenth-century British exploration, see: Dane Keith Kennedy, *The Last Blank Spaces: Exploring Africa and Australia* (Cambridge: Harvard University Press, 2013); James L. Newman, *Paths Without Glory: Richard Francis Burton in Africa* (Washington, D.C: Potomac Books, 2010); The question of the source of the Nile refers to the source of the White Nile, one of the two primary tributaries of the Nile that converge at Khartoum. The other tributary, the Blue Nile, has its source at Lake Tana in Ethiopia.

constituted the river's true source.[4] The launch of a new expedition in 1861 to confirm (or refute) Speke's claim would see Petherick's involvement in the region north of Victoria Nyanza, providing supplies to Speke's expedition while also charting the region in the service of British geography.

Yet by the end, Petherick's reputation as an explorer was ruined. Speke's belief that he was abandoned by Petherick and separate accusations of complicity in the Nile slave trade ended Petherick's involvement in British geography. Despite fashioning a persona that exuded the masculine archetypes of Victoria, the so-called "knight-errant" of British exploration was no longer considered reputable nor moral enough to collect and collate geographical knowledge. This example showed that despite a vocal commitment to accuracy and objectivity in the measurement of the world, British geography during the mid-nineteenth century was nonetheless still a community where subjective measures of moral and virtuous worth determined a geographer's trustworthiness in creating scientific knowledge.

What had changed since the era of the gentlemanly "man of science" was that the *particular* standards of morality and virtue used to judge trustworthiness had shifted to emphasise ideological and moral stances of importance in mid-nineteenth century Britain. A commitment to opposing slavery or in projecting masculine values were one way for geographers to bolster their reputation as trustworthy. But another key development was that the very act of *being over there* lent field geographers a credibility to make scientific claims that were against predominant theories of metropolitan geographers. The transition from the

[4] The lake is variously referred to by British geographers as Lake Victoria, the Victoria Nyanza, the Nyanza, or Lake Nyanza. This is not mentioning the various names applied to the lake by the population around its shores. I have chosen to use 'the Victoria Nyanza' as the term preserves the modern and ubiquitous name for the lake, while also acknowledging that the lake was only unknown to Europeans and not to the millions of people who lived in the lake's environs before the arrival of Western geographers.

gentlemanly mode of geography to a professionalised field was not unchallenged. Rancorous debates and polemical broadsides characterised the intra-discipline discourse of British geography from the late 1850s onwards. Scientific credibility depended as much as maintaining a set of moral and ideological commitments as it did on whether one's claims were correct or not.

This chapter examines the issue of scientific credibility authority through the lens of Nile exploration from 1858 to 1865. This era constitutes the height of the Nile Question as a motivating force in British geography. Through the expeditions of Burton, Speke, Petherick, and Samuel White Baker, the quest to solve the Nile Question highlighted the ways in which geographical knowledge production was bound with the rhetoric, aesthetics, and actions of these individuals and their reception by metropolitan audiences. I argue that such factors mattered for geographers to determine the veracity of eyewitness testimony. As historians of science have argued, "men of science" in Victorian Britain were expected to comport themselves as dispassionate gentlemen, free from financial and emotional bias.[5]

1861-1863: Petherick and Measuring the White Nile

John Petherick's experiences in Sudan and the subsequent publication of *Egypt, the Soudan and Central Africa* (1861) launched his career as one of Britain's most prominent explorers in Africa. Given his familiarity with the region north of Victoria Nyanza, John Petherick was invited to join the second Nile expedition of 1861-1863. While John Hanning Speke, his partner James Augustus Grant, and their expedition would arrive at Zanzibar and

[5] Readings on the topic of "gentlemanly scientists" in eighteenth and nineteenth-century Britain include: Jim Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: University of Chicago Press, 2010); Anne Secord, "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History," *The British Journal for the History of Science* 27, no. 4 (December 1994): 383-408; The theme of the gentlemanly scientist emerges in histories of the early-modern era surrounding the formation of the Royal Society and the circle of scientists exemplified by Sir Francis Bacon. See Steven Shapin and Simon Schaffer, *Leviathan and the Air-Pump: Hobbes, Boyle and the Experimental Life* (Princeton: Princeton University Press, 2011) and Steven Shapin, *A Social History of Truth: Civility and Science in Seventeenth-Century England* (Chicago: University of Chicago Press, 1994).

move north towards the Victoria Nyanza, Petherick was to return to Khartoum and organize supplies for Speke. Petherick was to then traverse the Sudd swamplands and set up a supply depot at the village of Gondokoro, at the southern terminus of the Sudd.[6] Speke's arrival at Gondokoro would not only function as a place of respite but would serve to bookend Speke's expedition over unknown territory. Believing that Petherick was "particularly fitted" to engage in this expedition, the RGS solicited public donations to fund the estimated £2,000 cost of Petherick's expedition, although only £1,000 was raised and given to Petherick.[7] Petherick agreed to serve in this expedition and returned to Khartoum in mid-October 1861.[8]

John Petherick's involvement in this expedition elevated his reputation further, to a prominent position among contemporary explorers. In musing about the shared origins of Africa's great rivers, J.F. Napier Hewett ranked Petherick, alongside David Livingstone, Richard Burton, and John Hanning Speke as the explorers most likely to solve this mystery.[9] In a book review of Petherick's *Egypt, the Soudan, and Central Africa* (1861), *Blackwood's Edinburgh* magazine extolled both Petherick's personal character and writing style.[10] In these reviews, Petherick ranked among the equals of contemporary explorers, one who could answer the Nile Question. This claim was made despite Petherick's lack of credentials as a trained cartographer, surveyor, or naturalist.

Nonetheless, Petherick sought to present himself as a scientifically minded traveller when he launched his relief expedition in 1862. Prior to Petherick's calamitous encounter with Speke

[6] "Life in Central Africa," *Blackwood's Edinburgh Magazine,* April 1861: 452-453; Gondokoro is near the site of modern-day Juba, the South Sudanese capital.
[7] "Life in Central Africa," 458; Verdcourt, *The Conchologists' Newsletter*, 453-458; "The Sources of the Nile," *The African Repository* no. 3 (1 March 1861): 95.
[8] Katherine Petherick, "Mrs. Petherick's African Journal, *Blackwood's Edinburgh Magazine*, June 1862: 673-701.
[9] J.F. Napier Hewett, *European settlements on the west coast of Africa: with remarks on the slave-trade and the supply of cotton* (London: Chapman and Hall,1862): 381.
[10] Anonymous, "Life in Central Africa," *Blackwood's Edinburgh Magazine*. April 1861, 440-453.

and Samuel White Baker, Petherick's expedition through the Sudd and White Nile was defined by a commitment to data gathering, typified by a commitment to measurements his surroundings.[11] In this, Petherick sought to emulate contemporaneous explorers in gathering scientific knowledge by means of measuring his environs. However, this meticulous data gathering proved ineffective in protecting Petherick's reputation because as important as such data was for metropolitan geographers, the trustworthiness of an explorer was based on moral and societal expectations. Petherick's perceived failure to assist John Hanning Speke and his rumoured role in the Nile slave trade destroyed Petherick's credibility to create scientific knowledge.

As covered in chapter 1, the act of observation for naturalists and explorers necessitated an "expert, discipline, methodical observing" of people and their lands.[12] As Johann Fabian notes in his study of Central African exploration, the "observing nature" is the key component in the production of scientific knowledge.[13] The act of being present and of seeing Africa allowed explorers to assert their authority over a given geographical question. But how did they demonstrate this? Despite the existence of photography by the 1860s, the explorers of the Nile did not use the technology; images from the expedition were in the form of stylized illustrations that depicted moments of crises in a given expedition, as well as he ethnological and botanical landscape of Africa. Instead, a way in which explorers demonstrated their authority was in the collection of hard data. While physical artefacts were collected, the collection of measurements was the most important data collected by explorers in their expeditions. In sending their

[11] For more on the intellectual influences that saw the emergences of a holistic "Humboldtian science,"
[12] Daniela Bleichmar, *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment* (Chicago: University of Chicago Press, 2012): 44, 66, 79-122.
[13] Johannes Fabian, *Out of Our Minds: Reason and Madness in the exploration of Central Africa* (Berkeley: California University Press, 2000): 180.

measurements, be it coordinates, distances travelled, the length and depth of bodies of water, and of the local weather, such information would be incorporated into the maps and descriptions produced by both cartographers affiliated with the Royal Geographical Society and to those outside the organization. But did this not mean that there was a predetermined way of taking those measurements, nor a set list of instruments to be used to take those measurements. The standard that would emerge by the 1860s was one contingent on the examples of numerous explorers, across numerous continents.

In his study of the nineteenth-century explorer of British Guiana, Robert Schomburgk, D. Graham Burnett highlights a case where the creation of geographical knowledge was done in a haphazard way that nonetheless gestured towards this wider commitment to measurement. In surveying the Orinoco basin, Schomburgk relied on dead-reckoning and astronomical observations to find his way through the region's interior. Further, Schomburgk often used what Burnett termed "rhetorical strategies" to elevate Schomburgk's own efforts by connecting them with prior expeditions to the region conducted by Humboldt in 1800 and even that of Sir Walter Raleigh in the sixteenth century.[14] For Burnett, the act of measuring was only one aspect of work of the explorer; it mattered as well how the explorer wrote and packaged those findings to the wider geographical community. This "packaging" was as much autobiographical as it was based on a meticulous commitment to accuracy in data collection.

An example of what Burnett describes can be seen in the writings of a participant in John Petherick's 1862-1863 expedition to relieve Speke. Clarence Melville Brownell, an American traveller, was enjoying the sights and sounds of Egypt when he heard about Petherick's planned expedition towards Gondokoro in 1862. A trained physician, Brownell turned down an offer to

[14] D. Graham Burnett, *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado* (Chicago: University of Chicago Press, 2000): 37-38, 92-98.

command a Connecticut regiment during the American Civil War to continue on with a years-long trip that had taken him to Peru, Amazonia, Cuba, and the Mediterranean.[15] In his diary of his trip, Brownell made it a point to lead off every entry with a dutiful recording of the weather, describing the wind velocity and direction, whether it was sunny or not, and the air and water temperatures.[16] Annoyed with himself with leaving his thermometer in Cairo, Brownell later acquired several more along the way in order to allow him to measure the temperature throughout the day.[17] This was a point of pride for Brownell. While sailing up the Nile with a hired Egyptian crew, Brownell felt as if he had impressed crewmate by guessing accurately the speed and direction of the day's wind. Brownell further remarked that "[all] the crew marvel at my testing the temperature of the water every day; and I hear them discussing it among themselves."[18] In the act of measuring and data collecting, Brownell felt as if he demonstrated his mastery of scientific knowledge to his Egyptian and Sudanese crewmates.

At Khartoum, Brownell met with both John and Katherine Petherick.[19] Brownell expressed admiration for Petherick's prior exploration of the region.[20] After receiving and accepting an offer by Petherick to join the expedition as both the chief botanist and to "take

[15] Clements Library Finding Aids, "Brownell family papers, Clements Library, University of Michigan,"https://quod.lib.umich.edu/c/clementsead/umich-wcl-M-3468.2bro?view=text (accessed 20 February 2020); the brief biography afforded to Brownell on this page is the only biography of the man.
[16] Charles Melville Brownell, diary, "Last Journal of Clarence Melville Brownell," 2 January 1862 to 13 May 1863, SAD.424/9/4-108, the Sudan Archive at the Palace Green Library, Durham University.
[17] Brownell, entry for 3 January 1862, "Last Journal," SAD.424/9/7; Brownell, entry for 9 January 1862, "Last Journal," SAD.424/9/20; It's unclear how Brownell got a hold of several thermometers at once, only that he begins recording temperatures in his diary from this date forward. In prior entries, Brownell gave descriptions of the whether as "chilly" or "warm."
[18] Brownell, entry for 18 January 1862, SAD.424/9/53.
[19] Charles Melville Brownell, diary, "Last Journal of Clarence Melville Brownell, entry for 9 March 1862, SAD.721/1/54, the Sudan Archive at the Palace Green Library, Durham University; the reference numbers between the first half and second half of Brownell's diary differ due the Sudan Archive keeping two separate typescript manuscripts of Brownell's diary.
[20] Brownell, entry for 11 March 1862, SAD.721/1/57.

charge of the astronomical department," Brownell remained in Khartoum as preparations for the expedition were finalized. According to Brownell:

> Mr. Petherick goes under the patronage of the British government, and has received about 1000 pounds from the [Royal] Geographical Society. The expedition consists of Mr. Petherick & his wife, Dr. James Murie, Myself, Henry Foxcroft, and English lad [sic], and about 200 men; a part (40) of which are soldiers provided by the government here. There are four boats going, and several more are already up the river. Everything in the way of stores, arms, instruments & articles of trade has been provided with the greatest care; and we take about 40 donkeys for transportation in the interior: In short, I only fear that too much has been provided.[21]

On 22 March 1862, Petherick's expedition departed Khartoum for Gondokoro.[22] Along the way, Brownell dutifully recorded measurements taken by him and the rest of the expedition. A typical example can be found in his entry of 11 April 1862:

> Friday 11th.
> Clear 14. Cloudy 6. Clear. At 3 P.M. a smart shower for an hour, with much lightening [sic] and thunder, & a strong breeze from S.W. Calms & light airs through the day. 81° 6 P.M. Water (Sobat river) 82° Air 77° 6 A.M. 90° M. 77° 3 P.M A heavy dew in the morning.
> At noon we arrived at the mouth of the river Sobat, which enters the Nile from the S. by E. opposite a large island. It is some 3 or 400 yards wide. The Nile joins it at a right angle, having an E. by N. course. We here got right of the Consul's dakabiyek [sic], but did not come with it till sunset. They had been waiting for us two days, as we have not seen each other for two weeks.[23]

As the expedition made its way slowly through the marshes of the Sudd, Brownell's diary consists of measurements painstakingly taken throughout the day. These measurements were no longer limited to the weather or river levels, but included the measurements of ant hills, the elevation of the surrounding land, and the height of the local shrubbery.[24] In contrast to his entries when he toured Egyptian ruins, where anecdotes predominated his writing, his

[21] Brownell, entry for 11 March 1862, SAD.721/1/57; As Brownell's entry states, the geographical expeditions depended on the labour and support of non-Europeans. Knowledge production was impossible without their labour and knowledge. For more context on the indigenous foundations of British geography, please refer to chapter 4 of this study.
[22] Brownell, entry for 22 March 1862, SAD.721/1/64.
[23] Brownell, entry for 11 April 1862, SAD.721/1/86.
[24] Brownell, entry for 17 April 1862, SAD.721/1/91.

expeditionary entries demonstrated a commitment to measurements. The only break from this monotonous routine came when Brownell either engaged in the shooting of wild game or in disciplining the Sudanese and Egyptian sailors and porters in his charge.[25]

It is unknown whether Brownell intended to publish his diary for public consumption. As the examples of Petherick, Burton, and Speke show, publishing expeditionary journals was a regular occurrence for self-declared explorers. If Brownell sought to showcase his measurements to either the geographical community in Britain or America, his death made that a moot point. In what Petherick would later describe as a case of "negligent exposure," Brownell succumbed to an illness on 20 May 1862 along the banks of the Sudd.[26] Regardless of Brownell's intentions, his meticulous measurements remained unseen by the wider geographical community, and therefore Brownell remains an obscure figure in the history of Nile exploration.

Brownell was not alone in collecting data along the meandering journey through the Sudd marshes. John and Katherine Petherick divided the duties of recording their expedition. John Petherick took charge of the measurements through the expedition, recording the compass course, the distance travelled per day, their approximate coordinates, and general remarks on the weather inside a specially produced notebook for travellers, with the left page with a printed table for data entry, and the right page dedicated to any commentary Petherick may write. (see Figure 1).[27] In contrast, Katherine Petherick kept a separate diary devoted to writing a narrative of the journey, not bothering to keep measurements in her entries unless pertinent to the day's

[25] Brownell, entry for 25 April 1862, SAD.721/1/96; Brownell, entry for 2 May 1862, SAD.721/1/100; Brownell, entry for 12 May 1862, SAD.721/1/108; for more on his use of violence against his Egyptian and Sudanese subordinates, refer to chapter 4 of this work.
[26] John Petherick to H.B.M Consul General R.G. Colquhoun, letter, 25 May 1862, SAD.424/9/2, the Sudan Archive at the Palace Green Library, Durham University; it is unclear what illness Brownell succumbed to, although the death of a foreigner in Central Africa to a tropical disease was a regular occurrence during this time.
[27] John Petherick, diary, "Travel journal in the Sudan," August 1862 to June 1863, MS.5787, John Petherick Collection, Wellcome Library, London, UK.

entry.[28] Katherine Petherick expressed her gratitude for a fortunate past year in her entry of 1 January 1862, expressing hope that "the good God" would continue to provide in the coming year.[29] She later devoted considerable attention to the events of the journey until the Pethericks' returned to Khartoum in July 1863.[30]

These findings were published in 1865 in the *Journal of the Royal Geographical Society*.[31] In 1869, Petherick finally published his full account of this expedition, *Travels in Central Africa*.[32] However, it is worth comparing these accounts of his 1862-63 expedition with his earlier 1861 book on his time in Sudan since the 1840s and 1850s.[33] Petherick's first book reads like a travel narrative, highlighting his adventures and travails during his years-long stay in the region. The book lacked an appendix where charts and data could be catalogue without disrupting the flow of the travel narrative. Nonetheless, Petherick ended his book by recounting a few dozen words from three local languages he encountered in the region ("Neam Nam," "Baer," and "Dor"), along with a list of 26 "bird-skins" brought back to Britain.[34] Petherick provided ethnographical and geographical descriptions woven throughout the text of his study.

In contrast, John Petherick's 1865 report to the *Journal* mixed his travel narrative with data tabled and mapped for the society's readership. Petherick's astronomical observations were computed and tabulated by Edwin Dunkin at the Greenwich Observatory.[35] These observations

[28] Katherine Harriet Petherick, diary, "Travel journal in the Sudan," January 1862 to July 1863, MS.5788, John Petherick Collection, Wellcome Library, London, UK.
[29] Katherine Petherick, entry for 1 January 1862, MS.5788.
[30] It is unclear if the decision to have John Petherick take charge of collecting measurements was a result of a gendered assumption that he would be better at the task than Katherine Petherick.
[31] John Petherick, "Land Journey Westward of the White Nile, from Abu Kuka to Gondokoro," *Journal of the Royal Geographical Society of London* 35 (1865): 289-300.
[32] John and Katherine Petherick, *Travels in Central Africa and Explorations of the Western Nile Tributaries* (London: Tinsley Brothers, 1869).
[33] John Petherick, *Egypt, the Soudan and Central Africa: with Explorations from Khartoum on the White Nile to the Regions of the Equator being Sketches from Sixteen Years' Travel* (Edinburgh: William Blackwood and Sons, 1861).
[34] Petherick, *Egypt, the Soudan and Central Africa*, 480-482.
[35] Petherick, "Land Journey Westward," 298-299.

allowed for calculation of the coordinates of locations in the 1862-63 expedition, such as Khartoum, Gondokoro, and the "mouth of the Bahr-el-Ghazal."[36] Likewise, Petherick's measurement of temperature differences between thermometers was used to determine the altitude of various locations.[37] As for Petherick's 1869 book on this expedition, the two volumes of the book provide an extensive catalogue of tables and appendixes. In *Travels in Central Africa*, Petherick devoted spaces to two appendices regarding the fishes, turtles, and chameleons of the White Nile.[38] These calculations and catalogues transformed Petherick's travel narrative into a work of geographical scholarship. It signalled Petherick's desire to present himself as a geographer and a "man of science."

In December 1862, Petherick and his expedition arrived at Gondokoro after a journey of several months.[39] However, the expected rendezvous with Speke did not occur. Unbeknownst to Petherick, Speke's expedition was delayed in Bunyoro and Buganda because of Speke's unfamiliarity with the political lay of the land. This delay forced Petherick to stay in Gondokoro for a year as he waited for Speke. Given the opportunity to travel the region around Gondokoro, Petherick and his expedition travelled away from Gondokoro and did not return until February 1863. Days earlier, Speke and James Augustus Grant had arrived in Gondokoro, with Speke believing that he had been abandoned by Petherick. So, too, had Samuel White Baker, a sportsman and plantation owner in Ceylon who had taken the opportunity presented by Speke's expedition to make himself an explorer as well. Baker's surprise involvement altered the trajectory of Petherick's career as an explorer. Speke's anger and Baker's own desire to share in Speke's limelight saw Petherick's reputation be damaged beyond repair. But Baker's role was

[36] Petherick, "Land Journey Westward," 299.
[37] It is unclear if any measurements provided in Charles Brownell's journal was incorporated in Petherick's report.
[38] Petherick, *Travels in Central Africa*, 189-250.
[39] Jeal, *Explorers of the Nile*, 186.

not in providing more "accurate" measurements or being more familiar with the region than Petherick. Instead, Baker leveraged British antipathy to slavery to position himself as a better representative of British interests in Central African than Petherick. In aligning himself with the ideological prerogatives dominant in mid-nineteenth century Britain, Baker transformed himself into one of the major explorers operating in Africa.

John Petherick, Samuel White Baker and the Nile Slave Trade

In 1862, having completed his own expedition of the Blue Nile in Abyssinia, Samuel White Baker planned to launch his own expedition along the White Nile, taking supplies and provisions to Gondokoro to rendezvous with Speke.[40] This decision came in the wake of Baker's sojourn in the Carpathian Mountains and Anatolia, where Baker spent most of his time hunting wild game.[41] Baker's decision came as a result of a whim, as news of the Speke expedition of 1861 – and the quest to solve the Nile Question – offered Baker an opportunity to achieve some level of fame and glory.

A few months after Petherick's departure in 1862, Samuel White Baker made his way to Petherick's residence in Khartoum. Entering the residence, Baker was awed by Petherick's personal menagerie of two ostriches, two leopards, one hyena, and a bamboo.[42] Baker did not address how his plans conflicted with Petherick's. Nonetheless, Baker reported about his time in Khartoum and his meetings with the European community present in the city. Baker provided a rough ethnographic report of Khartoum; for example, he acknowledged the importance of the *gum arabic* trade in the commercial life of the city on see the markets. But slavery, Baker

[40] Thomas Paul Ofcansky, "Baker, Sir Samuel White (1821–1893)," *Oxford Dictionary of National Biography*, Jan 2008, http://www.oxforddnb.com.proxy.library.vanderbilt.edu/view/article/1135 (accessed 4 March 2017).
[41] Ofcansky, "Baker, Sir Samuel White."
[42] Samuel Baker, *The Nile tributaries of Abyssinia, and the sword hunters of the Hamran Arabs* (London: Macmillan and Co., 1867): 557.

contended, was the economic lifeblood of the city.[43] Baker explained that the slave trade along the Nile served as a multinational affair, with traders from across Western Eurasia engaging in the buying and selling of human beings:

> The people for the most part engaged in the nefarious traffic of the White Nile are Syrians, Copts, Turks, Circassians, and some few *Europeans* [sic]. So closely connected with the difficulties of my expedition is that accursed slave-trade, that the so-called ivory trade of the White Nile requires an explanation.[44]

Baker's published remarks on the Nile slave trade constituted a central motif of his narrative what will be his expedition to Central Africa, *The Albert N'yanza* (1866). Throughout the narrative, Baker takes pains to repeatedly denounce the institution of slavery. However, his unpublished journals on this expedition – which would become the basis of his published work – Baker reacted less negatively to the evils of slavery. Baker was dubious on the benefits of emancipation and believed many of the slaves are "well-treated."[45] Ultimately, Baker believed that any misery suffered by slaves is a consequence of "their own system."[46] Baker's views in these 1862 accounts would be in stark contrast to his later reputation as a staunch abolitionist.[47]

On meeting Petherick in Gondokoro in March 1863, Baker and Petherick engaged in acrimonious talks regarding prior rumours of Petherick's involvement in the slave trade.[48] Baker had reported on rumours in Khartoum of Petherick's wealth stemming from slave trading. But in Gondokoro, Baker accused Petherick of both abetting the slave trade among members of Petherick's expeditionary party and in engaging in cattle rustling.[49] Baker accused Petherick's men of being "lawless scoundrels" who robbed legitimate merchants and engaged in slaving and

[43] Baker, *The Albert N'yanza*, 12.
[44] Baker, *The Albert N'yanza*, 13.
[45] Samuel Baker, journal, entry for 22 August 1862, RGS/S.W.B-1, Royal Geographical Society.
[46] Baker, journal, entry for 24 August 1862, RGS/S.W.B/1.
[47] Baker's status as an opponent to the Nile slave trade will be examined in-depth in chapter 4.
[48] Baker, journal, entries for 8-23 March 1863, RGS/S.W.B/2.
[49] Baker, journal, entry for 8 March 1863, RGS/S.W.B/2; Superficially, Baker accused Petherick of stealing cattle from local peoples in the environs of Gondokoro.

cattle rustling.[50] Despite Baker's initial view of Petherick as a hapless victim carried forward by the whims of his own men, Baker stated that Petherick relented and acknowledged his role in cattle rustling, but not of slave trading.[51] When Petherick threatened to leave Gondokoro, Baker warned him that the charge of cattle rustling would continue to haunt him.[52] While Petherick would return to Khartoum, the allegations of impropriety continued to spread. In a 1864 letter written to an unknown RGS fellow, John Hanning Speke denounced Petherick's conduct in Gondokoro and reiterated his support to Baker, to whom he would assist in exploring Central Africa by means of supplying maps of the region.[53] This anger was so evident in so many of Speke's letters that Roderick Murchison, President of the RGS, felt they were "violent" in tone.[54] Finally, Speke's published account of the expedition, *Journal of the Discovery of the Source of the Nile* (1864), praised Baker's steadfastness and condemned Petherick's greed.[55]

In reporting these rumours of Petherick, Baker bolstered his own reputation as an explorer in two steps. First, Baker positioned himself as the enemy of the slave trade, which defined his characterization of his own expedition. Second, Baker's testimony would further sully Petherick's reputation as an explorer once Speke returned to Britain. Meanwhile, Baker's status as an explorer only increased. In gaining Speke's favour, Baker used Speke's information of the region to explore additional lands, culminating in his expedition to Lake Albert in 1864.[56]

[50] Baker, journal, entry for 8 March 1863, RGS/S.W.B/2; Baker, journal, entry for 9 March 1863, RGS/S.W.B/2; Cattle rustling refers to the theft of cattle, also known as cattle raiding.
[51] Baker, journal, entry for 11 March 1863, RGS/S.W.B/2.
[52] Baker, journal, entry for 19 March 1863, RGS/S.W.B/2.
[53] John Hanning Speke to the Royal Geographical Society, letter, 19 February 1864, RGS/JHS/1/46, the John Hanning Speke Collection, the Royal Geographical Society, London, UK.
[54] Verdcourt, "John Petherick," 458.
[55] Speke, 542-545,
[56] Ofcansky, "Baker, Sir Samuel White."

Dejected by Speke and Baker's animosity, Petherick and the remnant of his expedition departed Gondokoro for Khartoum in March 1863.[57]

Whether contemporaries accepted the geographical claims made by explorers had less to do with the validity of said claims than the aesthetics of trustworthiness. Be it by rhetoric, in adhering to politically ascendant ideas, or in the treatment of one's peers, what determined an explorer's reputation and trustworthiness were a whole host of factors besides facts or evidence. Rudwick, in his study of the Devonian controversy among British geologists in the 1830s, said:

> For scientific status...could go down as well as up. The competence attributed to any individual could change markedly in the course of time, either upward through the production of work that others regarded as plausible and important, or downward by the production of work that was found implausible or trivial, or by simple failure to produce anything. Competence was not attributed once and for all, but earned and cultivated, worked for and maintained.[58]

To cultivate and maintain one's competence as an explorer, then, was to conform to the societal and cultural norms of Victorian Britain. Petherick's struggles revealed the extent to which the credibility to make scientific truth claims relied on an explorer's ability to self-fashion a persona that upheld the predominant moral and ideological standards of metropolitan audiences. The importance given to *discovery* among geographers meant that only one person could ever be given the title of *discoverer*. As such, the ability to bolster and maintain one's reputational authority and credibility as a "man of science" was a zero-sum game. In Petherick's case, he lost to Baker and Speke. Baker, despite privately voicing sympathetic thoughts on the institution of slavery, nonetheless succeeded in achieving the fame and renown he sought.[59] Speke, on the

[57] John Petherick and Katherine Petherick, *Travels in Central Africa*, and explorations of the western Nile tributaries (London: Tinsley Brothers, 1869): 316-317.
[58] Martin Rudwick, *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists* (Chicago: University of Chicago Press, 2011): 420.
[59] For more on Baker's self-fashioning as a militant abolitionist, see chapter 3 of this work.

other hand, would face repeated attacks on his character that led to the weakening of his reputation, despite the fact that Speke was correct.

Speke and MacQueen: Geographical Knowledge and Humility

Despite this, Petherick's plight was overshadowed by the rapturous reception John Hanning Speke received in Britain upon Speke's return in 1863. In solving the Nile Question, Speke was hailed as the hero of British geography and of British science. The riddle that had befuddled Herodotus and Ptolemy, that had launched a failed Roman expedition under Nero, and that had confounded European geographers for over a millennium, had seemingly been solved. The mystery of the Nile was at an end.

Perhaps. But for Richard Francis Burton, he had already solved the mystery in 1858.[60] According to Burton, Lake Tanganyika, wedged between the modern-day countries of the Democratic Republic of Congo and Tanzania, was the actual source of the Nile. That Speke claimed otherwise was absurd to Burton's mind. Further, despite Speke's long sojourn in Equatorial Africa, Speke had not actually followed the course of the Nile from the Victoria Nyanza to Gondokoro. That Speke was acerbic towards Burton, Petherick, and others, in his correspondence with the RGS did not help matters for Speke's reputation among the community of metropolitan geographers. Burton – a prolific writer, polymath, and polyglot – was restless in his refusal to accept Speke's claims. For his part, Speke, who was neither a gifted writer nor a

[60] For more on Burton, see: Dane Kennedy, *Highly Civilized Man: Richard Burton and the Victorian World* (Cambridge: Harvard University Press, 2009); John Hayman, ed., *Sir Richard Burton's Travels in Arabia and Africa: Four Lectures from a Huntington Library Manuscript* (San Marino, CA: Huntington Library, 1990); Mary S. Lovell, *A Rage to Live: A Biography of Richard and Isabel Burton* (New York: W.W. Norton & Company, 1998); For a detailed study on the Speke-Burton controversy, see: W. B. Carnochan, *The Sad Story of Burton, Speke, and the Nile; or, Was John Hanning Speke a Cad?: Looking at the Evidence* (Palo Alto: Stanford University Press, 2006).

thinker, struggled with the writing of his book that outlined his findings.[61] These challenges, taken together, dimmed Speke's celebrity despite Speke's own journey to the Victoria Nyanza.

It is not a surprise, then, that John Petherick harboured some animosity towards John Hanning Speke. In the pages of his inventory journal of his 1862-1863 expedition to Gondokoro and the White Nile, Petherick made the curious decision to paste three articles from *The Morning Advertiser*, all published in early 1864.[62] It is unknown when Petherick made the decision, but the articles that Petherick kept were written as a broadside in the increasingly acrimonious debate between Richard Francis Burton and Speke. That Petherick had a role in the writing of these anti-Speke articles may have motivated him to keep these articles as a memento in the years after his encounter with Speke.

Published in four parts from February to March 1864, *The Morning Advertiser* articles were simply credited as being produced by "a correspondent."[63] However, in a manuscript published later with Burton, the identity of the article's writer became revealed: James MacQueen.[64] MacQueen had a dual reputation as both a doyen of geographical authority regarding Africa and as a polemicist infamous for his pro-slavery pamphleteering.[65] These

[61] Numerous writings of Speke note that Speke was rather fortunate for his circumstance. As one contemporary wrote: "The late Capt. Speke was not a man of genius; he was not even a clever book-writer...He was a simple Indian officer […]; "Death of Capt. Speke," *The Times*, 9 October 1864.
[62] John Petherick, diary, *Notebook containing inventories of books, papers, equipment etc. of John and Katherine Petherick*, c.a. 1870, MS.5791, John Petherick Collection, Wellcome Library, London, UK; the inventory journal records inventories from the 1862-1863 Petherick expedition, as well as a later 1870 trip.
[63] While four of these anti-Speke articles were written in *The Morning Advertiser* in 1864, Petherick pasted only three of these in his inventory journal.
[64] MacQueen's articles were published in Burton's book challenging Speke's claim. He is credited as "James M'Queen" with his section entitled "Captain Speke's Discovery of the Source of the Nile;" See: Richard Francis Burton and James M'Queen, *The Nile Basin* (London: Tinsley Brothers, 1864).
[65] David Lambert, "James MacQueen," Oxford Dictionary of National Biography. https://doi.org/10.1093/ref:odnb/17736 (accessed on 16 September 2021); For more information on James MacQueen, his involvement in the slave trade and British geography, see: David Lambert, *Mastering the Niger: James MacQueen's African Geography & the Struggle Over Atlantic Slavery* (Chicago: University of Chicago Press, 2013).

articles are infamous for the viciousness MacQueen unleashed on Speke, from questioning his intelligence and honour to ridiculing Speke's ethnographic and geographical claims.

But in MacQueen's attacks we can also see the ways in which competing geographical claims were situated into pre-existing notions of legitimacy and scientific authority. Speke, a relative upstart, sought to argue for his proposition over the source of the Nile against the claims and grievances from contingent of cartographers and personal enemies. In these articles, MacQueen relied upon documents given to him by Petherick to attack the credibility and reputation of John Hanning Speke.[66] In hurling ridicule at Speke and his newly published account of his expedition to the African Great Lakes, we not only see a vendetta play out between rival geographers over which idea was valid. We also see how the notion of reputation and character were intimately connected with the questions of authority in the production of scientific knowledge. That is, how did explorers position themselves as reputable authorities of scientific knowledge? What tropes and assumptions did they use to bolster their arguments to both the British geographical community and to the British public? How did the explorer's conduct and character factor into the debates on the Nile Question? And finally, how did certain explorers manage to successfully navigate these factors, while others did not? To examine how MacQueen attacked Speke in polemical articles after 1861, it is necessary to examine the intellectual traditions that metropolitan geographers used to argue against field explorers. In this case, Claudius Ptolemy's description of the "Mountains of the Moon" took a central role in attacking Speke's claims.

Being men of their time, the explorers of the mid-nineteenth century sought to understand the societies of Equatorial Africa within the context of the worldview of Victorian Englishmen,

[66] James MacQueen, "Captain Speke's Discovery of the Source of the Nile," *The Morning Advertiser*, 18 February 1864; despite being found in MS.5791 at the Wellcome Library, I will cite the newspaper from here onwards.

where notions of the historical past and demography were influenced by ideas rooted in religion and mass culture. Such influences manifested themselves in the maps of created by cartographers and in the ways in which explorers tried to understand unfamiliar lands and unfamiliar peoples. When in doubt, geographers filled the *terra nullius* of the globe with the speculations drawn from antiquity, be it Ptolemy's geography, the ethnographies of Tacitus and Herodotus, the taxonomies of the Old Testament, or the eschatological hopes for Prester John to turn back the tide of Islam. From the Middle Ages and into the contemporary cartography of August Heinrich Petermann, the cartographers of Western Europe were influenced by the works of the past in their effort to understand the spaces of the present.

Regarding the Nile, the geographer Claudius Ptolemy was the authoritative source of mapmakers for the past two millennia. Ptolemy relied on the intelligence of ancient Greek merchants plying the Indian Ocean to determine that the source of the Nile came from three lakes near the so-called "Mountain of the Moons," located somewhere in Eastern Africa. Used by both Western and Islamic cartographers, Ptolemy's theory would spread across Eurasia in the intervening millennium and a half to become the hegemonic theory about the river's origin. Examples of this can be found in the maps of early modernity. One such example is the *Universalis Cosmographia*, produced by Martin Waldseemüller in 1507. Famed for being the first map to name the New World after Amerigo Vespucci, the map also featured the Ptolemaic theory of the Nile's source. The map depicted the three lakes Ptolemy contends exist in feeding the Nile, two of which are fed from the "Mountain of the Moons" (Latin: *Mons Lvne*). Indeed, even outside the West, the Ptolemaic idea for the Nile's source was found further afield. Presumably influenced by translated Chinese texts, which were in turn taken from translated

Arabic or Persian copies of Ptolemy's work, the "Mountain of the Moons" and the three lakes are evident in the so-called *Kangnido*, a Korean map dated to 1402.[67]

Ptolemy's geographical conception of the Nile and Africa was held authoritatively among geographers and travellers for centuries to come. That Speke's account went against the collected wisdom of countless cartographers was seen as a damning indictment to Speke's character by his opponents, as it not only spoke to his seeming naivety and ignorance towards geography as a field of knowledge, but gave the impression that Speke was arrogant in making his claim in favour of the Victoria Nyanza. This is evident in the feud between Burton and Speke after 1861, in which MacQueen took an active role. For example, James MacQueen's broadside in his fourth article highlighted the general ignorance displayed by Speke in countering centuries of cartographical knowledge about the origins of the Nile. MacQueen cited Arab geographers such as "Edrisi" and "Bakui," the testimony of Portuguese travellers, of Christian missionaries, and of Western cartographers to demonstrate that Speke's testimony was without merit.[68] By naming these geographic authorities, MacQueen also highlighted Speke's arrogance in even feigning to make a claim to the Nile Question.

The second ancient component found in the exploratory literature of the nineteenth century consisted of the ethnographies and geographies of the Bible. Whereas the relevance of biblical interpretations has lessened in the intervening century and a half, for the British geographers of the era, the stories and ethnographies from the Bible provided a coherent and potential framework by which to connect discoveries of modernity with the comprehensible framework of the mythologized past. John Hanning Speke was prone to this. Speke's *Journal of*

67. For further information on this map, and its lengthy provenance, see: Gari Ledyard, "Cartography in Korea," *The History of Cartography, Vol. 2* (Chicago: University of Chicago Press, 1994): 235-345.
[68] MacQueen, 26 March 1864; The names cited seem to reference Muhammad al-Idrisi (1100-1165) and Al-Bakri (1040-1094), two medieval Muslim geographers. It is unclear why MacQueen misspelled Al-Bakri's name.

the Discovery of the Source of the Nile (1863) was intended to be the answer to his long-running spat with Richard Francis Burton. But throughout this work Speke engaged in speculation as to the connection between the peoples of Equatorial Africa and the Bible. In his introduction to the book, for example, Speke described his goal to exploring Victoria Nyanza:

> "I profess accurately to describe naked Africa - Africa in those places where it has not received the slightest impulse, whether for good or for evil, from European civilisation. If the picture be a dark one, we should, when contemplating these sons of Noah, try and carry our mind back to that time when our poor elder brother Ham was cursed by his father, and condemned to be the slave of both Shem and Japheth, for as they were then, so they appear to be now- a strikingly existing proof of the Holy Scriptures."[69]

For Speke, the Bible provided a means to connect the peoples of Africa with those of Western Eurasia, linking the otherwise unknown (unknown to Western eyes, at least) populace with a coherent story of the rest of humanity.

John Hanning Speke relied on what is known as the Hamitic theory. According to Michael Robinson, the Hamitic theory was a pervasive trope in anthropological, geographical, and historical thinking within the West for centuries and which gained its apogee in the late-nineteenth century.[70] It argued that sub-Saharan Africans were the descendants of Noah's son, Ham, cursed by Noah for looking at him whilst nude and drunk in a vineyard.[71] This theory had no explicit mention of Africa, but the story was used by both Muslim and Christian scholars to develop an early ethnographic understanding of the world.[72] Speke used the Hamitic theory and connected it with the stories of Zerah the Cushite and King David in order to create a genealogy

69. John Hanning Speke, *Journal of the Discovery of the Source of the Nile* (Edinburgh: William Blackwood and Sons, 1863): xiii.
70. Michael Frederick Robinson, *The Lost White Tribe: Explorers, Scientists, and the Theory That Changed a Continent* (Oxford; Oxford University Press, 2016): 9-10.
[71] Genesis 9:20–27
[72] For more on the history of the Hamitic Theory, see: William McKee Evans, "From the Land of Canaan to the Land of Guinea: The Strange Odyssey of the 'Sons of Ham,'" *The American Historical Review* 85, no. 1 (February 1980): 15-43.

of the Wahuma people and the family of King Rumanika of Karagwe.[73] For MacQueen, Speke's attempt at Biblical genealogy was laughable:

> Moreover, King David, we are told from the best authority, "was ruddy, and withal of a beautiful countenance (fair of eyes), and goodly to look upon." (1st Sam. c. xvi., v. 12.) So that David's progeny are sadly degenerated to have become wholly black. Nor do we think that Speke will gain anything by his announcement that his hair is like King David's.[74]

MacQueen's disagreement with Speke was not with believing that using the Bible as an ethnological guide was a mistake. Rather, that in betraying his ignorance in claiming that Africans could ever be the descendants of King David, Speke demonstrated an unearned arrogance. MacQueen wrote:

> Whoever takes the trouble to look at the map which Speke has produced as something marvelous and to us wholly new, will perceive at a glance that it is Ptolemaic and Arabic authority which has been followed… His boast, therefore, made at Taunton, Dec. 24, 1863, as the real discoverer, that he "had, in 1857, hit the Nile on the head; and in 1863 drove it down to the Mediterranean," is greatly inaccurate. Moreover, no mortal man should make such a boast.[75]

In MacQueen's view, not only was Speke wrong on his claim that the Victoria Nyanza was solution to the Nile Question, but Speke's conduct betrayed a profound ignorance of elementary knowledge exhibited by metropolitan audiences. Worse for MacQueen was that Speke lacked the seeming humility to acknowledge his predecessors in the quest to solve the Nile Question. MacQueen believed that Speke had to be ashamed for this conduct. Speke's lack of shame was a damning his character as a person. In turn, this damaged Speke's authority as a geographer. For MacQueen, Speke's arrogance and ignorance were proof enough that Speke was wrong about the Victoria Nyanza.

[73] Speke, *Journal of the Discovery*, 546.
[74] MacQueen, *The Morning Herald*, 25 February 1864.
[75] MacQueen, *The Morning Herald*, 26 March 1864.

This line of argument was critical in MacQueen's denunciation of Speke. But this argument was secondary to what MacQueen considered a more damning indictment of Speke's character: the claim that Speke was engaged in sexual relations with African women in Buganda and Bunyoro. As Tim Jeal explains, MacQueen purposely insinuated a depravity on Speke's part in his interaction with the people of Buganda, from having an unhealthy attraction to African women to condoning the brutal actions of King Mutesa.[76] Speke, however, did not respond nor sue MacQueen for defamation, partly that Speke *did* have a relationship with a woman while there.[77] MacQueen harnessed racist beliefs connected with notions of sexual deviance to damage Speke's reputation to the general public. Speke's reputation as a producer of geographic knowledge, much like that of John Petherick, was not based only on his ability to measure or survey a piece of territory. Instead, his reputation was also based on moral and societal expectations for how a British man should behave in the mid-nineteenth century. If Petherick contravened against British attitudes towards slavery, Speke erred in not showing sufficient humility and deviating from the sexual mores of his society. Unfortunately for Speke, despite his having been "over there," Speke lacked the rhetorical repertoire to counter MacQueen's charges. Richard Francis Burton benefitted from Speke's struggles.

No Snow on Mount Kilimanjaro?

While Richard Francis Burton benefitted from MacQueen's broadsides against Speke, Burton was himself familiar with the wrath of an angry, metropolitan geographer. William Desborough Cooley was an Irish geographer and founding fellow of the Royal Geographical Society. In 1862, he made a splash in the pages of the scientific and literary journal, *The Athenæum*, by arguing that first-hand observations of snow on the top of Mount Kilimanjaro

[76] Jeal, *Explorers of the Nile*, 207-208.
[77] Jeal, *Explorers of the Nile*, 208.

were incorrect.[78] Reveling in the outcry from fellow geographers over his dismissal over the first-hand testimony of a snow-capped mountain, Cooley believed that such claims were "contrary to the laws of physical geography."[79] Burton, cited by Cooley as a cause for the spread of the idea of snow on Kilimanjaro, responded in a letter dated 23 May 1862, to speak to the controversy.[80] Burton clarified that while his expedition of 1858 was concerned with his expedition to Lake Tanganyika (and the Nile Question) and not Kilimanjaro, he was nonetheless open to reporting both European and African descriptions of the mountain. Burton entertained that possibility that Kilimanjaro could be the "Mountain of the Moon" as described by Claudius Ptolemy in antiquity, writing:

> Mr. Editor, I spent six months in Unyamwezi. I collected a vocabulary of the Kinyamwezi. I conversed with hundreds of Wanyamwezi natives...I also learned that Mwezi there means the moon. I thought it possible that Ptolemy and his followers might, after the usual Greek fashion, have heard the name, and translated it by "Mountain of the Moon;" […] I cannot but be surprised that a geographer like Mr. Cooley should hold on so obstinately to an old and childish blunder which he ought long to have discarded.[81]

A public correspondence started between Burton and Cooley over the next five years, spread across fourteen articles in *The Athenæum*.

What started as a disagreement over the existence of snow on Kilimanjaro devolved into a general fight over the competing claims of authority, one based on "being there" in Africa and the other on general theories of geography formulated in the metropole. This debate between so-called "armchair" geographers and field explorers was not limited to only Burton and Cooley, or Speke and MacQueen. But these debates over geographical truth claims involved issues of personal reputation and moral standing as much as they do about the interpretation of

[78] W.D. Cooley, "The Eternal Snow and the Great Zambezi," *The Athenæum* no. 1793 (8 March 1862): 332-333.
[79] Cooley, "The Eternal Snow," 332.
[80] Richard Francis Burton, "Kilimanjaro and its snows," *The Athenæum* no. 1812 (19 July 1862): 81-82.
[81] Burton, "Kilimanjaro," 81.

geographical data. The dispute between Burton and Cooley was filled with insults and with the mutual questioning of their opponent's intelligence and honour. But unlike Speke, who struggled to respond to MacQueen's onslaught, Burton survived his dealing with Cooley with no effect to Burton's reputation as an explorer.

In 1863, Cooley responded to Burton concerning Kilimanjaro. Calling both Burton and the Royal Geographical Society credulous in believing the observations on the height and geology of Kilimanjaro, Cooley explained to root of his argument:

> But, perhaps, it will be said that he [Johann Ludwig Krapf] has settled the altitude of the mountain by observation. That is precisely what requires to be proved. That he has made observations cannot be doubted, since he says so; but that they have any value, or can yield the desired results, is a point which cannot be conceded as a matter of course.[82]

Cooley assessed the testimony of the German missionary Johannes Rebmann, who claimed that the local population had noted the yearly fluctuation of the white matter on Kilimanjaro's summit. Cooley was not convinced. Cooley relied on a report of a Zanzibari contact who informed him that there was no snow on Mount Kilimanjaro. Cooley thought that Rebmann contradicted himself when stating that the supposed snow on Kilimanjaro retreated during the rainy season.[83] Cooley returned his attention on Burton in his conclusion, chalking up Burton's mistakes on being "misled by those who pretended to instruct him."[84] In Cooley's mind, the RGS was to blame for "spreading geographical darkness" in order to benefit financially from this nefarious scheme in asserting the presence of snow on Mount Kilimanjaro.[85] How the Royal Geographical Society (or Burton) would benefit from the existence of snow on Kilimanjaro was never explained by Cooley.

[82] W.D. Cooley, "Kilima Njaro and the Royal Geographical Society," The Athenæum no. 1864 (18 July 1863): 84.
[83] Cooley, "Kilima Njaro," 84.
[84] Cooley, "Kilima Njaro," 85.
[85] Cooley, "Kilima Njaro," 85.

This attack on motivations went both ways. In an 1864 response, Burton hinted at an ulterior motive for Cooley's response. For Burton, the conflict was about Cooley's claim that there was "evidence of *One Water* in the lake regions of Eastern Equatorial Africa!"[86] What this was that Cooley theorised that many of the African Great Lakes, such as Lake Tanganyika and Lake Malawi, were in reality one single body of water.[87] According to Burton, Cooley's contact was a "Zanzibar fugitive from justice," who Burton derisively called a "negroid."[88] Mockingly referring this individual as "this worthy," Burton mocked Cooley by writing:

> The by no means "incredulous Cooley" at once believed that the man had visited the Sea of Ujiji, transcribed all this nonsense with curious attempts at criticism, and founded upon it a variety of blundering beliefs, to which he has ever since held as to Holy Writ. For what information a Mr. Cooley collects, that, *ipso facto* [sic], must be the truth, &c.[89]

To contrast Cooley's contact with his own, Burton emphasized that he "carefully collated" his information from ""the Arabs of Kazeh, in Unyamwezi."[90] Burton questioned Cooley's honesty by clarifying that he never attempted to climb Kilimanjaro (contrary to Cooley's claim), stating that Cooley was "showing off to the world the *caput mortuum* [sic] of his mind."[91] Burton ended his response by calling Cooley a "sciolist," in adhering too much on theory than "a gentleman's word." The inherited theoretical knowledge that Cooley vigorously defended lacked Burton's eye-witness testimony. In essence, Burton was correct because he travelled to East Africa, but Cooley had not.

[86] Richard Francis Burton, "The African Mystery," *The Athenæum* no. 1899 (19 March 1864): 407-408.
[87] Roy Bridges, "Cooley, William Desborough," *Oxford Dictionary of National Biography*. Accessed 12 December 2021. https://doi.org/10.1093/ref:odnb/6201.
[88] Burton, "The African Mystery," 407.
[89] Burton, "The African Mystery," 407; the "Sea of Ujiji" refers to Lake Tanganyika.
[90] Burton, "The African Mystery," 407.
[91] Burton, "The African Mystery," 407; The term *caput mortuum* is Latin for "dead head" or "useless remains." The term originated among alchemist to denote a substance that had expended its usefulness and was now inert detritus. Essentially, Burton was calling Cooley an idiot.

Up to 1867, both Cooley and Burton continued their dispute in the pages of *The Athenæum*. But in these early responses (from 1862-1864) a few things emerge that detail how Burton dealt with a metropolitan geographer. For Burton, Cooley's scepticism towards the existence of snow on Kilimanjaro betrayed a pathological commitment to theory in lieu of the testimony of trustworthy witnesses. Both Cooley and Burton relied on local contacts to bolster their arguments. However, Burton attacked the character of Cooley's contact and contrasted that to the German missionaries and Zanzibari contacts who Burton relied on. Burton's criticism of Cooley's Zanzibari contact was not that the contact was factually incorrect but that he was suspect by virtue of his legal status as a fugitive and by the contact's race. Like MacQueen, Burton was willing to insult and question the character of his interlocutor. As a well-known philologist and travel writer before his foray into Nile and East African exploration, Burton was able to turn the tables on Cooley. Speke, who lacked Burton's skill as a writer, could not do so with James MacQueen.

Speke's Return to Britain

Speke returned to Britain in the fall of 1863 to a hero's welcome. At a speech given on 24 December 1863 in Tauton, Somerset, Speke sought to allay fears that he was letting the achievement go to his head by crediting his predecessors in the search for the source of the Nile:

> I must not omit to do justice to those who went before me, and by whose immediate instrumentality the work commenced. I have been accused in the public press of being ungenerous. It has been said that I have not remembered Beke, who proclaimed to the world that he imagined the source of the Nile to lie in the position to which I found it. All this, gentlemen, I grant; but I assure you that it was not on account of his hypothesis that this work was commenced. It was two missionaries, named Rebmann and Edhart [sic], who first commenced the work.[92]

[92] "John Speke's Tauton Speech," *The Times*, 24 December 1863.

Nonetheless, MacQueen's articles in *The Morning Advertiser* were devastating to John Hanning Speke. As seen earlier, MacQueen's bromides against Speke were deeply damaging to Speke's reputation as an explorer and geographical authority. MacQueen did not address Speke's specific claims on the Victoria Nyanza head-on, instead portraying Speke as a shameless, arrogant, ungrateful dilettante, in addition to being a sexual deviant.

Together with his antagonistic conduct towards Petherick and his decision to publish his book outside the Royal Geographical Society, Speke had lost much of the goodwill he received on his return to Britain in 1863. To salvage his reputation as the discoverer of the Nile's source, Speke agreed to debate Richard Francis Burton at a meeting of the geography section of the British Association for the Advancement of Science in Bath, scheduled for 16 September 1864.[93] On the eve of the debate, Speke took leave of a luncheon to go shoot partridges at his uncle's estate in nearby Wiltshire. Paralyzed in his arm, Speke used his double-barrelled Lancaster shotgun to support his weight as he tried to surmount a low, stone wall. Loaded, the gun fired into either Speke's chest or his armpit. Regardless of the exact location, the shot was a fatal one. After a few minutes, Speke died.[94]

The death was a shock to many in Britain, especially given the nature of an explorer falling to "a paltry, commonplace accident."[95] The RGS's president, Richard Murchison, used Speke's death as an opportunity to heal the rift in the geographical community over the Nile Question. Estranged from Speke due to the explorer's conduct in 1863-1864, Murchison nonetheless attended Speke's funeral in Somerset.[96] While Murchison did not entertain calls to

[93] "Sad Death of Captain Speke, The African Traveller," *The Times*, 17 September 1864.
[94] Anton Mifsud, "Medical History of J.H. Speke," *The Practitioner* 214 (January 1957): 129-130; Jeal, *Explorers of the Nile*, 202-203.
[95] "The Death of John Hanning Speke," *The Times*, 19 September 1864.
[96] "To the Memory of Captain Speke," *The Times*, 27 September 1864.

have Speke interred in Westminster Abbey, he did have the society set up a subscription fund to create a monument to commemorate Speke's achievement, ultimately built in Kensington Gardens.[97] Erected in 1866, the monument's inscription is nonetheless equivocal on Speke's claims, stating:

> IN MEMORY OF
> SPEKE
> VICTORIA NYANZA
> AND THE NILE
> 1864

This inscription was written in a way to not openly credit Speke with solving the Nile Question. It was only with an installation of an additional plaque in 1995 by the "Friends of Hyde Park and Kensington Gardens" that was Speke credited with solving the Nile Question at his memorial.[98]

But in the immediate aftermath of his death, Speke's reputation continued to decline. As noted by several observers, Speke was nervous and apprehensive of his coming debate with Burton despite the fact that he was correct. As seen in this chapter, geographical debates were as much about reputation, credibility, and moral standing as they were about any actual truth claim. As Speke died a day before his scheduled debate with Burton, supporters of Burton hinted that Speke, in actuality, committed suicide rather than face Burton.[99] Burton would himself claim that Speke committed suicide to dodge "the exposure of his misstatements in regard to the Nile sources."[100] That Speke did not follow the course of the river from Rippon Falls to Gondokoro, nor was able to adequately respond to his critics, did not help matters. Given the lingering doubts

[97] Roderick Murchison, "To the Memory of Captain Speke," *The Times*, 27 September 1864; "Captain Speke," The Times, 20 September 1864.
[98] See Figures 2 and 3.
[99] Roy Bridges, "Speke, John Hanning (1827–1864), explorer in Africa," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/26101 (accessed 14 September 2022).
[100] Jeal, *Explorers of the Nile*, 203; Jeal takes the quote from Thomas Wright, *The Life of Sir Richard Burton*, *Vol I.* (London: Everett & Co., 1906): 192.

on Speke's claims, Speke did not immediately see an improvement in his reputation even in death.

Conclusion

As for Petherick, the aftermath of his encounter with Speke in Gondokoro spelled the effective end of his career as a geographer. In the midst of these accusations, Petherick was not silent. John and Katherine Petherick's field journals became the basis of *Travels in Central Africa* (1869), Petherick's last attempt to salvage his reputation.[101] Nonetheless, Petherick's attempts were insufficient to repair his damaged reputation. While Speke's own reputation would be damaged as a result of his hatred of Petherick, Petherick only published his own response in 1869, six years after the events in Gondokoro and five years after Speke's death.[102] A review of Petherick's book questioned the necessity of the delay in publication when the work lacked a coherent structure and narrative.[103] Another review was sympathetic to Petherick's conflicting interests as an RGS explorer and as a merchant while waiting for Speke's arrival.[104] Nonetheless, the book review chided Petherick for failing to combat the Nile slave trade, as would be expected from "the representative of the British Government [sic]" in Sudan.[105] In short, Petherick's attempts to salvage his reputation failed. Losing his consular office shortly after the expedition, Petherick returned to Britain and lived in quiet obscurity until his death in 1882.[106]

The exploratory careers examined in this chapter reflected the ways in which scientific trustworthiness depended upon the personal reputation of the scientific practitioner. In turn, this personal reputation was dependent upon an individual following or transgressing against social

[101] Katherine Harriet Petherick, Travel journal in the Sudan, January 1862-July 1863, MS.5788, Wellcome Library.
[102] Bridges "Speke, John Hanning." *ODNB.*
[103] "Consul Petherick in Central Africa," *The Saturday Review*, 6 November 1869.
[104] "The Literary Examiner: Travels in Central Africa, and Explorations of the Western Nile Tributaries. By Mr and Mrs Petherick. In Two Volumes. Tinsley." *The Examiner and London Review*, 20 November 1869.
[105] "The Literary Examiner," 20 November 1869.
[106] "Obituary: John Petherick," *The Anti-Slavery Reporter*, 11 November 1882: 271.

norms and expectations. Explorers engaged in strategies to bolster their claims to a metropolitan audience, be it from rival explorers, from sceptical cartographers, or from the public at large. But explorers used the same strategies to hide aspects of their personalities, political opinions, or persona pasts that could endanger their status as geographers. Given the limitations in photography in the field, the act of recording measurements gave explorers data they could present to such audiences. In linking their contemporary claims with biblical or classical sources, explorers imitated the philological and historical analyses of educated cartographers, to mixed results. In their personal conduct, explorers unknowingly affected opinions towards their claims.

In the case of Petherick, however, there was no rehabilitation because of the potent nature of the charge of slave trading. As the Nile Question would be resolved and fade into memory as a peculiar moment in Victorian Britain, the expeditions into Central Africa and along the Nile would not stop. Indeed, they would continue to grow in size and in scope. While sanctioned by the Royal Geographical Society, the expeditions of the latter 1860s through 1880s would morph in purpose. The expeditions of Speke, Burton, Petherick, and Baker revealed the political and demographic landscape of Central Africa, if with a condescending view. Nonetheless, the descriptions of slave raiding and trading by Zanzibari and Ottoman actors became embedded as the defining feature of this region. For the next two decades, the defining mission of geographical expeditions along the Nile and Central Africa would become nothing less than a militant struggle to end the slave trade. In selling his expedition to the British public, Speke glommed on to the idea of development as Britain's mission in Central Africa. Amid his spat with Petherick, Burton, and MacQueen, this view received little notice. But Speke's moral mission ultimately proved ascendent. In the next chapter, I will examine how British geography

adapted the moral language of political liberalism to become the defining science of the British Empire.

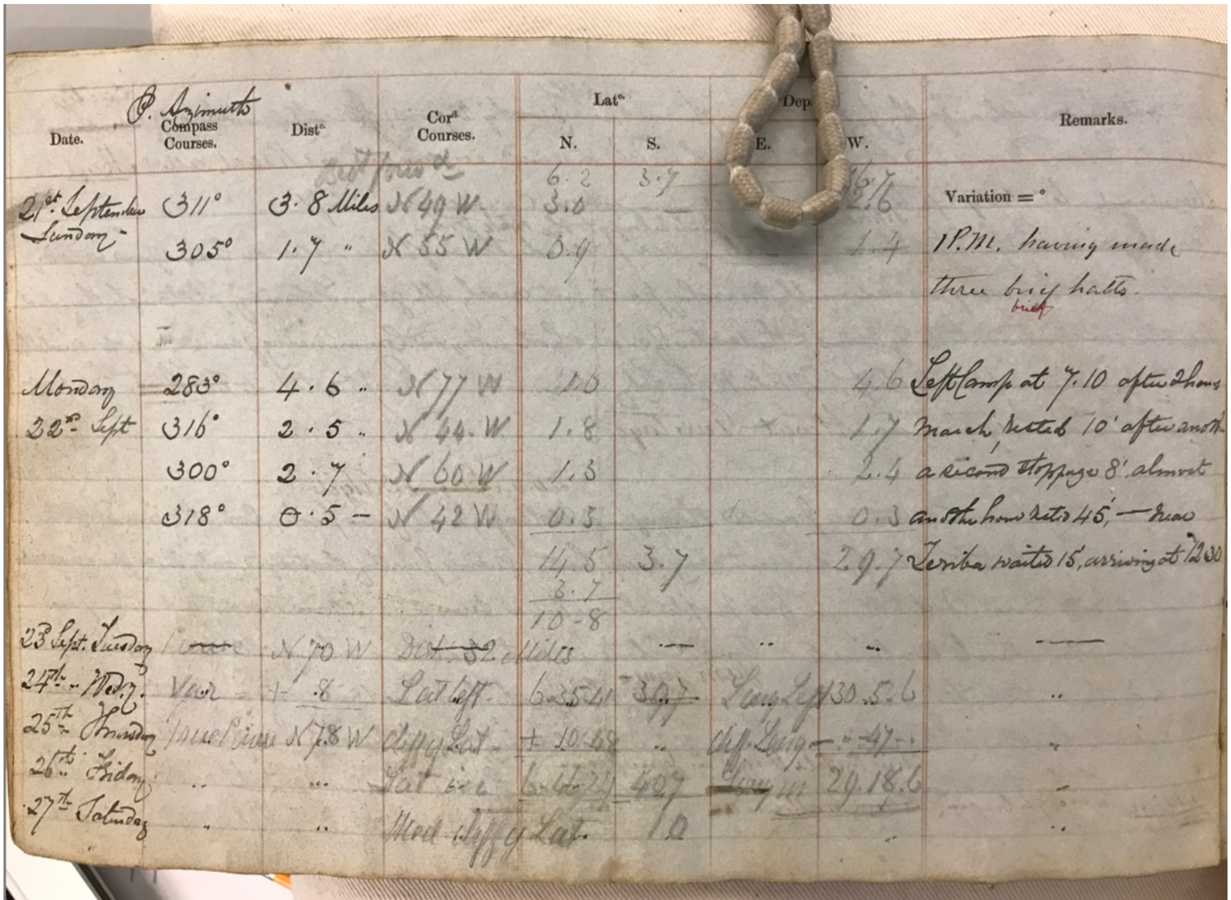

Figure 1: A page taken from John Petherick's field diary of his 1862-1863 White Nile expedition. From MS.5787, the Wellcome Library.

Figure 2: Speke's Memorial in Kensington Gardens, photograph taken in 2017.

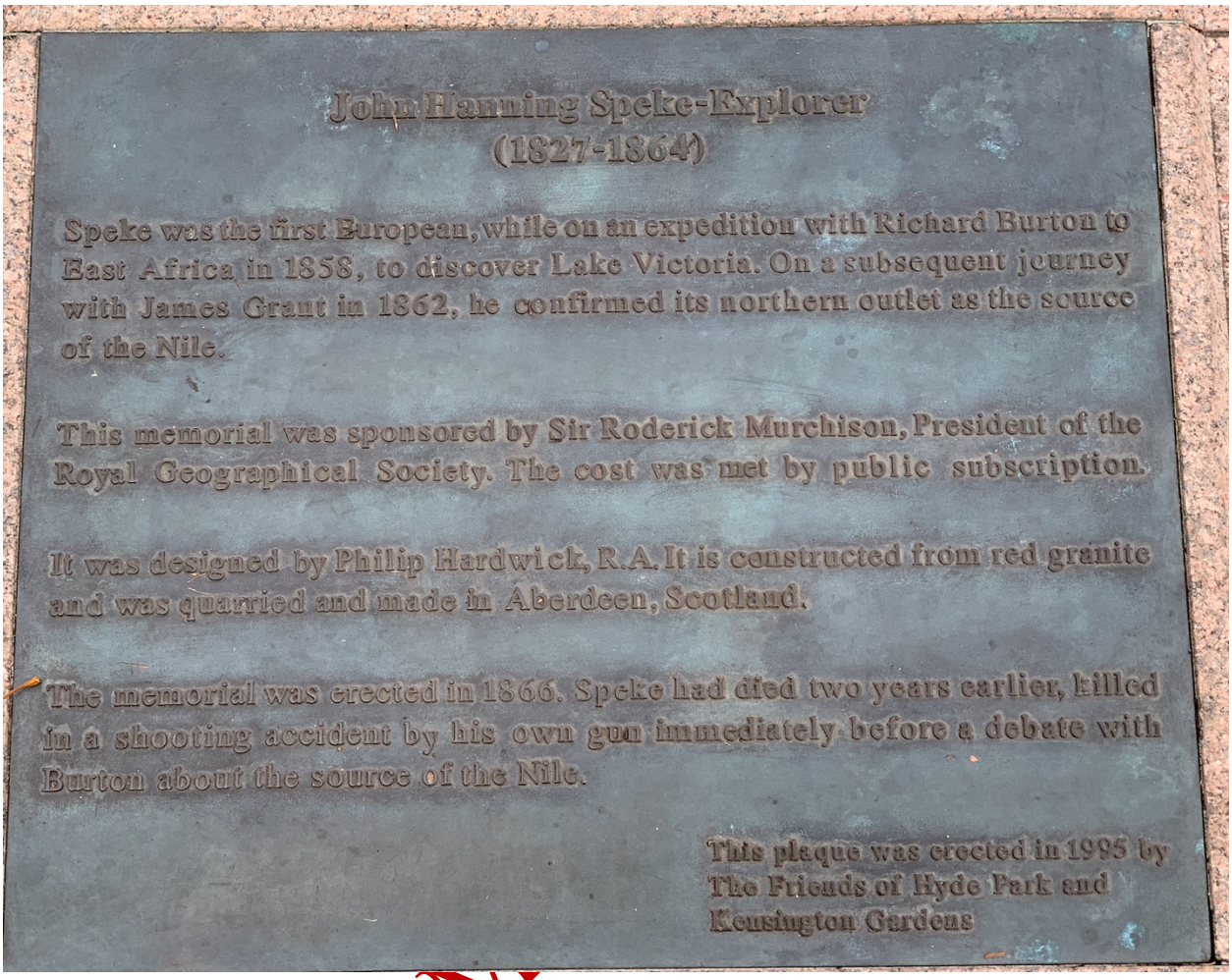

Figure 3: Plaque added in 1995 to Speke's Memorial.

CHAPTER 3

The Rhetoric of Development: Imperial Geography and the Civilizing Mission, 1864-1900.

Samuel White Baker returned to Britain in 1874, exuberant after the completion of his second expedition to Central Africa. Appointed governor of Equatoria by Khedive Ismail Pasha, Baker had seemingly accomplished a momentous feat: nothing less than the total eradication of the Nile slave trade.[1] The slave trade from Central Africa to Sudan and Egypt had been a focal point in exploratory travel literature, with explorers lamenting the misery inflicted on hapless Africans from predatory Turkish and Zanzibari slave raids. The Royal Geographical Society feted Baker with a banquet on his return. Baker was invited to give the annual Rede Lecture at Cambridge University in 1874, giving a triumphalist account of his expedition, declaring a complete victory over the slave traders along the Nile.[2]

Yet, Baker's portrait of a newly-reformed and idyllic Nile Basin did not reflect the situation on the ground. Replacing Baker as governor of Equatoria was Charles Gordon.[3] Having arrived to his post in Equatoria, Gordon got his hand on a transcript of Baker's Rede Lecture sometime in late 1874.[4] In the margins of the pages, Gordon dismissed Baker's pronouncements, viewing them as false.[5] Baker had not ended the Nile slave trade. What Egyptian garrisons were installed in Equatoria were, instead, isolated outposts with little to no control of the surrounding countryside. Slave traders continued to operate in the region with impunity. Much of Baker's

[1] The Egyptian province of Equatoria was founded by Baker in 1870. The province included the territories south of the Sudd marshes along the White Nile and towards the northern shores of Lake Albert and the Victoria Nyanza, extending into the territories of modern-day South Sudan and Uganda. As of 2022, the region of Equatoria exists as one of the three constituent regions of South Sudan. Administratively it is divided into three states: Western Equatoria, Central Equatoria, and Eastern Equatoria.
[2] Samuel Baker, "Slavery and the Slave Trade," *MacMillan's Magazine*, July 1874: 185-195;
[3] For more on Charles Gordon's life and career, see chapter 5 of this manuscript.
[4] Sir Samuel White Baker, explorer: On slavery and the suppression of the slave trade (Cambridge University Rede Lecture), with MS additions by Gen. C. G. Gordon, 1874, Add MS 52395 B, Gordon Papers (Bell Collection). Vol. X B (ff. 99). 1. ff. 1-2b, the British Library, London, UK.
[5] Add MS 52395 B, Gordon Papers, the British Library.

time in Equatoria was spent not combatting slave traders, but vainly crossing the marshlands of the Sudd. Slave traders continued to enslave Africans, transporting men, women, and children for sale in Egyptian and Sudanese slave markets. Incredulity rather than agreement marked Gordon's response to Baker's triumphalist account.

Despite this discrepancy in the observations of Baker and Gordon, there was a marked change in how British geographical expeditions legitimized their involvement along the Nile River. Despite the rancour that accompanied John Hanning Speke's and Richard Francis Burton's rival claims, the question of the Nile's source was assumed to be answered: either Burton or Speke had "discovered" the river's source, it was only a question of who was correct.[6] In the years following Speke's expedition to the Victoria Nyanza, much had change with the saliency of Sudan and the African Great Lakes in British geography. If the question of the Nile's source was no longer the animating reason for British travellers to venture into the region, what was? In Gordon's and Baker's differing accounts of the state of affairs in Equatoria we can see that the issues of moral and economic development of the Nile – be it via anti-slavery operations, missionary work, and the civilisational "uplifting" of Africans – became the guiding mission of why exploration continued apace in the wider Nile basin.[7]

[6] An example of this can be seen in the reputation of David Livingstone (1813-1873) after his death. While Livingstone's contention of the Lualaba River as the source of the Nile proved incorrect, Livingstone's reputation as an abolitionist cemented his status as a British hero.

[7] The usage of *uplift* in the scholarship has most often been used in the context of African-American history to denote efforts during the era of Jim Crow and segregation to promote "respectability politics" to end racial discrimination in the United States. However, I use the term *uplift* in the context of the science fiction trope of *biological uplift*, as written in H.G. Wells' 1896 novel *The Island of Doctor Moreau* and David Brin's more recent *Uplift* series of novels. Both authors describe speculative human intervention to alter the biological and mental abilities of animals with the goal of bringing sentience. In the context of nineteenth-century race science and colonialism, the assumed belief was in the biological, moral, and civilisational inferiority of non-Europeans. As such, the civilising mission was an attempt to *uplift* non-Europeans to a "higher state of being" from what Europeans considered to be a lower state of existence. This is the context by which I use *uplift* in this chapter.

This chapter will assess the central role of the civilizing mission in exploratory narratives from the mid-1850s to the end of the century. The writings of explorers in this period were permeated with a rhetoric of development, connecting their work as geographers with the moral mission to "civilise" Africans, to create new markets for British wares, and to suppress the slave trade in the continent. How a traveller legitimised his persona as an explorer was not limited to the truth claims made during an expedition, or to his standing in the Royal Geographical Society. Rather, travellers took for granted geography's wider role in spearheading the economic, moral, and societal uplift of those living outside the light of "civilisation." Inherent to this belief was the assumption that the aims of geography – in its scientific and developmental goals – would neatly align with the political goals of Great Britain.[8]

At the root of the dual aims of geography were a decades-long discourse in British society, whereby nascent liberal philosophy, working-class populism, and abolitionism came to dominate how Britons saw their nation in relation to the world. Alongside surveying the physical and human geography of Africa, geographers used the rhetoric of development to think about the implications of their findings. In reporting the barometric pressure of a given land or detailing the folk traditions of a given village, the rhetoric of development transformed geographic data into potential tools for ostensible humanitarian ends. The rhetoric of development answered the *why* question of the purpose of exploration: that beyond satiating intellectual curiosity, the fate of human progress (emblemized in the form of British society) relied on travellers to bring the light of civilisation to the distant corners of the world. In this guise, the discipline of geography was positioned as the science of progress.

[8] As will be described later in this chapter, British geography's dual aims mirrored the "dual mandate" of British colonial rule, as formulated by Frederick Lugard (1858-1945).

Rise of the Rhetoric of Development

Predating the formal establishment of colonial rule, the rhetoric of development among geographers was indistinguishable from the later language of colonial administration. In writing their published accounts of their respective expeditions, their self-fashioned narratives of heroism and scientific discovery were suffused with a polemical ideation rooted in the explorer's status as a Westerner operating outside the "civilised" world. Ethnographic observations of local populations were tinged with moralising commentary about the ills and wrongs of the ostensibly benighted populace. But inherent in these descriptions was an assumption that the very act of describing the perceived pathologies of Africa was in anticipation of the uplift of Africans into the "light" of "civilisation."

In the aftermath of the Speke-Burton dispute the Nile Question faded as the motivating rationale for the exploration of the Nile Basin. Whether the Nile was sourced from Victoria N'yanza or Lake Tanganyika would eventually be demonstrated by future expeditions. However, what would the rationale be for future expeditions beyond data collection? The rhetoric of development took over the Nile Question as the guiding motivation of future expeditions. The accounts of John Hanning Speke, John Petherick and Samuel White Baker gave detailed accounts of the nature of the slave trade in the lands south of the Sudd, the extent of Turco-Arab slave raiding in the region, and the sale of slaves down the Nile in Khartoum and Egypt. While a mainstay of travel literature in the 1850s onwards, the nebulous, contradictory, and aspirational use of "development" changed over time in the writings of travellers to Africa.

Yet, when the Royal Geographical Society was founded in 1830, there was no indication that the rhetoric of development would take an outside role in how geography would come to be practiced by British-led expeditions. With the founding of the RGS came a prospectus outlining

the aspirations of the society, which mainly consisted of consolidating the "scattered and dispersed" geographical data across Britain into a central body in London.[9] The society desired to aid in maritime navigation and to venture into uncharted terrain, but there was no mention in the 1831 prospectus with regards to what would become of newly charted territories. In an 1830 letter from Whitehall to King William IV, a call for a royal premium of "fifty guineas annually" to the society was framed as being conducive for "the encouragement of geographical of geographical science and discovery."[10] Lacking in this letter was any rhetoric of development in keeping with the civilising mission.

Nonetheless, the institutions of British geography were not solely devoted to intellectual pursuits. In announcing its hopes to aid in Britain's maritime navigation, the RGS hoped to insert itself as an active participant in Britain's economic, military, and political lifeline.[11] Trade and resource extraction from a given territory for the benefit of the metropole was nothing new; it was the essence of the mercantilist system and an embedded assumption behind Western exploration in the preceding centuries.[12] The Royal Geographical Society's predecessors were no

[9] The society was first founded as the Geographical Society of London. For more details on the founding of the RGS and its receipt of a royal charter, see chapter 1; John Barrow, "Prospectus of the Royal Geographical Society," *The Journal of the Royal Geographical Society of London* 1 (1831): vii-xii; The Royal Geographical Society, "History of the Society," Royal Geographical Society with IBG, https://www.rgs.org/about/the-society/history-and-future/ (accessed 21 May 2023); Per the prospectus: "That although there is a vast store of geographical information existing in Great Britain, yet it is so scattered and dispersed, either in large books that are not generally accessible, or in the bureaus of the public departments, or in the possession of private individuals, as to be nearly unavailable to the public."

[10] Whitehall to King William IV, 22 October 1830, Home Office Papers, HO 44/21/103, the National Archives, Kew, United Kingdom; Whitehall is a metonym for the British government and bureaucracy, with this letter being written on behalf of Prime Minister Robert Peel.

[11] Britain's role as the chief naval power of the world and Britain's reliance on maritime time are two factors in this assessment.

[12] As P.J. Cain and A.G. Hopkins note, the expansion of the British Empire between 1688 and 1850 was marked by two factors: the expansion of landed interests into planter (or gentry) dominated economies of the New World and the rise of non-settler colonies to serve as entrepots and redoubts of Britain's maritime trade. For more, see: PJ Cain and AG Hopkins, "Gentlemanly Capitalism and British Expansion Overseas I: The Old Colonial System, 1688-1850," *The Economic History Review* 39, no. 4 (November 1986): 501-525.

different, such as the African Association.[13] Founded in 1788, association members saw the potential wealth generated from Africa as a primary rationale for exploring the region. In a 1790 publication from the association, the benefits of exploration were touted, but none more than opening the continent to British trade:

> But of all the advantages to which a better acquaintance with the Inland Regions of Africa may lead, the first in importance is, the extension of the Commerce, and the encouragement of the Manufactures of Britain… there is reason to believe, that countries new to the fabrics of England, and probably inhabited by more than a hundred millions of people, may be gradually opened to her trade.[14]

This goal was further elaborated in the travel narratives produced by association members. Mungo Park detailed his account of the geography, peoples, and resources found along the Niger River during his expedition of 1795-1797 in his *Travels* of 1799.[15] This accounted provided a *raison d'être* for metropolitan audiences as to why Park's expedition mattered:

> Nothing is wanting to this end but example to enlighten the minds of the natives; and instruction, to enable them to direct their industry to proper objects. It was not possible for me to behold the wonderful fertility of the soil, the vast herds of cattle, proper both for labour and food, and a variety of other circumstances favourable to colonization and agriculture, and reflect, withal, on the means which presented themselves of a vast inland navigation, without lamenting that a country so abundantly gifted and favoured by nature, should remain in its present savage and neglected state.[16]

In Park's lament was a view that the land was not harnessed to the productive levels of Europe or in already-colonised lands.[17] As Park voiced his views and findings of West Africa, on the matter

[13] The African Association merged into the Royal Geographical Society in 1831; Elizabeth Baigent, "Founders of the Royal Geographical Society of London," *Oxford Dictionary of National Biography*," https://doi.org/10.1093/ref:odnb/95334 (accessed 14 June 2022).
[14] *Proceedings of the Association for Promoting the Discovery of the Interior Parts of Africa* (London: C. Macrae, 1790): 205.
[15] Mungo Park, *Travels, in the Interior Districts of Africa: performed under the direction and patronage of the African Association, in the years 1795, 1796, and 1797* (London: W. Bulmer and Co., 1799).
[16] Park, *Travels in the Interior Districts*, 312.
[17] This language of the unproductive land is typical of colonialist language, whereby colonialism is justified on an argument based on efficiency. This is evident in colonialist writings into the twentieth century. In the context of the issue of importing South Asian labour into Africa, Frederick Lugard, the British administrator of much of Africa, wrote: "If, indeed, the adequate development of the resources of the tropics be regarded as a trust, fertile lands capable of producing raw materials and food greatly needed by mankind cannot be allowed to lie unproductive. It may therefore be contended that if British capital, energy, and expert knowledge are available to occupy waste lands

of slavery and the morality of the slave trade, Park was non-committal as to the potential benefits of abolition.[18] Yet, for Park's successors, this equivocating stance was no longer possible after 1860.

By 1887, geographical science was linked with the wider civilizing mission and the growth of the British Empire. That year, the Royal Geographical Society sent Queen Victoria a congratulatory note on an ornate, illuminated sheet of parchment as part of Victoria's Golden Jubilee.[19] Effusive with praise for Victoria's backing of the society, RGS president Richard Strachey, and Secretaries Douglas William Freshfield and Clements Robert Markham, expressed their view that royal backing for "geographical science" had, in turn, benefitted Britain by opening the world to British colonial rule:

> Our Society, without arrogating to itself undue honour, may fairly claim to have been largely instrumental in promoting the enterprise through which these results have been obtained and we are proud to have been furnished through the Royal favour with the means of conveying to many distinguished Travellers and other persons who have rendered signal services to Geographical science and exploration, a highly esteemed and honourable recognition for their labours by the award of the Royal Medals which your Majesty's bounty provides.
>
> That so large a portion of the Globe has been opened up to colonization and other civilizing influences, during Your Majesty's reign, has in no small measure been due to such Geographical exploration, and as dutiful subjects of the Sovereign whose Dominions extend into all quarters of the Globe, and embrace nearly a sixth part of the habitable earth, we desire humbly to offer our congratulations on that great moral and material progress in all parts of those Dominions and their Dependencies, which has distinguished the Fifty years of Your Majesty's reign, and on the continued loyalty and

in Africa, but lack sufficient manual labour, there is sufficient justification for importing alien labour." In other words, it is for the greater good that Britain must control the economic production of subject peoples; Frederick John Dealtry Lugard, *The Dual Mandate in British Tropical Africa* (Edinburgh: William Blackwood and Son, 1922): 416.

[18] Park, *Travels in the Interior Districts*, 298; per Park: "How far it is maintained [i.e. slavery] and supported by the slave traffic…is neither within my province, nor in my power, to explain. If my sentiments should be required concerning the effect which a discontinuance of that commerce would produce on the manners of the natives…my opinion is, the effect would neither be so extensive or beneficial, as many wise and worthy persons fondly expect."

[19] Royal Geographical Society address to Queen Victoria on her Golden Jubilee, illuminated parchment, 13 June 1887, PP 1/142/1, Records of the Keepers of the Privy Purse, the National Archives, Kew, United Kingdom.

devotion to Your Majesty shown throughout the great and glorious Empire over which your Majesty has been called to rule.[20]

This address was meant to commemorate Queen Victoria on the fiftieth anniversary of her coronation. But it also reflected an argument that boosted the mission of the Royal Geographical Society as a scientific and British institution: that as the leading geographical authority in the United Kingdom, the society's role in mapping the world was directly connected with the growth of the British Empire, which, in turn, was obligated to spread civilisation to all corners of the earth. The synonymity of geography with paternalistic imperial aims was not an eventuality; as seen in Park's account, geography as a tool of national enrichment did not require a humanitarian justification. But in the intervening decades, the growth of abolitionism, populism, and liberalism in British social discourse transformed the rhetoric surrounding the benefits of exploratory science. By 1888, the jubilee parchment indicated a rhetoric of development, where the economic and political benefits from geography was portrayed as a positive, not simply for the glory of Britain, but for all mankind.

But this rhetoric of development was not uncontested. As seen in chapter 2, in the context of the acrimonious discussion between James MacQueen and John Hanning Speke, the issue of the civilising mission become a point of contention. Repeatedly in his published account of his 1860-63 expedition to the Victoria Nyanza, Speke insisted that "opening up a new line of commerce" by finding a "permanent route to Uganda" was a secondary rationale for his expedition.[21] In July 1862, Speke met with King Mutesa of Uganda. In his narrative, Speke

[20] Royal Geographical Society address, 13 June 1888, PP 1/142/1.
[21] John Hanning Speke, *Journal of the Discovery of the Source of the Nile* (London: William Blackwood and Sons, 1863): 422; Speke's primary rationale was to confirm his claim that he had discovered the Nile's source in his expedition of 1856-58; Further, the use of Uganda in Speke's account refers to the general region north of the Victoria Nyanza and the Kingdom of Buganda. The other political entity was Bunyoro, now part of the modern nation of Uganda. Buganda will be used to refer to the kingdom ruled by Mutesa, whereas Uganda will be used to describe the territory within the modern nation-state of Uganda.

recounted that he had longed to meet with King Mutesa in order to explain his presence in his lands, recounting that:

> [the] king then turned to me, and said, "I have come out to listen to your request of last night. What is it you want?" I said, "To open the country to the north, that an uninterrupted line of commerce might exist between England and this country by means of the Nile.[22]

In this telling, the proposed creation of permanent trade routes between Britain and Buganda was made in order to justify Speke's intrusion into the land of Buganda.[23]

An irony of Speke's stated goal was that Buganda was already connected by trade routes to Britain, if mediated by Zanzibari merchants. To the south, Buganda was connected to the East African entrepot of Zanzibar by overland trade routes, bridging the African Great Lakes region with the expansive trade network of the Indian Ocean. Throughout his account, Zanzibari "Arab" merchants were a persistent presence in Speke's journey through Central Africa.[24] Their contributions in the form of intelligence and guidance were critical for the success of Speke's expedition.[25] But these same Arabs were used by Speke as a foil, to differentiate himself (and

[22] Speke, *Journal of the Discovery*, 444-445.

[23] The use of "permanent route to Uganda" in Speke's account was an acknowledge of the pre-existing trade routes between Buganda and Bunyoro with the outside world. The presence of trade caravans in the region was already established decades earlier, from both the direction of Khedival Egypt and the Sultanate of Zanzibar. These trade routes brought an assortment of Western goods into Uganda, as seen in Speke's description of the royal court of Uganda: "Outside the square again in a line with the king, were the household arms, a very handsome copper kettledrum, of French manufacture, surmounted on the outer edge with pretty little brass bells depending from swan-neck-shaped copper wire, two new spears, a painted leather shield, and magic wands of various devices, deposited on a carpet of leopard-skins - the whole scene giving the effect of true barbarous royalty in its uttermost magnificence;" Speke, *Journal of the Discovery*: 406

[24] Speke, *Journal of the Discovery*, 3; In *Journal of the Discovery*, Speke used the ethnonym *Arab* to describe the dominant social class of Zanzibar. While Speke did not state this explicitly, Speke's usage of Arab echoed a dominant Western view that Zanzibar and the wider Swahili Coast were an importation from the Arabian peninsula, and not a product of indigenous African development. According to James de Vere Allen, the urbanization of East Africa began before an Islamic context and only gradually Islamized in the course of centuries. Per Sarah K. Croucher, the eighteenth and nineteenth centuries saw Omani domination of Zanzibar and much of the Swahili Coast. This, coupled with European contact, saw a developing alienation of Swahili elites from in-land African culture and the adoption of an *Arab* identity. While Speke does not state this, it is likely he is relaying this self-conception to his readers. For more, see: James de Vere Allen, *Swahili Origins: Swahili culture & the Shungawaya phenomenon* (London: J. Currey, 1993); Sarah K. Croucher, *Capitalism and Cloves: An Archaeology of Plantation Life on Nineteenth-Century Zanzibar* (New York: Springer, 2014).

[25] Speke also gave thanks to the Arabs who assisted him in his 1856-58 expedition with Richard Francis Burton.

Britain as a whole) as potential trade partners to the people of Buganda, Bunyoro, and other kingdoms along Victoria Nyanza.[26] Per Speke, the slave trade of the African Great Lakes was dominated by Zanzibari merchants, with raiding parties causing displacement and trauma to the people of the region.[27] In highlighting Zanzibari malfeasance, Speke's offer of trade was to signal to local leaders that Britain would be a reliable and peaceful trading partner.[28]

This rhetoric was not only meant to appeal to Speke's interlocutors in Uganda but to a metropolitan audience that was familiar with abolitionist and anti-slavery stances.[29] Speke's views did not develop in a vacuum, but were informed by decades of discourse in Britain that viewed the problem of slavery in the context of international trade and political ideology. In citing *commerce* as a chief aim of his expedition, Speke was echoing from abolitionist thought that sought to replace the slave trade with so-called "legitimate trade."[30] According to David Turley, abolitionists since the late-eighteenth century argued that reorientating British-African trade away from slavery and towards trade in commodities (i.e. legitimate trade) would "bring prosperity and peace" to each party, while offsetting the economic cost of ending the slave trade.[31] Advocacy for *legitimate trade* in the early-nineteenth century coincided with political debates on the merits (and demerits) of free trade in the context of Britain's Corn Laws and protectionist regime in the West Indies.[32]

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[26] Speke, *Journal of the Discovery*, 76-77.
[27] Speke, *Journal of the Discovery*, 80; "The whole place, once so fertile, was now almost depopulated and in a sad state of ruin, showing plainly the savage ravages of war; for the Arabs and their slaves, when they take the field, think more of plunder and slavery than the object they started on- each man of the force looking out for himself."
[28] Speke, *Journal of the Discovery*, 80; Speke presented himself as a mediator between a local chieftain and Zanzibari merchants. Speke's narrative do not indicate how either the Zanzibari merchants nor the kings of Buganda and Bunyoro viewed Speke, whether he was a potential ally, a potential threat, or a nuisance.
[29] This rhetoric also served to depict Speke as a diplomat, someone representing the whole of Britain in a positive manner and in keeping with Britain's outward presentation of itself as an anti-slavery state.
[30] David Turley, *The Culture of English Antislavery, 1780-1860* (London: Routledge, 1991): 225.
[31] Turley, *Culture of English Antislavery*, 53, 143, 225.
[32] The Corn Laws refer to a series of laws, beginning in 1815, which problem the importation of foreign grain in order to prevent a collapse of Britain's agricultural sector which benefitted from increased prices due to the Napoleonic War's disruption of foreign trade. These laws were unpopular with many in Britain, resentful at the high

Among abolitionists, the language of *free* and *legitimate* trade offered an alternative vision to metropolitan audiences premised on the view that slavery had brought the world low, with Africans bearing the cost of slavery. But *legitimate trade* offered a way to restore a fallen world into renewed order, promising to restore Africa to an Edenic and idyllic state of nature before the slave trade took root.[33] In an abolitionist poem written in 1809, commerce was personified as a modern-day Persephone, whose absence in lieu of the slave trade saw the despoilment of Africa, but whose return promised a restoration of "nature's social laws:"

> She [Commerce] left the land, that liberty resign'd [sic]
> But left despoil'd of honour, fortune, fame,
> To secret vassalage and open shame.
> Know, Commerce follows nature's social laws,
> As peace or charity her blessing draws -
> Still shall she bear from Afric's [sic] genial plains
> Their native wealth, though man untouch'd remains;
> She hides no dagger in her flowing vest,
> But frankly comes, caressing and carest [sic] [34]

Decades of abolitionist rhetoric had made those stances commonplace in British society, familiar to advocates and opponents to the abolitionist cause. The growth of abolitionist movements in Britain at the aftermath of the Napoleonic Wars saw British domestic, foreign, and colonial

price of breadstuff and the perceived benefits given to the English gentry class who owned much of the United Kingdom's farmlands. The formation of the Anti-Corn Law League in 1839, the growth of the working-class Chartist movement, and the Great Famine in Ireland (1845-46) saw the government of Prime Minister Robert Peel to repeal the Corn Laws in 1846. For more on the Corn Laws, see: Cheryl Schonhardt-Bailey, *From the Corn Laws to Free Trade : Interests, Ideas, and Institutions in Historical Perspective* (Cambridge, Mass: MIT Press, 2006).

[33] Patrick Brantlinger observed that "pre-Victorian writers were often able to envisage Africans living freely and happily without European interference. Strike off the fetters European slavers had placed on them, and the result was noble savages living in pastoral freedom and innocence;" Patrick Brantlinger, *Rule of Darkness: British Literature and Imperialism, 1830-1914* (Ithaca: Cornell University Press, 1988): 176; As described by Richard Groves, the view of Sub-Saharan Africa as "Edenic" was rooted, in part, Western beliefs of lands lying outside of Europe as pristine and undeveloped. For more, see: Richard H. Grove, *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860* (Cambridge: Cambridge University Press, 1995).

[34] James Montgomery, James Grahame, and E. Benger, *Poems on the Abolition of the Slave Trade* (London: T. Bensley, 1809): 131.

policy shift haphazardly towards abolition and away from the slave-based economies that had been encouraged and protected by the British government only a generation earlier.[35]

Speke's suggestion in 1863 on opening up commercial routes to Equatorial Africa was therefore familiar to metropolitan readers versed in decades of abolitionist thought.[36] Wedded with the bluntness of late-eighteenth century calls for resource extraction of the mercantilist era, the emerging rhetoric of development suggested an idealized view where the economic growth of Britain was no longer in conflict with humanitarian aims, but was coterminous with them. The spread of British arms, commerce, and law were prerequisites for the pursuit of humanitarian ends.[37]

But Speke's advocacy did not represent a unanimity of metropolitan opinion. James MacQueen vociferously disagreed with Speke's claims on the Nile Question.[38] But MacQueen also ridiculed Speke's use of the rhetoric of development as a sign of Speke's naivete. Regarding Speke's view of establishing permanent trade routes to Uganda and the African interior at large, MacQueen reacted with incredulity:

> With regard to the great question of commerce, we remark, did it never strike Captain Speke in his advance, - declaring, as he frequently and emphatically did, that he went to open up an entirely new channel, - that the jealous tribes to the south of the lake would see in that the ruin of their present trade, and thus render them unfriendly to his object?[39]

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[35] This haphazard shift was due to the conflicting interests represented in Parliament. Even with the abolition of the slave trade in 1807, slavery remained legal in the West Indies until the abolition of slavery across the empire as enacted in the 1833 Slavery Abolition Act. As David Olusoga notes, however, the act was the result of "an unromantic process of technocratic political negotiation and pragmatic compromise." That is to say that while abolitionist thought gained dominance in British politics by the beginning of Queen Victoria's reign, it existed and contended with anti-abolitionist and pro-slavery sentiments among many interests (e.g. planters and merchants) in British society. There never was a moment of uniform belief on the subject; David Olusoga, *Black and British: A Forgotten History* (London: Picador, 2016): 230.

[36] A further influence on the free trade sentiment in Victorian Britain – the growth of Liberalism – will be explored shortly in this chapter.

[37] Although to what degree and what proportion these facets of British rule would be taught (or imposed) on Africans and other subject peoples was the subject of debate.

[38] For more on this debate, please refer to chapter 2 of this study.

[39] James M'Queen, "Part II: Captain Speke's Discovery of the Source of the Nile," in *The Nile Basin*, ed. Richard Francis Burton and James M'Queen (London: Tinsley Brothers, 1864): 160-161.

For MacQueen, the impediments to Speke's lofty goals were many. MacQueen noted that, from Speke's own account, the rival kings and leaders in Uganda had reservations towards Speke's own scheme.[40] Likewise, the expense of transporting goods from Uganda to markets in Europe and Asia would be prohibitive.[41] The continued warfare in Central Africa, the persistence of slavery, and MacQueen's own racist views on Africans informed his critique of Speke's proposal.[42] But no matter how ridiculous these claim were to MacQueen – he nonetheless acknowledge that Speke's views had support in Britain.[43] MacQueen believed that Prime Minister Palmerston would reject Speke's scheme if present with the proposal, but betrayed some level of concern, stating, "[however], in the present state of wild feeling which predominates in this country, there is no saying what may take place."[44]

Abolitionism and Commerce

Without the framing of abolitionism, the allure of commerce was not present in investing in further expeditions to Africa. MacQueen was correct that the cost and lack of immediate profit deterred potential investors from the Nile Basin. In 1856, Frederick Bruce, the British consul-general at Alexandria wrote to George Villiers, the Earl of Clarendon and the then-serving Foreign Secretary. Bruce informed Clarendon of the creation of a new company, la Compagnie Egyptienne, tasked with exporting grains and other products from the Nile.[45] However, the formation of this company took time, because while there had been "various attempts…to induce

[40] M'Queen, *The Nile Basin*, 161.
[41] M'Queen, *The Nile Basin*, 162; "The uncertainty, length, and danger of internal conveyance are everywhere so great, that even if such articles as sugar, coffee, or cotton could be obtained for nothing, none of these articles would defray the cost of bringing them from distant interior parts to the sea-coast for any European or Asiatic market. Can industry and commerce, which must always go hand in hand, exist in such countries? No."
[42] M'Queen, *The Nile Basin*, 162-165.
[43] M'Queen, *The Nile Basin*, 164.
[44] M'Queen, *The Nile Basin*, 164; Henry John Temple, 3rd Viscount Palmerston (1784-1865) served as Prime Minister of the United Kingdom from 1855-1858 and again from 1859-1865.
[45] *Compagnie Egyptienne: Pour le Remorquage A Vapeur sur le Nil et les Canaux de l'Égypte*, pamphlet, 1856, Foreign Office Papers, FO 78/1338, the National Archives, Kew, United Kingdom.

capitalists to enter into this scheme," these plans failed due to a lack of interest until the Egyptian Khedive, Said Pasha, intervened to become the chief sponsor of the company, with only partial foreign backing.[46] If foreign investors were wary of investing in Ottoman Egypt, with its well-established trade networks across North Africa, Europe, and the Middle East, what were the incentives, in 1860, to invest in Uganda or other regions inside Equatorial Africa whose trade connections to Western Europe were unfamiliar to Europeans themselves? As MacQueen intimated, the moral crusade of abolitionism provided a rationale for more expeditionary missions into Africa. The question of profitability was shunted, promised but not elaborated on. Missionaries such as Charles Beke and David Livingstone articulated a moral mission to the science of geography which would develop, hand in hand, with the civilising mission of the British Empire. In turn, travellers and adventurers like Petherick, Speke, and Baker adopted the language of abolitionism that permeated the writings of missionaries and was well-known to metropolitan audiences. Coupled with appeals to open up Africa to foreign trade, the rhetoric of development took form.

Beyond abolitionism, the nature and purpose of the British Empire was heavily contested among Britons throughout the nineteenth century, reflecting the shifting contours of Britain's social, economic, and ideological discourse.[47] A key issue with assessing the trajectory of the British conquest of much of Africa by century's end is that it is evident, with hindsight, that this process occurred. But through the 1860s and 1870s, the work of explorers in the Nile did not

[46] Frederick W.A. Bruce to the Earl of Clarendon, 30 August 1856, Foreign Office Papers, FO 78/1338, the National Archives, Kew, United Kingdom; According to Bruce, Said Pasha also felt uneasy about "the appearance of foreign flags on the Nile" as a marker against Egyptian self-rule.

[47] Beyond James MacQueen's disagreements with John Hanning Speke, the British public was never uniform in their views towards the empire. As Christopher Bayly argued, "the creation of colonies was never simply a question of domination. It involved a long process of political dialogue, of challenge and response, and of accommodation;" Christopher Bayly, *Imperial Meridian: The British Empire and the World, 1780-1830* (London: Longman, 1989): 75.

herald the British colonization of the region. Indeed, Baker, Gordon, and other Westerners operating in the Nile Basin did so under the aegis of Khedival Egypt. Nominally part of the Ottoman Empire, since the 1840s Egypt had *de facto* autonomy and had led to the subjugation of the Sudan.[48] While the Nile Basin – and Egypt itself – would ultimately come under British rule by 1888, the expeditions of Baker, Gordon, and other RGS-sponsored travellers necessitated the permission and, at times, the patronage of Cairo, not London.

This state of affairs differed from the more direct approach Britain took in southern and western Africa. While Patrick Brantlinger's contention that abolitionist "humanitarianism" was a cause for British imperial rule over Africa, in the context of the Nile Basin this assumption is complicated by Egypt.[49] White it is tempting to cast Western travellers as the vanguard of an inevitable process of colonization, it is important to historicize these travellers within the context of their time. It was not at all clear that Egypt, the Sudan, nor the Great Lakes would come under British rule. Egyptian imperial designs onto the region were already underway with Muhammad Ali's invasions of the 1820s. The British takeover of these region served as the transition from Egyptian to British imperial control.[50]

The Nile Slave Trade

To understand the exploratory focus on the Nile slave trade, it is essential to briefly examine the state of the Nile slave trade by the 1860s. The Nile slave trade was the movement of enslaved men, women, and children from both Sudan and the lands south of the Sudd marshes

[48] For more on the nature of Muhammad Ali of Egypt, his conquest of Sudan, and the establishment of a professionalized *fellahin* military, see: Khaled Fahmy, *All the Pasha's Men: Mehmed Ali, his army and the making of modern Egypt* (Cairo: American University in Cairo Press, 2004); Khaled Fahmy, *Mehmed Ali: from Ottoman governor to ruler of Egypt* (Oxford: One World, 2009).
[49] Brantlinger, *Rule of Darkness*, 174.
[50] The confiscation of a pre-existing Egyptian Muslim empire into Britain's empire is not unique. According to Christopher Bayly, the emergence of the second British Empire in the nineteenth century was typified by the subjugation of Islamic polities, such as the Mughals in India, the Sultanate of Zanzibar, Qajar Iran, the Sokoto Caliphate in the Sahel, among other; Bayly, *Imperial Meridian*, 180.

and sold to buyers in Khartoum, Egypt, the Hejaz, and the wider Ottoman Empire.[51] By the mid-nineteenth century, slave traders were either of Sudanese origin (if operating along the Nile), or Zanzibari (if operating from the south to the Indian Ocean). These slave traders transported captured people from the Great Lakes region, through the Nile, before selling slaves in Khartoum, Cairo, or transporting the enslaved into the Arabian peninsula.[52] This slave trade was a portion of a wider Ottoman slave trade that extended into North Africa and the Levant. The nineteenth century saw an expansion in the trade of Africans into the wider Ottoman Empire, as Muhammad Ali launched his invasion of Sudan in 1820.[53] Likewise, since the seventeenth century, the Sultanate of Oman, through Zanzibar, had exported slaves into the Arabian peninsula and to clove plantations on the Swahili Coast.[54] Despite the growth of the slave trade to French cash crop plantations on Mauritius and Réunion after 1785, by the 1860s most of the trade was concentrated to Eastern African plantations controlled by Zanzibaris and Arabs.[55]

As seen in chapter 2, John Petherick's reputation was damaged by Speke's allegations that Petherick had enriched himself via the slave trade. But before Petherick's fall from grace, Petherick's narrative of his travels through Sudan in the 1840s and 1850s were replete with observations on the nature and extent of the slave trade along the Nile. Petherick provided details on the slave trade, including regional variations in price of different categories of slaves:

[51] For more on the Nile slave trade in the nineteenth century, see: Janet J. Ewald, "The Nile valley system and the Red Sea Slave Trade 1820-1880," *Slavery & Abolition* 9, no. 3 (1988): 71-92; Janet J. Ewald, *Soldiers, Traders, and Slaves: State Formation and Economic Transformation in the Greater Nile Valley, 1700-1885* (Madison: University of Madison Press, 1990).
[52] Ewald, "The Nile valley system," 71-72; As Ewald points out the slave trading network extended to include the sale of slaves captured in the Ethiopian Highlands as well as slaves captured along the Nile Valley.
[53] Fahmy, *All the Pasha's Men,* 88.
[54] Abdul Sheriff et al., *Transition from Slavery in Zanzibar and Mauritius: A Comparative History* (Dakar: Council for the Development of Social Science Research in Africa, 2016): 36.
[55] Sheriff, *Transition from Slavery*, 37; the use of "Arab" was nebulously and confusingly used by different parties in Africa to denote either an ethnic and religious self-identification by self-declared Arabs; a geographical point of origin from the Arabian peninsula; or an exonym to describe speakers of Arabic (or its dialects). This is not to mention that an identity like "Arab" was not static and changed depending on the social context. For the sake of simplicity, I will refer to Arabs when described in the text by a given writer even if the usage is not exact.

> The prices of slaves in Kordofan, bordering as it does on negro populations, is so very low that few are without the means of acquiring them. A lad of fifteen or twenty years may be purchased for from £5 to £8, and a girl of the same age from £8 to £12; children from six to ten years of age, according to their sex and beauty, vary from £4 to £12. These are about the value of slaves when first introduced by the slave-merchants from their native hills; but domestic slaves, when resold, fetch from half as much again to double the sums stated.[56]

Slavery was presented as a pervasive fact in the Nile Basin and across Eastern Africa. Charles Beke provided estimates on the extent of the commerce of various East African ports, surmising that the trade in slaves amounted to more than half the trade in the Red Sea port town of Massawa.[57] Richard Francis Burton, Speke's rival, was nonetheless in agreement with Speke on the dangers of the slave trade on African society gained from observing the people in East Africa during his 1857-59 expedition in the vicinity of Lake Tanganyika. In his 1859 report to the *Journal of the Royal Geographical Society of London*, Burton condemned the wanton destruction caused by the slave trade, attributing the practice as the cause for Africa's misfortune:

> Slaves, however, are much more frequently the end and aim of feud and foray. The process of kidnapping, an inveterate custom in these lands, is in every way agreeable to the mind of the man-hunter…The inhabitants of the land have thus become wolves to one another; their only ambition is to dispeople and destroy, and the blow thus dealt to a thinly populated country strikes at the very root of progress and prosperity.[58]

David Livingstone's dual work as both missionary and traveller was referenced repeatedly in the works of Nile explorers. Despite working in isolation and away from the Nile Basin, Livingstone kept his hopes up to an end to the slave trade, writing in January 1866:

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[56] John Petherick, *Egypt, the Soudan and Central Africa: with explorations from Khartoum on the White Nile to the Regions of the Equator being sketches from sixteen year's travel* (Edinburgh: William Blackwood and Sons, 1861): 249.

[57] Charles Tilstone Beke, *Letters on the Commerce and Politics of Abessinia and Other Parts of Eastern Africa addressed to the Foreign Office and the Board of Trade* (London: Printed for Private Use, 1852): 10; "Slaves, it is true, form at present the principal item of the export trade [of Massówa], amounting, according to Rüppell's statement, to more than a moiety of the whole. But the state of things will naturally cease, when the merchants find themselves called on to make returns in other more legitimate articles of commerce."

[58] Richard Francis Burton, "The Lake Regions of Central Equatorial Africa…," *Journal of the Royal Geographical Society of London* 29 (1859): 352.

> When one travels with the specific object in view of ameliorating the benighted natives of Africa every act becomes enobled [sic] - While exchanging the customary civilities Receiving [sic] a nights shelter purchasing food for the party - asking for information - or giving answers to the African's polite enquiries as to the objects of the travelers - We begin to spread information respecting that people by whose agency their hand will yet be freed from the cursed slave trade.[59]

In the Nile Basin, the dream of suppression the slave trade came from the force of arms. Samuel White Baker, Charles Gordon, and an assortment of British military officers, merchants, European adventurers, and American Civil War veterans came to the Nile Basin and merged the science of geography with the cause of abolitionism, ostensibly done on the behalf of the Khedive of Egypt. A militant age of geography had arrived, even if its efficacy in suppressing the slave trade was dubious at best.

Samuel White Baker's Second Expedition

As seen in the previous chapter, Samuel White Baker and his wife Florence arrived to Gondokoro in 1863. The arrival of John Hanning Speke and James Augustus Grant – and the absence of John Petherick – gave Baker the opportunity to set off for the rumoured lake not visited by Speke's expedition. In the course of this expedition, Baker came upon Lake Albert in 1864. After returning to Britain in 1865, Baker basked in the success of this expedition.[60] Publishing numerous books and receiving various awards, Baker returned to Egypt to accompany the Price of Wales visit in 1869 to celebrate the anniversary of Khedive Ismail's ascension to the viceroyalty of Egypt.[61] Once in Egypt, Baker was appointed by Ismail with the

[59] David Livingstone's entry for 19 January 1866, Field Diary I, August 1865 to March 1866, *Livingstone Online*, University of Nebraska, Lincoln, NE, https://livingstoneonline.org.
[60] Thomas Paul Ofcansky, 'Baker, Sir Samuel White (1821–1893)', *Oxford Dictionary of National Biography*, accessed March 4, 2019. https://doi.org/10.1093/ref:odnb/1135.
[61] "Festivities In Egypt," *The Times*, 3 February 1869.

task of establishing Egyptian rule in Equatorial Africa, primarily to suppress the slave-trade along the White Nile.[62]

Baker's second expedition of 1869-1873 served as a transition point where questions of geographical science were subordinated to the goal of development as the primary purpose of an expedition. This was most keenly seen in the 1869 keynote address of the Royal Geographical Society, which fêted Baker's upcoming expedition.[63] Attended by the Prince of Wales, Albert Edward, by Prime Minister William Gladstone, and delivered by Robert I. Murchison, the address framed Baker's expedition, first and foremost, as a "re-exploration" of the Great Lakes of Equatorial Africa.[64] But while the goal of discovery was given first billing by Murchison, it is not elaborated upon any further.[65] Instead, Murchison devoted more time framing Baker's second expedition as an anti-slavery expedition than extolling any new geographical knowledge that the journey may produce. In thanking the Prince of Wales for patronizing both Baker's expedition and the efforts of the Society, Murchison hailed Baker's and Khedive Ismail's efforts to suppress the slave trade:

> We know, also, that beyond the sphere of our science, his Royal Highness has vigorously supported the views of the Viceroy [Khedive Ismail] and Sir Samuel Baker in their desire to put an end to the nefarious and cruel trade in slaves which has been carried on upon the White Nile, far beyond the boundaries of Egypt...Under the power of the Viceroy of Egypt, this state of barbarism will, it is hoped, be succeeded by happier times, when the natives may calculate on reaping more than they show; and if this happy change shall be

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[62] "OWL'S-LIGHT.-Mr. Disraeli has called a meeting," *The Times*, 8 April 1869; Baker's *Ismailia* (1875) offered the primary historical narrative regarding Baker's second expedition as his unpublished narrative of the expedition is restricted from publication without the consent of the Baker estate.
[63] "The Royal Geographical Society," *The Times*, 25 May 1869.
[64] "The Royal Geographical Society," *The Times*, 25 May 1869.
[65] "The Royal Geographical Society," *The Times*, 25 May 1869; Murchison's statement on exploration was condensed to his opening words of his speech: "Attaching as we do the greatest importance to the grand-re-exploration of Equatorial Africa and its vast internal lakes, which is about to be carried out by Sir Samuel Baker (cheers), I have the satisfaction of knowing from our eminent medallist himself that the good-will and liberal patronage of the Viceroy of Egypt were essentially obtained through the active personal influence of the Prince of Wales […]."

> effected, as I confidently anticipate, it will be due in a great degree to our Royal Vice-Patron...and our medallist, Sir Samuel Baker.[66]

Prince Albert Edward concurred with the sentiment, arguing that the suppression of the slave trade in the White Nile must be met with the approval of "every Englishman."[67] Summarizing the banquet's events in *The Times* the article writer had no doubts as to the success of Baker's mission: "This expedition, which will no doubt prove a great success under the guidance of its experienced leader, cannot fail to achieve results most important to science, humanity, and civilization."[68]

But this conflation of scientific with developmental ends had antecedents in Baker's own conception of himself as geographer and traveller. In an 1858 letter to Roderick Murchison, the then-President of the RGS, Baker positioned himself as a prospective explorer in Africa. But despite his eventual ventures to Uganda and Lake Albert, Baker was initially interested in southern Africa as his destination. For Baker, the exploration of southern Africa had clear economic advantages for Britain:

> The future importance of South Africa will depend upon its commercial productions. From the descriptions of Dr. Livingstone we are led to suppose that the fertile requirements of the countries bordering the Zambesi are capable of producing articles of tropical export, but more especially COTTON [sic]. It may be informed that similar capabilities exist in the vicinity of the Limpopo which have yet to be developed.
>
> Our position as a great manufacturing country renders it imperative that for our supply of cotton we [sic] should be independent of America or other countries, and attention is directed to this portion of South Africa as the field adapted for its production. Should Dr. Livingstone's expectation be realised by his expedition on the Zambesi and his projected exploration north of that river, the whole of that portion of African lying between the Zambesi and Port Natal will rise from its present obscurity to immense importance.[69]

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[66] "The Royal Geographical Society," *The Times*, 25 May 1869.
[67] "The Royal Geographical Society," *The Times*, 25 May 1869.
[68] "OWL'S-LIGHT.-Mr. Disraeli has called a meeting," *The Times*, 8 April 1869; the anonymous writer only went by the pen name "The Owl" and was active from 1865 to 1869, with no further information given to the author's identity.
[69] Samuel White Baker to Roderick Murchison, letter, 10 February 1858, Correspondence Blocks, CB 4/94, Royal Geographical Society, London, UK; Baker did not elaborate on the importance of Britain divesting itself of American cotton, although the sectional crisis of the United States over the question of slavery was no doubt a

Baker's rhetoric of development only increased in the next two decades as he came to hold various positions that sought to simultaneously improve Britain's position in the world with the uplift of Africa.

Given his experience after 1863, Baker's success in traversing the Sudd marshes was an asset for any Egyptian attempt to extend Cairo's rule across the entire length of the river and into the Great Lakes region. Baker viewed the second Nile expedition as being the direct result of his first. Baker recounted that witnessing the pervasiveness of slavery in Equatorial Africa compelled him to not only feel abject horror, but to suppress the practice entirely.[70] Baker viewed the slave trade as the "abomination that has cursed the African race," preventing Sub-Saharan African society from advancing to a more civilized state of affairs, echoing Burton's sentiments.[71] Baker warned would-be missionaries to wait until the slave trade was suppressed, for all efforts of Christianization would fail until slavery was fully eradicated.[72] In his 1873 keynote address to the Royal Geographical Society summarizing his second expedition, Baker presented the eradication of the slave trade as a daunting challenge:

> In the countries beyond the pale of authority in the Upper Nile - that is, in Central Africa - there were between 10,000 and 15,000 slave-hunters, people who were mere outcasts from the miserable society of the Arabas of the Soudan. These men, instead of cultivating the land and following some honest industry, had adopted the nefarious business of kidnapping women and children in the upper countries.[73]

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factor. The question of American slavery also complicated British sentiments on slavery for as much as many Britons prided themselves as abolitionists, Britain's textile industry was wholly reliant on Southern US cotton harvested by enslaved Black Americans. For more on Britain's complicated relationship with the US and the Confederate States of America before and during the American Civil War, see: Michael J. Turner, *Stonewall Jackson, Beresford Hope, and the Meaning of the American Civil War in Britain* (Baton Rouge: Louisiana State University Press, 2020).

[70] Samuel White Baker, *Ismailïa; A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade. Organized by Ismail, Khedive of Egypt* (New York: Harper & Bros, 1875): 1.

[71] Baker, *The Albert N'yanza*, xxiii.

[72] Baker, *The Albert N'yanza*, xxiii.

[73] Samuel White Baker, "Expedition to Central Africa," *Proceedings of the Royal Geographical Society of London* 18, no. 1 (1874): 50-69.

Baker did not corroborate these numbers. But the effect was that Baker presented himself as a David-like figure going against Goliath.[74] Having accepted the Khedive's invitation for the Equatoria governorship, Baker spent 1869 in Egypt preparing a task force and managing the logistical supply chain for his journey into Central Africa. With his *firman* in hand, Baker was given "supreme power" to suppress the slave trade and open up the region to "legitimate trade."[75] The firman tasked Baker to annex Equatoria to Egyptian rule, including all lands south of Gondokoro; suppress the slave trade; open up stations for navigation, and introduce the cultivation of cotton into the region.[76] With 1700 soldiers and officers, 55 sailing ships, and 10 steamers, Baker's expedition resembled more the armies of Hernan Cortes and Francisco Pizarro rather than the solidary journeys of David Livingstone or John Hanning Speke.[77]

The celebratory dinner at the Royal Geographical Society notwithstanding, the political and ideological prerogatives of Baker's 1860-73 expedition took precedence over geographical exploration. Nonetheless, Baker presented his expedition in his published narratives as also being geographical in nature, proud that astronomical and longitudinal measurements of his first expedition were updated by the efforts of his nephew, Julian Alleyne Baker.[78] More important was Baker's view that exploration was an iterative enterprise, where the success of one expedition allowed made future expeditions possible. In this case, the annexation of the region to Egypt facilitated the work of subsequent travellers:

> The fact is this thorough exploration […] now afford a firm base for all future travellers. The good work of one man can be carried on by his successor. Formerly it was

[74] It is difficult to determine if Baker was citing these numbers from an uncited source or if Baker was exaggerating for effect, to bolster his image as an abolitionist.
[75] Baker, *Ismailia*, 19; a *firman* was an edict issued by an Ottoman sultan (or Egyptian Khedive) to order, compel, or grant authority to an outside agent.
[76] Ofcansky, "Baker, Sir Samuel White," *ODNB*.
[77] Ofcansky, "Baker, Sir Samuel White," *ODNB*.
[78] Baker, *Ismailia*, 469-470; Julian Alleyne Baker (1848-1922) served as an officer in the Royal Navy, achieving the rank of Lieutenant in 1868. After accompanying in the 1869-73 expedition to Central Africa, Baker would achieve the rank of Captain in 1890 and reached the rank of Rear-Admiral in 1903.

> impossible to render the necessary support to an explorer in Central Africa […] Egypt was the only country that could form a government by the extension of her frontier to the equator […] This annexation is now effected, and our relations with the Khedive assure us that the heart of Africa will be thrown open to the civilizing [sic] influence of the North.[79]

Baker arrived in Khartoum on 6 January 1870.[80] After a month's preparation, Baker's expedition set sail from Khartoum towards the trade depot Gondokoro. With a four-year mandate over the province of Equatoria, Baker spent the remainder of 1870 stuck in the Sudd marshes. Having had to return to Khartoum for more provisions in September 1870, Baker and his expeditionary force reached Gondokoro on 15 April 1871.[81] After a year of further restocking and reconnaissance, Baker departed Gondokoro for Equatoria, arriving in February 1872.[82] Baker established an Egyptian governmental outpost in Masindi, the capital of Unyoro.[83] The slave-trader Abou Saood became Baker's *bête noire,* representative of the evils of slavery and the cause of Baker's setbacks in Equatoria, no matter how implausible.[84] Abou Saood's actions were described by Julian Alleyne Baker as the source for regional instability:

> Abou Saoud's people have attacked and plundered his country, carrying off the slaves, in defiance of the government represented by Abdullah Effendi in Fatiko. There is a war between the brigands and Abdullah Effendi, whom they have threatened to attack.[85]

Baker allied with the Riongan king for aid in Baker's war against Abou Saood.[86] By the end of 1872, Baker had declared he had "won the game" by forcing the capitulation of Abou

[79] Baker, *Ismailia*, 470.
[80] Baker, *Ismailia*, 26-27.
[81] Baker, *Ismailia*, 124.
[82] Baker, *Ismailia*, 175-178, 254; Baker antagonized the local Baris people during his 1871 expedition east of Gondokoro, engaging in a skirmish with the Baris.
[83] Baker, *Ismailia*, 325; the Egyptian province of Equatoria was expansive, incorporating territories south of the Sudd marshes towards the shores of the Victoria Nyanza. This included Bunyoro (i.e. Unyoro) and Buganda (i.e. Uganda).
[84] Baker, *Ismailia*, 352; When the King of Bunyoro attacked Baker's force in 1872, Baker blamed Abou Saood for the conflict, not the fact that Baker was leading a war of conquest on Bunyoro.
[85] Julian Alleyne Baker's entry for 27 July 1872, Journal of Samuel and Julian Alleyne Baker, MSS Eng. misc. c. 869, Bodleian Library, Oxford, UK.
[86] Baker, *Ismailia*, 421-422.

Saood's men.[87] Fortifying Fatiko, Baker narrative turned hopeful, describing the Fatiko environs as a "picture of true harmony," where violence and crime were unknown with the end of the slave trade.[88] Victory in hand, Baker evacuated Fatiko on 20 March 1863 on his return back to Britain, reaching Cairo on 24 August 1863.[89] In concluding *Ismailia*, Baker felt triumphant. Despite the hardship, the betrayals by his own men, Baker believed he had personally ended the slave trade:

> Thus it is plain that, while I was endeavouring to do my duty, others who should have been supporting me were actually supporting the slave-hunters… My personal interference has rendered the slave trade of the White Nile impossible so long as the government is determined that it shall be impossible.[90]

But as seen in the start of this chapter, Baker's rosy picture did not reflect the reality. Charles Gordon's arrival saw the continued struggles of the Egyptian Khedive – through Gordon and other Western proxies – to suppress the slave trade, to little avail.

Typical of his contemporaries, Baker's views on slavery were tied with Baker's wider views on race, progress, commerce, and geography. For Baker, it was a given that African tribes and kingdoms were in a constant state of warfare, a trait embedded in African society.[91] Likewise, Baker took it for granted that Africans, as a whole, are "notoriously cunning and treacherous," but lack the "self-sacrifice" to progress much.[92] Not content to only generalize about Africans, Baker believed his Egyptian soldiers universally disdain the goals of

[87] Baker, *Ismailia*, 429, 442.
[88] Baker, *Ismailia*, 452, 464-465.
[89] Baker, *Ismailia*, 471.
[90] Samuel White Baker, *Ismailïa: A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade*, Second Edition (London: MacMillan and Co., 1879): 465.
[91] Samuel White Baker, *Ismailïa; A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade. Organized by Ismail, Khedive of Egypt* (New York: Harper & Bros, 1875): 143.
[92] Baker, *Ismailia*, 183.

abolitionism, serving to highlight Baker's self-conception as a solitary fighter for a noble cause.[93]

In Baker's view, abolitionism had to be guided by European hands because the negative traits were an inherent aspect of African culture, an aspect that needed to be removed by force.[94] The belief slavery had to be ended by force of arms was not unique to Baker. The Royal Navy's patrols off the African coast to restrict the slave trade was already a decades-long practice. Abolitionists such as David Livingstone used their reputations as explorers to argue for abolition in Africa. In turn, British organisations such as the Society for the Extinction of the Slave Trade and for the Civilization of Africa (1839) emphasized the allied mission of proselytisation and abolitionism as essential for the future of the continent.[95] What differentiated Samuel White Baker's efforts from these prior cases was the transformation of the role of the explorer from that of an ancillary element of the civilising mission to a leading agent of actualising the rhetoric of development on the ground.

There was little reflection on Baker's part towards situations that contradicted his view on the "primitiveness" of African society. As articulated after his first expedition, Baker saw exploration as preceding the networking of isolated regions with the wider world economy, a process that would have a civilizing effect on "primitive" societies. And yet Baker's narrative – along with that of Speke, Beke, and others – demonstrated that the region was already connected with the wider world, with or without the guidance of Egypt or Britain. For better or for worse, the slave trade had connected Central Africa with global markets. In meeting representatives of

[93] Baker, *Ismailia*, 156-157.
[94] Baker, *Ismailia*, 340; here Baker contradicts himself. He states in *The Albert N'yanza* that slavery only recently came to Central Africa.
[95] Society for the Extinction of the Slave Trade and for the Civilization of Africa, *Prospectus of the Society for the Extinction of the Slave Trade and for the Civilization of Africa, instituted June, 1839* (1840): 1-10.

King Mutesa, Baker observed the fine "Indian clothes" the envoys were wearing, as if they were "Bombay merchants."[96] In selling the potential effects that abolitionism and trade in Central Africa would have, Baker imagined the delivery of "Manchester goods" to the remotest African village via a navigable Nile.[97] Yet Baker observed that many of the slave traders he encountered were wearing those same "Manchester goods," having arrived through the already existing trade routes from Zanzibar.[98] The repeated mentions of Arabic as being the *lingua franca* of Equatoria already connected Equatoria to the Mediterranean, the Swahili Coast, and the wider Islamic world.[99] In other words, Baker's rhetoric of development did not advocate for any economic development that was not done for the benefit of Britain, regardless of Baker's status as a hired agent for Egypt or his moral conviction towards the slave trade.

Baker's Rede Lecture

While Baker's published narrative was not accurate, it provided Baker the opportunity to assess the specific peculiarities of Islamic and African societies that he believes make these societies susceptible to slave trading versus the abolitionism of the West. As articulated by Dane Kennedy, explorers did not explore with a blank slate, but with geographical preconceptions that coloured their work.[100] Complimenting other epistemological frameworks as observed by Edward Said in *Orientalism*, this prior knowledge guided the ways in which explorers produced and transmitted knowledge back to metropolitan audiences. But whereas Kennedy focuses the myriad "erasures" that eliminated non-European knowledge and voices in favour of those of

[96] Baker, *Ismailia*, 375.
[97] Baker, *Ismailia*, 486.
[98] Baker, *Ismailia*, 285.
[99] Baker, *Ismailia*, 152, 153, 240, 260, 316, 375, 419, 420, 425, 569.
[100] Dane Keith Kennedy. *The Last Blank Spaces: Exploring Africa and Australia* (Cambridge: Harvard University Press, 2013): location 194. Kindle Edition

British origin, Baker provides an example where an explorer grapples with the societies he has explored, albeit as a caricature of that society.[101]

On Baker's return to Britain in 1874, he was greeted with fanfare from the RGS and from officials in the British government. Baker was invited to give the prestigious Rede Lecture at Cambridge University, a lecture that was described in the journal *Nature* as being "one of the highest intellectual treats of the whole year."[102] Titled "Slavery and the Slave Trade," Baker's lecture sought to give a comprehensive account on the institution of slavery and the tools to eliminate the practice. More important, Baker's lecture connected the rhetoric of development inherent in the project of the geographical exploration of Africa with the project of the abolition of slavery in Africa:

> I propose to trace the origin of slavery, and to show that the existence of this great evil depends upon the low scale of civilization of the dominant power. I assume that a high scale of civilization renders a state of slavery impossible, as a highly educated and exalted society must necessarily uphold the liberty of every subject. If this view is accepted, we can only arrive at the conclusion that the emancipation of slaves and the general suppression of the slave trade throughout the world will be a slow and gradual process, as the freedom of the weak will depend upon the advancement and general mental development of those countries which are now semi-civilized, and are accordingly slave-holding powers.[103]

In this, Baker's views aligned with the end logic of the rhetoric of development: the abolition of slavery could not be completed without the developmental uplift of "semi-civilized" societies by those powers with a "high scale of civilization." Baker's logic was crude, but it was the logical endpoint of abolitionist rhetoric since the early-nineteenth century. But even in this late stage, the

[101] Baker, "Slavery and the Slave Trade," 187-188; For example, Baker correlated the prevalence of polygamy with the existence of slavery within these societies.
[102] "The Rede Lecture at Cambridge," *Nature* 5, no. 105 (2 November 1871): 9; J.H. Baker, "Rede, Sir Robert," *Oxford Dictionary of National Biography*. Accessed 12 December 2021. https://doi.org/10.1093/ref:odnb/23247; The Rede Lecture was named after Sir Robert Rede (d. 1519), the Chief Justice of the Common Pleas under King Henry VII. Upon Rede's death, his estate provided an annual £4 stipend to fund three pre-existing lectureships at Jesus College, Cambridge. From 1524 to
[103] Samuel White Baker, "Slavery and the Slave Trade," *The Eclectic Magazine of Foreign Literature* 20, no. 3 (September 1874).

dominant position of Khedival Egypt over Central Africa did not see an immediate transition to British colonial rule.

The role of exploration within the wider phenomenon of imperialism has been a point of contestation among historians. Questions abound: did explorers constitute the scouting party for European imperialism? Were explorers the "precursors but not progenitors of imperialism?"[104] This question has similarly dogged missionary histories, as missionaries (like explorers) preceded the formal colonization of the territories they traversed.[105] Nonetheless even the term "precursor" is fraught with teleological connotations, as to suggest that explorers served as imperial precursors implies an inevitability to a region's colonization. While Baker's desire to spread Christian civilization to Equatoria was undeniable, British colonization of the region was contingent on the collapse of Egyptian authority in the wake of the financial and military crises of the 1880s that culminated in the Mahdist Revolt in Sudan. Had history taken another turn, Baker's White Nile expeditions would have the same significance as his 1861 expedition in Abyssinia: an exploratory mission that brought geographic and ethnographic information to Britain, but did not carry the spectre of imperialism with it. For all its self-aggrandizement, Baker's Rede Lecture exemplified the tension that existed (and still exists in the historiography) of Britain's imperial mission. While the story of Nile exploration seemingly presages British rule along the river, this eventuality was not a given.

Ismail Pasha: The Enlightened Despot

What differentiated Baker's expedition of 1869-73 from later examples of Western imperial wars of conquest was that the imperial power resided in Cairo, not London. This was a

[104] Kennedy, *The Last Blank Spaces*, 5.
[105] For an elaboration on how missionary work presaged imperial rule in Africa, see: E.A. Ayandele, *The Missionary Impact on Modern Nigeria, 1842-1914: A Political and Social Analysis* (London: Longman, 1966).

curious circumstance given Baker's antipathy to Islamic culture. Throughout *Ismailia*, Baker expressed his belief that the spread of Islam into Central Africa would be disastrous, preventing the moral and technological uplift of Africans. Baker believed that the misery brought by slave raiding in Central Africa was due to the movement of Muslims into the region, writing:

> The great slave-trading nations are Mohammedans, who believe that by Holy Writ they are not only justified, but encouraged to capture or purchase slaves, who, from the position of heathens, may become converts to the true faith, and thus serve God, at the same time that they minister to the comfort of their proprietors. So long as the Mohammedan religion shall endure, this principle of slavery will be admitted. The attempts of Christian powers to suppress that trade will simply be regarded as attacks by Christianity directed against the Moslem creed. The grand law of force will to a certain extend always rule the physical world.[106]

Given this, why did Baker persist in this goal during his second expedition if he were a mere agent of a Muslim ruler? It was because Baker believed that Khedive Ismail (1830-1879), the *de facto* ruler of Ottoman Egypt, was the person who would bring about abolition in along the Nile Valley.

The trope of the "oriental despot" was a recurring feature of eighteenth and nineteenth-century literature.[107] The image of the oriental despot was connected with other orientalist tropes, such as "its aberrant mentality, its habits of inaccuracy, its backwardness" and its sensuality.[108] Nonetheless, the trope of despotism could be a necessary evil. As John Stuart Mill noted, the despotic rule of a ruler "could be a privilege for some societies" in terms of fostering development and progress.[109] Samuel White Baker channelled this perspective when discussing

[106] Samuel White Baker, "Slavery and the Slave Trade," *The Eclectic Magazine of Foreign Literature* 20, no. 3 (September 1874): 293; that slavery still existed in the Americas and was perpetuated decades earlier by Christian Europeans is left unmentioned; for more on anti-Muslim rhetoric in the context of Britain's relationship with post-Mahdist Sudan, see chapter 5.
[107] For more on the origins of the trope in the context of Ottoman-Venetian relations, see: Lucette Valensi, *The Birth of the Despot: Venice and the Subline Porte* (London: Hachette, 1987).
[108] Edward Said, *Orientalism* (New York: Vintage Books, 1979): 205.
[109] Uday Singh Mehta, *Liberalism and Empire: A Study in Nineteenth-Century British Liberal Thought* (Chicago: University of Chicago Press, 1999): 111.

his thoughts on Ismail, viewing him as a progressive force that could bring the civilising mission to the African interior. In his introduction to his second edition of *Ismailia* (1879), Baker defended Ismail from critics questioning the sincerity of Ismail's anti-slavery sentiments:

> This slight outline of the situation will exhibit the difficulties of the Khedive in his thankless and Herculean task of cleansing the Augean stables. He incurred the wrath of general discontent; his own officials accused him of deserting the Mahommedan cause for the sake of European *Kudos* [sic], and while he sacrificed his popularity in Egypt, his policy was misconstrued by the powers he had sought to gratify… In this equivocal position it would have been natural either to have abandoned the enterprise at the termination of my own engagement, or to have placed a Mahommedan officer in charge of the new provinces. Instead of this, His Highness adhered most strictly to his original determination, and to prove his sincerity he entrusted the command to an English officer of high reputation, not only for military capacity, but for a peculiar attribute of self-sacrifice and devotion.[110]

Baker argued that because he himself was put in command of the Egyptian expedition to Equatoria by the Khedive, that criticism of the Khedive's motives was not warranted.

Baker's sympathetic view on Ismail was made within a wider literature of the historical romance. In prefacing his work, *Egypt under Ismail: A Romance of History* (1889), the James Carlile McCoan sought to explain the melodramatic nature of Ismail Pasha's reign, from 1863 to 1879, by likening Ismail's career like that of a romance:

> For nothing in modern experience – East or West – parallels the splendid extravagance, the despotic cruelties, or the loan-mongering spoliation that distinguished this particular period in Egypt, the story of which may, therefore, well read like a romance, though historically true.[111]

But what did McCoan mean by "romance?" Apart from the tragic nature of Ismail's reign, the story of Ismail can be seen in the light of the tastes and preferences of the British reading public. According to Patrick Joyce, the *romance* as a literary genre predominated in the Western world

[110] Baker, *Ismailia*, xiv; As is evidenced in this quotation, Baker defended himself from critics of Ismail as it would seem Baker was complicit in expanding the slave trade along the Nile if Ismail was more interested in territorial gain rather than ending slavery.
[111] James Carlile McCoan, *Egypt Under Ismail, A Romance of History* (London: Chapman and Hall, 1889): 13

during the nineteenth century.[112] Per Hayden White, the romance "is fundamentally a drama of self-identification symbolized by the hero's transcendence of the world of experience, his victory over it, and his final liberation from it."[113] Combining this with the nascent liberal movement of Victorian Britain, Theodore Koditschek argued that what transformed a historical narrative into a "romance" was an implicit belief in the transformative and inclusive nature of progress that would allow for the shedding of the "remnants of traditional society […] without the perils of a rotting corpse.[114] In this light, Ismail Pasha was seen as the heroic figure rejecting his status of a Muslim ruler to uplift his continent in alignment to Western norms.[115]

Ismail Pasha was appointed the *wali* (governor) of Egypt in January 1863 following the death of his uncle, Said Pasha.[116] As the fourth ruler of the dynasty, Ismail oversaw the construction of the Suez Canal and a brief boom of cotton exportation, caused by the European demand exacerbated by the American Civil War.[117] In 1867, Ismail received the further title of Khedive, which was translated by English-language contemporaries as "Viceroy.[118]" During his

[112] Patrick Joyce, Democratic Subjects: The Self and the Social in Nineteenth-Century England (Cambridge: Cambridge University Press, 1994): 156.
[113] Hayden White, *Metahistory: The Historical Imagination in Nineteenth-Century Europe* (Baltimore: John Hopkins University Press, 1973): 8-9; White continues: "[The Romance] is a drama of the triumph of good over evil, of virtue over vice, of light over darkness, and of the ultimate transcendence of man over the world in which he was imprisoned by the Fall." As seen in chapter 2, the casting of oneself into the romantic hero was part and parcel of the process of self-fashioning among would-be explorers. In this case, the image of Ismail Pasha as the "hero" was being fashioned by a Western author.
[114] Theodore Koditschek, *Liberalism, Imperialism, and the Historical Imagination: Nineteenth-Century Visions of a Greater Britain* (Cambridge: Cambridge University Press, 2011): 7.
[115] Inherent in this portrayal of Ismail Pasha is the subversion of the orientalist trope of the despotic ruler.
[116] Fahmy, *All the Pasha's Men*, 302-305; Gideon Biger, "The First Map of Modern Egypt Mohammed Ali's Firman and the Map of 1841," *Middle Eastern Studies* 14, no. 3 (October 1978): 323-325; Ismail was the son of Ibrahim Pasha, and the grandson of Muhammad Ali Pasha, the founder of the ruling dynasty of Egypt. Muhammad Ali, nominally a vassal and governor for the Ottomans, nonetheless created an independent power base that made him the most power figure in the Middle East. Expanding in Arabia, the modern Sudan, and Crete, Muhammad Ali would eventually engage the Ottomans in a series of wars through the 1830s that saw the Egyptians conquer into the heartland of Anatolia. Despite a British-backed peace settlement in 1841, Muhammad Ali retained his position and made the governorship of Egypt a hereditary office for his descendants 305.
[117] John Eliot Bowen, *The Conflict of East and West in Egypt*, (New York & London: Putnam, 1887): 28-29.
[118] "Ismail Pasha." *World Encyclopaedia*, http://www.oxfordreference.com/view/10.1093/acref/9780199546091.001.0001/acref-9780199546091-e-5894.

reign, Egyptian rule expanded into Sudan, with costly military expeditions and infrastructure projects greatly burdening the finances of state.[119] The increasing foreign debt accrued by Egypt resulted in strained relations with both Britain and France. Ultimately, in 1879 a diplomatic intervention resulted in Ismail's ouster in favour of his son Tewfik Pasha.

The two defining characteristics that garnered Ismail his reputation (for better or for worse), was his participation with Britain in the abolition of the slave trade in Equatorial Africa and his profligate spending. For the former, Ismail gained accolades across Britain and Europe for personally spending time, money, and resources to eliminate the scourge of slavery. For the latter, the increasing debt of the Egyptian state under his tenure would result in his downfall. Given these two extremes, commentators ascribed their own opinions towards Ismail within the larger context of orientalism. This does not mean they were consciously spouting orientalist themes for the sake of it. Rather, commentators utilized implicit truths when judging Ismail Pasha's leadership and rule. They drew onto the rich corpus of Western history towards non-Western societies to inform their judgments.

Ismail's commitment to ending the slave trade was the one endeavour that earned Ismail plaudits from even his staunchest critics. Whereas his predecessor Muhammad Ali Pasha had conquered the territories of modern Sudan for the profit inherent in the slave trade in the 1820s, the expeditions of undertaken in the name of Egypt and the Khedive were not done to profit from slavery, but to end it. In his celebratory return to London in December 1873, Baker touted the role of the Khedive in suppressing the Nile slave trade. Baker did acknowledge that Ismail desired to found a "great [e]mpire in Central Africa;" but Baker nonetheless believed in the dual mandate of Ismail's imperial ambitions. Annexation was but a "first step" to end the slave trade

[119] "Ismail Pasha." Columbia Electronic Encyclopedia 6th Edition, MasterFILE Premier, EBSCOhost, 2013. (accessed February 1, 2014).

once and for all in Equatoria. In Baker's own words, this mission was in line with "the great aim of England, freedom and liberty for every human being.[120]"

The positive treatment of Ismail as given by Baker was not entirely exceptional but for the fact that Baker viewed Ismail as singular and unique with his "enlightened" views.[121] Baker termed the idea of abolition as a "progressive principle" that was uncommon among Egyptians, only to be found among three individuals in Egypt, Ismail and his two advisors. Ismail was framed as existing outside the supposed Islamic norm and instead was an avid proponent of Western and "civilised" values. In celebrating Baker's return in 1873, Prince Albert Edward lamented that the Khedive may simply be too ahead of his time for "his country," but trusted sincerity of the Khedive's motives to expand into Equatorial Africa.[122]

The notion of progressive liberty versus that of despotic slavery was a recurring motif in orientalist thinking.[123] The connection made by the Prince of Wales is remarked to consist of a Christianity and Islam fundamentally at odds with one another. In the example of slavery, Ismail is defined as being outside the norm of other oriental rulers, including his grandfather Muhammad Ali.[124] His stance to support for abolition and to assist in the elimination of the slave trade are admired not simply because of the merits inherent within those causes. Instead, the admiration derives from Ismail bucking the orientalist presumptions about the East and of Islam.

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[120] S.W Baker, "The Khedive of Egypt's Expedition to Central Africa," *Proceeding of the Royal Geographical Society* 18, no. 1 (1873-1874): 52.
[121] Baker, "Expedition to Central Africa," 52.
[122] Baker, "Expedition to Central Africa," 68.
[123] Edward Said, *Orientalism* (New York: Random House, 1994): 1-3, 13, 96, 202-203, 333; According to Said, Orientalism is simultaneously an academic, imaginative, and political construct that is "a way of coming to terms with the Orient" based on its "special place" in the Western psyche. Said posited that "orientalism" is not simply confined in an "archival vacuum" of academic studies, but is instead a pervasive "system of representation" that frames the varied, complex societies of the "East" into facsimiles of long-standing stereotypical and offensive portraits that are then used to contrast the "East" versus the "West." The effect was a dehumanization of a large segment of humanity.
[124] Afaf Lutfi al-Sayyid Marsot, *Egypt in the Reign of Muhammad Ali* (Cambridge: Cambridge University Press, 1984): 205.

In his ostensive support for ending the Nile slave trade, these orientalist tropes do not apply to him. Nonetheless, Ismail is very much defined by these tropes because he is nonetheless judged to exist within a society where slavery is natural, if abhorrent. Ismail's downfall in 1879 and the Urabi Revolt of 1882 would ultimately end the arrangement of British officers and explorers serving under nominal Egyptian control. The region's *de facto* incorporation into the British Empire after 1882 and the British-led conquest of Sudan by 1899 saw scientific endeavours and expeditions take on an explicit colonial character.[125]

Commerce as Development

The centrality of commerce in the geographical civilizing mission was not limited to Samuel White Baker's expeditionary accounts. Verney Lovett Cameron's unsuccessful attempt to found a commercially-themed alternative to the Royal Geographical Society indicated the importance of the rhetoric of development in the exploratory mission. Cameron joined the Royal Navy in 1857, serving in the West Indian squadron, the punitive expedition against Abyssinia in 1867-68, and in the Royal Navy's anti-slavery operations in East Africa until 1870.[126] Cameron's exposure to the Swahili Coast and his fascination with the interior of the continent led to his advocacy to lead a RGS-backed expedition in search of David Livingstone. From 1872-1875, Cameron led an expedition that crossed Africa from the Indian to the Atlantic Ocean.[127]

Cameron's rhetoric of development mirrored that of Baker and other contemporary explorers: the economic development of Africa was not only a boon for Africans, but it was in the national interest of Britain to dominate Africa's commercial life. In an 1875 letter written by

[125] For more on the changing nature of scientific field work in Anglo-Egyptian Sudan after 1899, refer to chapter 5 of this work.
[126] B.A. Riffenburgh, "Cameron, Verney Lovett," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/4452 (accessed 12 November 2019).
[127] Riffenburgh, "Cameron, Verney Lovett," *ODNB*.

Cameron while in the Congo Basin, Cameron justified Britain's claim to the region was beneficial to both "the civilized [sic] world" and "as well as to Africa":

> The possession of the Congo would give to any enterprising men with sufficient capital the command of almost all the west coast ivory trade, more than half the Zanzibar ivory trade, fully three-quarters of the Mozambique ivory trade, and also tap the countries from which the Nile traders draw their supplies.[128]

According to Cameron, the pan-African ivory trade was inherently connected with the slave trade.[129] Cameron would end his letter by stating that "no other country has such a right to take this work up, or would do it so well, as England."[130]

Cameron's declaration to annex the Congo Basin for Britain in 1875 was not recognized by the British Foreign Office.[131] Nonetheless, Cameron became involved in a variety of ventures that sought to bring commercial development in Africa, including the creation of an organisation that would merge the scientific mission of geography with economic development. Calling it the British Commercial Geographical Society (BCGS), Cameron sought contributions from travellers and missionaries familiar with Africa, including Richard Francis Burton and Francis Harold Watson.[132] On 11 June 1884, V. Lovett Cameron wrote to *The Times* to announce the founding of the BCGS as a necessity for London's commercial sector:

> Every day [sic] the necessity of a practical knowledge of geography becomes more and more apparent with regard to commercial matters....it is now proposed to establish a British Commercial Geographical Society in the City of London...a centre of reference which a man can reach in five minutes from his office would always be available during the time of work, and a messenger could return with an answer about any matter in discussion while the other points relating to the subject were being examined...Pray pardon me for having trespassed so far on your space...and trust that you will...give your

[128] "Memorandum respecting the Basin of the River Congo.," Foreign Office Papers, FO 881/4732, National Archives, London, UK.
[129] "Memorandum," FO 881/4732, National Archives.
[130] "Memorandum," FO 881/4732, National Archives.
[131] Riffenburgh, "Cameron, Verney Lovett," *ODNB*.
[132] Verney Lovett Cameron to Parker Gillmore, 29 November 1884, HM 78825 [Box 1], the Burke E. Casari Papers, The Huntington Library, San Moreno, California.

powerful assurance and advocacy to the proposed British Commercial Geographical Society.[133]

Three days later, a notice appeared in the literary and general interest magazine, *The Academy*, providing further details regarding Cameron's project. With its premises located in the City of London proper, the BCGS was to be "easily accessible to business men [sic]," and would have included a "library, map-room, and museum of foreign products."[134] Richard Francis Burton wrote to *The Academy* to voice his support for Cameron's initiative, describing it as a "national necessary [sic]."[135] Burton compared the proposed BCGS to a French equivalent, which operated separately from the Société de Géographie, the French analogue to the RGS.[136] Burton expanded on Cameron's letter to *The Times* by situating the aims of the BCGS as a means to combat Britain's geopolitical rivals in France and Germany.[137] Burton ended by urging readers to "understand their own interests a trifle better than they are wont to do" and support Cameron's BCGS.[138]

In July 1884, Cameron held a meeting to sell the businessmen of the City of London on the potential of the BCGS for British commerce. Holding the meeting at Mansion House, the residence of the Lord Mayor, Cameron had the trappings of backing from the city's government. Despite this authoritative backing, Cameron faced questions as to whether the proposed BCGS would conflict with the aims of the RGS; Cameron simply responded that these concerns carried

[133] "Proposed British Commercial Geographical Society," *The Times*, 11 June 1884; The City of London refers to the
[134] "Notes and News," *The Academy* no. 632 (14 June 1884): 420.
[135] Richard Francis Burton, "Correspondence. The Proposed British Commercial Geographical Society of London City," *The Academy* no. 633 (21 June 1884): 439.
[136] Burton, "Correspondence," *The Academy*, 439.
[137] Burton, "Correspondence," *The Academy*, 439; As Burton noted: "At no time was the opening of fresh markets, of new sources of supply, and of the other outlets for man and material more necessary than at present, when trade is languishing, and money is tight, and credit is low and [...] when the success of our rivals d'outre manche, in Tonquin and Madagascar, is a dispiriting and mortifying contrast with our ignoble failures; and when the Germans, like their Gallican and Italian neighbours, are proposing industrial colonies in Asia and Africa."
[138] Burton, "Correspondence," *The Academy*, 439.

"no weight."[139] This line of questioning followed Cameron to the RGS itself. At an evening reading of Joseph Thomson's expedition from Masai territory to the Victoria Nyanza, Cameron reassured the members of the Royal Geographical Society that the aims of the BCGS would complement the work of the RGS as not only did other countries have commercially-themed societies, but that such societies did not interfere with the functioning of more scholarly organisations (e.g. the RGS).[140] The society's vice-president, Henry Lefroy, was conciliatory in tone when discussing the BCGS and other societies forming in Britain.[141] Cameron continued to pitch his ideas in two additional letters to *The Times*. In both, Cameron urged his British readers to look at the recent expansion of Germany into Southwestern Africa as a signal that the BCGS was sorely needed to bolster Britain's geopolitical standing.

Conclusion

In the end, Cameron's BCGS disappeared from the historical record shortly thereafter. While the exact cause for the organization's failure is not known, within a few months Africa would be formally divided among European states. The Berlin Conference (1884-85) brought delegates from thirteen countries to negotiate a partition of the continent to avert war or diplomatic harm between the European powers.[142] By 1885, Africa was divided into the colonial possessions of Britain, France, Germany, Italy, Portugal, and the Ottoman Empire. With these empires now drawn on maps, the colonial powers spend the subsequent decades surveying,

[139] "British Commercial Geographical Society," *The Times*, 16 July 1884.
[140] Joseph Thomson, "Through the Masai Country to Victoria Nyanza," *Proceedings of the Royal Geographical Society and Monthly Record of Geography* 6, no. 12 (December 1884): 711.
[141] "The Royal Geographical Society," *The Aberystwyth Observer*, 8 November 1884.
[142] Barbara Harlow, *Archives of Empire Volume II: The Scramble for Africa* (Durham: Duke University Press, 2003): 1-2; The powers involved in the Berlin Conference included: Austria-Hungary, Denmark, France, Germany, Italy, the Netherlands, the Ottoman Empire, Portugal, Russia, Spain, Sweden, the United Kingdom, and the United States.

exploiting, and pacifying these new lands. In this, the rhetoric of development – with the promise of civilisational uplift – constituted a key *raison d'être* of empire.

By the early-twentieth century, the rhetoric of development's assumption of mutual benefit was a well-trodden argument. In 1922, Frederick Lugard articulated a merger of humanitarianism and commercial self-interest, what he termed as Britain's dual mandate in ruling its colonial empire:

> Let it be admitted at the outset that European brains, capital, and energy have not been, and never will be expended in developing the resources of Africa from other of pure philanthropy; that Europe is in Africa for the mutual benefit of her own industrial classes, and of the native races in their progress to a higher plane; that the benefit can be made reciprocal, and that it is in the aim and desire of civilised administration to fulfil this dual mandate.[143]

Lugard's description reflected a colonial self-understanding of supposed beneficence and progress that was rooted in assumptions of African inferiority and of Western superiority.

Lugard's view were echoed over half-a-century earlier by geographers seeking to justify their cataloguing and measurement of Africa. In the course of the 1860s, the Nile Question receded as a rationale for exploratory missions in favour of a broader goal of development. Whether development was to be taken in the form of abolitionism, commercialization, Christianization, British explorers increasingly cast their expeditions within the rhetoric of development as the salience of geographical questions declined in importance. But this development was rooted in prior decades of social, political, and economic change in Britain that saw ideological positions (such as liberalism, abolitionism, evangelicalism) becoming explicitly connected with the scientific endeavour of geography. Nonetheless, the rhetoric of development that presaged formal colonial rule after the 1880s – much like colonial rule itself – was rooted in assumptions of African inferiority rooted in racist and ideological thought. These assumptions

[143] Lugard, *The Dual Mandate*, 617.

would not only impact how explorers imagined their expedition's importance to the civilising mission, but how explorers treated the Africans serving under them within these expeditions. Violence and coercion came to define the exploratory missions of the 1870s onwards, as much as it has defined the legacy of colonialism.

CHAPTER 4

Violence as Pedagogy: Discipline and Violence in Exploratory Expeditions, 1860 to 1900

In Joseph Conrad's *Heart of Darkness*, the narrator, Charles Marlow, recounted the fate of his predecessor, a certain Danish captain named Fresleven.[1] Fresleven served as a steamer captain plying the waters of a winding river inside the African interior. Fresleven, described by his companions as the "gentlest, quietist creature that ever walked on two legs," was nonetheless agitated to violence over the trade of two black hens.[2] Feeling wronged and cheated by a local chief, Fresleven assaulted the man with a stick, terrifying villagers with his rage. Only the intervention of the chief's son – in spearing Fresleven – ended the assault. Compelled by curiosity, when Marlow arrived at the scene of the flogging, the village was abandoned, and nothing remained of Fresleven but his bones in the grass.[3]

Kurtz's mania and downfall understandably garners the most attention from readers, as the character serves as a cautionary tale of the barbarism at the heart of the civilising mission. But if Kurtz's fate was a metacommentary on the failure of colonialism writ large, the case of Fresleven serves as a microcosm of the Scramble for Africa: the individual turn to violence, the tyranny of force against Africans. Whether motivated by commerce, the word of God, science, and glory, travellers to Africa in the late-nineteenth century demonstrate a propensity to inflict violence on African subalterns. But the actions of the chief's son indicate a countervailing force: of resistance and agency in the face of the eventual colonial order. In Conrad's fictional tale one

[1] Joseph Conrad, *Heart of Darkness: Complete, Authoritative Text with Biographical and Historical Contexts, Critical History, and Essays from Five Contemporary Critical Perspectives*, 2nd Edition, ed. Ross C. Murfin (New York: Palgrave Macmillan, 1996):
[2] Conrad, *Heart of Darkness*, 23.
[3] Conrad, *Heart of Darkness*, 24.

sees the contours of the relationship between coloniser and subject in the waning years of the nineteenth century.

But this state of affairs was not inevitable, only coinciding with increasing colonial rule in Africa. Before 1870, interactions between Africans and British explorers saw a power imbalance that favoured Africans.[4] Operating in small parties, British explorers were beholden to the aid and knowledge of Africans, and simultaneously cowed by the military and political power of local African leaders. For example, John Hanning Speke's expedition of 1861-63 was marked by his struggles to leave Central Africa due to his relative powerlessness in the face of the political situation of the region.[5] Yet, by the next decade, expeditions into Central Africa were marked by widespread violence, as seen with Baker's 1869-1873 and Stanley's 1875-76 expeditions.[6] But predating this were the acts of individualized violence committed on porters, soldiers, and accused criminals by the travellers themselves. Described in the diaries and published narratives of explorers, the corporal punishments administered by explorers were written in a *pro forma* manner, with little in the way of contemplation of the morality of the violence. Instead, these acts were framed as a means to discipline disorderly subordinates and to bring justice to accused thieves and wayward soldiers.

While explorers depicted themselves as independent actors operating in untamed lands, the reality was that explorers were entirely dependent on local contacts and support to traverse Africa. Historians and literary scholars have done much to uncover the impact of indigenous knowledge production in the development of British geography.[7] Further, works by historians of

[4] Dane Kennedy, *Last Blank Spaces: Exploring Africa and Australia* (Cambridge: Harvard University Press, 2015): 212-213.
[5] Kennedy, *Last Blank Spaces*, 115.
[6] Thomas Paul Ofcansky, 'Baker, Sir Samuel White (1821–1893)', *Oxford Dictionary of National Biography*, Oxford University Press, 2004. Accessed March 4, 2019; Kennedy, *Last Blank Spaces*, 220.
[7] For a recent survey of the indigenous Adrian Wisnicki, *Fieldwork of Empire, 1840-1900: Intercultural Dynamics in the Production of British Expeditionary Literature* (London: Routledge, 2019): 93.

science have contributed much to our understanding about how would-be "men of science" fashioned their identities within the wider scientific community.[8]

This chapter adds to this scholarship by examining the role of corporal punishment and violence in the maintenance of discipline inside the ranks of British-led exploratory missions in Africa. In examining unpublished field diaries, published narratives, and the secondary literature on exploratory missions in Africa, a better understanding comes to light about how explorers used violence and coercive measures to discipline their non-Western subordinates. Explorers from the 1860s onwards did not shy from using corporal punishment to maintain what they considered to be "order." Be it by way of beatings, lashings, or forced labour, explorers used a variety of means to control the porters, labourers, and soldiers critical to the success of exploratory missions. Whether justified on the grounds of punishing perceived laziness or preventing munity, explorers did not give much thought as to the morality or legitimacy of their actions. But in the aggregate, travellers assumed a right to punish and inflict injury grounded on the liberal assumptions that legitimised the "civilising mission:" that non-Western peoples were akin to children and that violence served as a pedagogical tool of civilisational uplift.

The violent acts of explorers aroused controversy among contemporary audiences in the metropole. Likewise, the repeated reports of desertions indicated resistance among African contacts towards Western explorers. Nonetheless, there was also an audience eager to lionize explorers and interpret corporal punishments as pedagogical tools in the civilizing mission of Africa. Violence associated with corporal punishments in exploratory missions was not separate

[8] Readings on the topic of "gentlemanly scientists" in eighteenth and nineteenth-century Britain include: Jim Endersby, *Imperial Nature: Joseph Hooker and the Practices of Victorian Science* (Chicago: University of Chicago Press, 2010); Anne Secord, "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History," *The British Journal for the History of Science* 27, no. 4 (December 1994): 383-408.

from the larger goal of geographical knowledge production but was linked with the wider justification in favour of colonial rule in Africa.

Historiography

The use of corporal punishment on prisoners, subalterns, and accused criminals is ancient, rooted in human prehistory. In the context of the British Empire, the codification of corporal punishment via flogging in the eighteenth century was seen as a means to prevent "indiscipline and neglect of duty."[9] However, by the mid-nineteenth century, the use of corporal punishment – and specifically the use of lashing – was in the decline in Europe.[10] In Michel Foucault's framing, the "public spectacle" of torture and corporal punishment was challenged in the eighteenth and nineteenth centuries by new methods of disciplining and surveilling populations.[11] As argued by Margaret Abruzzo, this reformist thought was informed by a growing humanitarian movement rooted in late eighteenth-century abolitionism, whereby assumptions began to shift against the morality of torture and corporal punishment.[12] In Britain, the indignation by opponents of corporal punishment, fuelled by horrifying accounts in the press,

[9] Brigitte Mitchell, "The Debate in Parliament about the Abolition of Flogging during the Early Nineteenth Century, with References to the Windsor Garrison," *Journal of the Society of Army Historical Research* 88 (2010): 19.
[10] David Killingray, "The 'Rod of Empire': The Debate over Corporal Punishment in the British African Colonial Forces, 1888-1946," *Journal of African History* 35, no. 2 (1994): 203.
[11] Michel Foucault, *Discipline and Punish: The Birth of the Prison* (New York: Vintage Books, 1977): 82; Per Foucault: "Throughout the eighteenth century, inside and outside the legal apparatus, in both everyday penal practice and the criticism of institutions, one sees the emergence of a new strategy for the exercise of the power to punish. And 'reform', in the strict sense […] was the political or philosophical resumption of this strategy, with its primary objectives: to make of the punishment and repression of illegalities a regular function, coextensive with society; not to punish less, but to punish better; to punish with an attenuated severity perhaps, but in order to punish with more universality and necessity; to insert the power to punish more deeply into the social body."
[12] Margaret Abruzzo, *Polemical Pain: Slavery, Cruelty, and the Rise of Humanitarianism* (Baltimore: John Hopkins University Press, 2011): 1-3; Per Abruzzo, "Instead, humanitarianism drew on a medley of interconnected assumptions. It depended on the belief that pain fell under human control and that people individually bore some measure of moral responsibility for the pain of others. But humanitarianism also depended on shifting assumptions about what constituted a sufficient reason to inflict pain, as well as on changing beliefs about the moral or spiritual value of experiencing suffering."

pushed a recalcitrant British Army to slowly reform its use of flogging, only abolishing the practice in 1881.[13]

The activism against flogging had won partial victories in Britain, slowly whittling the use of corporal punishment in the military, in prisons, and in schools.[14] Further, this activism was allied with other reformist movements besides abolitionism, such as the opposition to the use of child labour in British factories.[15] The push for reform was challenged on numerous occasions, not dissimilar to the contemporaneous opposition to the abolition of slavery before and during the Victorian era. For example, in response to moral panics associated with acts of sexual transgressions in the 1870s, flogging was advocated as a possible tool of punishment in dealing with "moral offenses."[16] But what this activism revealed were the changing mores of British society that, at least theoretically, couched its opposition to corporal punishments as an affront to human dignity.[17]

Thus, there was a discrepancy between metropolitan moves to reform punitive violence with the pervasive nature of that violence as foundational to European colonialism in Africa. As Stephen Allister Peté notes, the metropolitan reformist movements that transformed the methods of punishments were absent when it came to Africa. There, the goal of "achieving effective

[13] Richard L. Blanco, "Attempts to Abolish Branding and flogging in the Army of Victorian England Before 1881," *Journal of the Society for Army Historical Research* 46, no. 187 (Autumn 1968): 145; the death of Frederick John White, a private in the British Army, in 1846 was one such example that galvanized anger against the practice of flogging. For more on White's death, see: Harry Hopkins, *The Strange Death of Private White: A Victorian Scandal That Made History* (London: Weidenfeld & Nicolson, 1977).
[14] Killingray, "The Rod of Empire," 203-204; While the use of flogging was outlawed in 1881 in the British military, the practice of corporal punishment on schoolchildren was only prohibited in 1986.
[15] Amanda Nettelbeck, "Flogging as Judicial Violence: The Colonial Rationale of Corporal Punishment," in *Violence, Colonialism and Empire in the Modern World*, eds. Philip Dwyer and Amanda Nettelbeck (Cham, Switzerland: Springer International Publishing, 2017): 114-115.
[16] Nettelbeck, "Flogging and Judicial Violence," 116; per Nettelbeck, "By the 1850s, flogging in Britain had become largely restricted to crimes of treason but demands for its revival gathered pace from the 1870s in response to 'moral' offences such as earning a living from prostitution, acts of domestic abuse, indecent exposure, public displays of transvestism [sic] and other forms of sexual exhibitionism."
[17] Nettelbeck, "Flogging and Judicial Violence," 115.

social control" over colonised peoples had less to do with imposing an "ideological consensus" on the population and more with expressing "the direct exercise of coercive physical power by the coloniser over the colonised."[18] For Mahmood Mamdani, the use of corporal punishment was "not only an integral part of the colonial order but a vital one."[19] The use of violence on colonial subjects was institutionalised, with corporal punishment, forced labour, imprisonment, and humiliation a quotidian fact of life.[20] Whether administered directly by colonial officials, or indirectly through native proxies, the use of corporal punishment was legitimised with the assertion of racial differences between white Britons and non-white subjects.[21]

The literature on corporal punishment in the context of imperialism has focused on this discrepancy. In the British colonial context, racist stereotypes of Africans, South Asians, Australian Aboriginals, the Irish (among others) denied these people any sense of human dignity that fuelled the reformist vision in Great Britain itself.[22] This was compounded by the assumption that the colonized existed outside of modernity, where ignorance of Western ways of punishment (e.g. penitentiaries, fines, and policing) necessitated the use of cruder methods of

[18] Stephen Allister Peté, "Keeping the Native in their place: The Ideology of White Supremacy and the Flogging of African Offenders in Colonial Natal - Part 1," *Fundamina* 26, no. 2 (2020): 376.
[19] Mahmood Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton: Princeton University Press, 1996): 127; according to Mamdani, the specific punitive practices associated with a particular colonial power – such as the beating of a person's hands in Portuguese colonies – became synonymous with the overarching colonial legal system.
[20] Mamdani, *Citizen and Subjects*, 64, 116, 125-126; Richard N. Price, "The Psychology of Colonial Violence," in *Violence, Colonialism and Empire in the Modern World*, ed. Philip Dwyer and Amanda Nettelbeck (Cham, Switzerland: Springer International Publishing, 2017): 27.
[21] Killingray, "The Rod of Empire," 203-204; Peté, "Keeping the Natives," 306; Nettelbeck, "Flogging and Judicial Violence," 114-
[22] Nettelbeck, "Flogging and Judicial Violence," 116; per Nettelbeck, there was a clear connection between renewed calls in the 1870 to flog sexual deviants within Britain with the acceptance of corporal punishment among subjects of the empire. Deviation from social norms – be they racial, gendered, or sexual in nature – was a de facto forfeiture of the deviant's "natural right to an assumed state of dignity."

discipline to keep subjects in line; or as David Killingray puts it, "[stick] and whip would serve as teachers.[23]

But what would the "stick and whip" teach? As observed by historians of imperialism, the moral mission of empire excused violence as necessary evils for the greater good, which was the civilisational uplift of non-Europeans.[24] Punishment in the colonial context served as a pedagogical tool and was justified by British political thought. As observed by both Dipesh Chakrabarty and Uday Singh Mehta, the use of punishment on colonized peoples had the rationale based in nineteenth-century liberalism, as articulated by John Locke and John Stuart Mill; specifically on the linkage of corporal punishment as a pedagogical tool in childrearing with the idea that colonialism was meant to uplift subject peoples to the level of civilisation.[25] Under the paternalistic logic of empire, the child-like nature of subjects not only necessitated the presence of the empire to educate them, this education was the *raison d'être* of the empire itself.[26]

But what of corporal punishment inflicted on Africans by Western travellers before the start of colonial rule? The historiography of imperial violence is that it presumed that the use of corporal punishment by Westerners came after the establishment of formal colonial rule.[27] But

[23] Killingray, "The Rod of Empire," 204; the notion of subjects existing outside of modernity is what Johannes Fabian called the Denial of Coevalness. For more on this, see: Johannes Fabian, *Time and the Other: How Anthropology Makes Its Objects* (New York: Columbia University Press, 1983).
[24] For more on the moral mission of empire, see Chapter 3 of this study.
[25] Uday Singh Mehta, *Liberalism and Empire: A Study of Nineteenth-Century British Liberal Thought* (Chicago: University of Chicago Press, 1999): 66; Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Thought and Historical Difference* (Princeton: Princeton University Press, 2007): 230.
[26] Mehta, *Liberalism and Empire*, 31-32; discussing India, Mehta writes: "Childhood is a theme that runs through the writings of British liberals on India with unerring constancy. It is the fixed point underlying the various imperial imperatives of education, forms of governance, and the alignment with progress. James Mill's characterization of India as being in the infancy of the "progress of civilization' […] this point is the basis for the justification of denying democratic rights and representative institutions to Indians, along with various other imperial interdictions. The idea has a distinguished pedigree and in the liberal tradition originates in Locke's characterization of tutelage as a necessary stage through which children must be trained before they acquire the reason requisite for expressing contractual consent."
[27] This includes the whole gamut of colonial governance, from direct settler-colonial rule to indirect proxy rule.

the use of corporal punishment by Western travellers before 1882 complicates this picture. The corporal punishments meted out by Western travellers in the Nile Basin against Egyptian and Sudanese subalterns foreshadowed the use of such punishments during the colonial era. Until 1882, political and military authority was centred in Cairo, with the Khedives expressing their goal of an Egyptian Empire along the entirety of the Nile Basin. The maintenance and use of corporal punishment in Western-led expeditions was not strictly within a European colonial capacity, as the respective expeditions of Baker, Stanley, and Gordon operated outside of British political oversight. Whereas Western cultural norms were expected to be hewed by travellers (such as opposition to the slave trade) in Africa, the isolation away from home meant that travellers were able to operate outside of the gaze of metropolitan eyes. However, contra Conrad's view, Fresleven's transformation from gentleness to cruelty was not due to the absence of "civilisation" caused by his isolation and distance to Europe but was an expression of the values that legitimised the imposition of that "civilisation" on Africa. When David Livingstone, the missionary and abolitionist traveller of the Zambesi, threatened his porters with floggings, it was not the absence of civilisation, but an assertion of his role in spreading it to Africa.[28] In this telling, pedagogy was at the heart of empire, and the pedagogy of empire was violence.

On Native Contacts and Indigenous Knowledge

[28] David Livingstone, entry for 18 June 1866, Field Diary III (14 May to 1 July 1866), *Livingstone Online*; Livingstone wrote that he "found that six sepoys had arrived - Their conduct has been utterly bad - & mutinous - I had them up this morning and it will not do any longer to be mild with them so I made preparations for flogging some of them [sic] The Corporal has been seriously defective in his duty so I addressed [him] Asking if he knew the punishment for mutinous conduct - and a number of other questions - He assumed or really felt tremor all over - Had nothing to urge in excuse except sickness which to my certain knowledge was pretended - Asked how he reconciled the plea of sickness with eating heartily three times a day […] I promised fatigue duty pay if they behaved well but none if they con[-] ducted themselves ill and flogging if guilty of lying down to sleep in the march."

Before proceeding on the topic of this use of corporal punishment, it is necessary to situate this violence within the context of the relationship between traveller and the indigenous people essential for the success of any exploratory expedition. Local intermediaries took on a variety of roles in expeditionary parties, such as guides, translators, porters, cooks, soldiers, and sailors.[29] How this labour was acquired depended on the size and scope of an expedition, as well as the polities that existed along the path of an expedition. For example, in the case of local African states – such as Zanzibar in East Africa or Bundu in West Africa – local rulers offered porters to Western travellers in order to increase the traveller's dependence on these rulers.[30] Knowing this, exploratory expeditions sought to limit their dependence on local knowledge and labour, with the aim of being self-sufficient throughout the entirety of a journey.[31] But another factor was a belief that scientific claims made by an expedition could be seen as suspect by metropolitan audiences if the expedition relied too heavily on local assistance. While the ideal expedition would operate independently, the reality was that African knowledge and labour was a necessity. But because it was a necessity, explorers resented their loss of perceived agency and ownership of knowledge to people they considered lacking in civilisation.

As observed in previous chapters, the writings of travellers reflected their biases and prerogatives. Less is written about the helpfulness and resourcefulness of their native intermediaries than with detailing cases of desertions, indiscipline, and mutinous behavior. Complaints about the disloyalty and incompetence of guides and porters abound in the travel literature of the nineteenth century. Depending on the traveller, dissatisfaction with African contacts was justified in a variety of ways. John Hanning Speke believed that his difficulty in

[29] Kennedy, *The Last Blank Spaces*, 80.
[30] Kennedy, *The Last Blank Spaces*, 130.
[31] Kennedy, *The Last Blank Spaces*, 132.

managing East African freedmen as porter was not due any fault of his own, but was rooted in a mixture of the freedmen's own Islamic faith, their greediness, and general laziness:

> Laziness is inherent in these men, for which reason, although extremely powerful, they will not work unless compelled to do so. Having no God, in the Christian sense of the term, to fear or worship, they have no love for truth, honour, or honesty… Possessed of a wonderful amount of loquacity, great risibility, but no stability - a creature of impulse - a grown child, in short - at first sight it seems wonderful how he can be trained to work; for there is no law, no home to bind him - he could run away at any moment; and presuming on this, he sins, expecting to be forgiven.[32]

In Speke's opinion, in order to deal effectively with porters and other native works, one must have "[great] forbearance, occasionally tinctured with a little father severity."[33] In a letter written to Rear Admiral Henry Murray in 1862, Samuel White Baker boasted his ability to operate independently in Africa, without the need for porters, who he called "the curse of explorations."[34] David Livingstone frequently complained about the laziness of local labourers. In an 1866 entry in his field journal, Livingstone complained about a certain porter named "Reuben," who Livingstone considered to be an "inveterate lazy drone" who consistently "lagged behind" the rest of the party.[35] In another entry from 1872, Livingstone expressed irritation at the loss of a herd of cattle, blaming two African labourers on account of their "sheer laziness."[36] In short, the explorer's relationship with local guides and labourers was marked by disgruntlement and condescension on the part of the traveller.

Nonetheless, there were exceptions to this negative appraisal. John Hanning Speke touted his admiration for Sidi Mubarak Bombay, an East African freedman who served as a translator

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[32] John Hanning Speke, *Journal of the Discovery of the Source of the Nile* (London: William Blackwood and Sons, 1863): xxvii-xxx.
[33] Speke, *Journal of the Discovery*, xxx.
[34] Samuel White Baker, "Extracts from a letter of Samuel W. Baker, Esq., F.R.G.S., to Rear-Admiral the Hon. Henry Murray. Dated Khartûm, 24th Nov. 1862," *Proceedings of the Royal Geographical Society of London* 7, no. 2 (1862-1863): 78-80.
[35] David Livingstone, entry for 29 July 1866, Field Diary IV (14 November to 14 September 1866), *Livingstone Online*; Livingstone wrote that both men received ten lashes from a switch in response to their failings.
[36] David Livingstone, entry for 30 August 1872, Field Diary XIV (1 July to 5 September 1866), *Livingstone Online*.

and messenger for Speke during the Nile expedition of 1860-1863. As Edward Armston-Sheret notes, as Speke celebrated Bombay's ingenuity, resourcefulness, and contribution to the field of geography, Speke also believed that the Africans he encountered were wholly uninterested in the scientific implications of his expedition.[37] Samuel White Baker detailed his persistent belief of potential mutinies during his expedition of 1869-1873. But like Speke, Baker commended an Egyptian officer, Abd-el-Kader as "an excellent officer," who Baker believed was "one of the exceptions who took a great interest in the expedition, and he always served me faithfully."[38] Baker commented on a nickname given to Abd-el-Kader by his fellow officers – "the Englishman," claiming it was an epithet to deride the officer's taste in British culture.[39] In both cases, local contacts that were seen as loyal, industrious, and committed to the scientific mission of an exploratory mission are presented by Speke and Baker as exceptions to an otherwise fraught relationship with native labourers.

The depiction of animosity between traveller and native contact served as a motif that highlighted the traveller's distance from the "civilised world," where the struggle to survive not only involved navigating treacherous terrain or adversaries but trudging through the quotidian challenges of managing non-Western labourers. The positive depictions of Abd-el-Kader and Bombay also served as tantalising evidence that the "civilising mission" to uplift the local populations of Africa and the Near East was not wishful thinking, but a reality that required further effort. The depiction of friction between explorer and labourer in the travel narratives of

[37] Edward Armston-Sheret, "Diversifying the historical geography of exploration: Subaltern body work on British-led expeditions c. 1850-1914," *Journal of Historical Geography* 80 (2023): 58-59.
[38] Samuel White Baker, *Ismailïa: a narrative of the expedition to Central Africa for the suppression of the slave trade*, 2nd edition (London: MacMillan and Co., 1879): 62.
[39] Baker, *Ismailïa*, 62; The nickname of Abd-el-Kader also served as a high compliment to the officer's character for a British readership.

the latter-nineteenth century was another means by which the explorer fashioned their persona of the "civilised" man of science taming the wild frontiers of the world.

***The Art of Travel* (1856)**

The use of corporal punishment in separate expeditions over the span of decades presents the question of whether this was sanctioned by the Royal Geographical Society. As seen in Chapter 1, the calls for advice and guidance from would-be explorers saw the publication of *Hints to Travellers* beginning in 1854. In the inaugural iteration of *Hints*, edited by FitzRoy and Henry Raper, included a letter written by Francis Galton on the collection of geographical information, from the physical description of a region to the region's ethnographic landscape.[40] Galton concluded his letter by giving advice on how best to avoid conflict with indigenous contacts in a "wild country:"

> N.B. The greatest forbearance and discretion are strongly recommended in all intercourse with the natives-never to allow an imaginary insult to provoke retaliation which may lead to bloodshed. It must be borne in mind their's [sic] is the right of soil-we are the aggressors.[41]

Galton recognized the transgressive nature of exploration, at least in the official publication of the RGS. Galton's commentary on travel was informed by his 1850-1851 excursion through southern Africa.[42] The result were two publications, one a narrative of the expedition while the other served a wider, more lasting purpose. Concurrent with *Hints*, the publication of Galton's *The Art of Travel* provided a how-to guide on exploration.[43] Both works commented on communicating and working with native peoples, but differed markedly on the issue of corporal

[40] Henry Raper and Robert FitzRoy, "Hints to Travellers," *The Journal of the Royal Geographical Society of London* 24 (1854): 328; 345-358; the latter section of "Hints to Travellers" consists of Galton's letter. Galton was familiar with the

[41] Raper and FitzRoy, "Hints to Travellers," 345, 357.

[42] Francis Galton, *The Narratives of an Explorer in Tropical South Africa* (London: John Murray, 1853): ix.

[43] The first edition of *The Art of Travel* was published in 1856 and subsequent editions published through 1883. For more on how Galton's *The Art of Travel* reflected the needs to standardize best practices for travellers, please see Chapter 1.

violence, with *Hints* sidestepping the issue while *The Art of Travel* advocated the practice. Given Galton's words in the first iteration of *Hints*, the subsequent legitimisation of violence in Galton's own work seemingly reflected a tension in the practice of exploration. Galton recognized that exploration was itself a violating act, with the explorer's trek transgressing indigenous sovereignty. Nonetheless, the scientific value of exploration meant that Galton felt that the ends justified the means.

Much like in *Hints*, Galton listed various needs for an expedition to so-called "wild countries," such as calculating the amount of sextants and hammers required for an expedition, estimating the maximum weight a donkey would be able to carry, and what and how to measure along a journey.[44] Regarding interactions with indigenous populations, Galton advised would-be travellers to maintain a "frank, joking, but determined manner, joined with an air of showing more confidence to the savages than you really feel […]."[45] But what did Galton write on negative interactions, such as theft or general "mischief?" Galton advised the reader to "look on him [the indigenous person] as you would on a kicking mule or a wild animal, whose nature is to be unruly and vicious, and keep your temper quite unruffled."[46] For Galton, the lands traversed by explorers were inherently lawless, with indigenous people living in a Hobbesian state of nature, writing:

> Bush Laws.- It is impossible but that a traveller must often take the law into his own hands. Some countries are governed with a strong arm by a savage despot: then to him or his chiefs appeals would of course be made; but, for the most part, the system of life among savages is -
>
> "The simple rule, the good old plan,-
> That they should take who have the power,
> And they should keep, who can." [sic] [47]

[44] Francis Galton, *The Art of Travel, or Shifts and Contrivances Available in Wild Countries* (London: John Murray, 1856): 175-180.
[45] Galton, *The Art of Travel*, 84.
[46] Galton, *The Art of Travel*, 84-85.
[47] Galton, *The Art of Travel*, 84.

Galton advised that in order to punish in a way that was "more intelligible to savages," that punishments should be given "chiefly in proportion to the quantity of harm that he has done, rather than according to the presumed wickedness of the offence."[48] Instead of recognizing the different views of justice and law that existed among a diversity of peoples across the world, Galton instead contended that Africans, Native Americans, and Australian aboriginals all shared the same view on violence.[49]

Galton's suggestions were informed from his experience traversing southern Africa during his expedition of 1850-51.[50] Leading a party of upwards of forty men, Galton claimed to have developed "habits of self-reliance in rude emergencies" during his travels.[51] Galton's narrative described numerous instances of corporal punishment inflicted on both expedition members and outside actors by Galton himself. One example concerned the claimed theft of four oxen by four local Damara inhabitants from Galton's expedition, an example that Galton portrayed as an example of his fairness and magnanimity.[52] The theft of the oxen led to the capture of four accused individuals, who were then presented to the local chieftain Kahikenè.[53] Galton claimed that Kahikenè was apologetic for the theft as it occurred under his protection over Galton's expedition, and in recompense suggested that the penalty for the accused thieves should be death by hanging.[54] Galton described his pleas to Kahikenè to save the lives of the four

[48] Galton, *The Art of Travel*, 84; Galton provided an example for clarification: "if two men were caught, one of whom had stolen an ox, and the other a sheep, it would be preferable to flog the first much more heavily than the second […]".
[49] Galton's view was not unusual, as seen in the previous chapter on the convergence of liberal thought in the justification of colonial rule in Africa.
[50] Galton, *Tropical South Africa*, ix; Ruth Schwartz Cowan, "Galton, Sir Francis," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/33315 (accessed December 4, 2021).
[51] Galton, *Tropical South Africa*, v.
[52] Galton, *Tropical South Africa*, 142-144.
[53] Galton, *Tropical South Africa*, 65, 142.
[54] Galton, *Tropical South Africa*, 143; Galton wrote: "Then as to what should be done with the thieves; he [Kahikenè] looked about him till a stout horizontal bough of one of the large camelthorn trees caught his eye, and he proposed to hang them in a row upon it."

men, but did not succeed. In lieu of hanging the accused, the four men were to be clubbed or speared to death by Kahikenè's men, but two escaped; one was discovered by Galton a few days later.[55] Galton claimed that after much thinking, he had the man chained to a tree and "gave him a most severe flogging and let him go" the next morning.[56]

In this description, the flogging of one of the accused thieves was a lenient punishment in comparison to the death sentence handed out to the other accused men. Galton presented the flogging not as the lesser of two evils, but as the only appropriate response for the crime of cattle rustling. But there were limits to who could be personally punished by Galton. In another anecdote, Galton described his reunion with a former guide who Galton accused of stealing a horse rug.[57] The erstwhile guide was wearing the horse rug when Galton reencountered him, but the man's height of six feet seven inches meant that Galton did not have the ability to physically harm the man. Instead, Galton opted to take the rug from the man and lecture him "soundly."[58]

In this instance, a power imbalance existed between Galton and the man, whereby the latter's physical stature saw Galton demur on physical force in lieu of an annoyed lecture. But such imbalances need not be simply physical. Political power in the hands of local leaders like village chiefs or territorial rulers meant that Galton resorted to describe his interactions on the basis of his moral superiority over his more powerful interlocutors. An example is seen in Galton's initial meeting with Jonker Afrikaner, the then-leader of the Oorlam people.[59] Galton

[55] Galton, *Tropical South Africa*, 144.
[56] Galton, *Tropical South Africa*, 144; Galton later recounted the discovery of one of the two men beaten by Kahikenè's men. Galton wrote that he gave food and water to the man but wrote that the man was later killed under Kahikenè's orders.
[57] Galton, *Tropical South Africa*, 240-241.
[58] Galton, *Tropical South Africa*, 241.
[59] Galton, *Tropical South Africa*, 114-115; For more on the history of Namibia during the time of Jonker Afrikaner's life (d. 1861), see: Lau Brigitte, *Southern and Central Namibia in Jonker Afrikaner's Time* (Windhoek: National Archives Department of National Education, 1987).

intervened into local conflicts between various groups in what is now modern Namibia. In recounting his initial encounter with Afrikaner, Galton took a condescending and haughty tone:

> The huts of the place were all in front, and Jonker's much the largest. Everybody saw us, and was looking at us. There is great etiquette in these parts about coming to a strange place, but we defied all that, and I rode and rode, until my ox's head not only faced, but actually filled the door of the astonished chief. Conceive the effect. My Dutch was far from fluent, so I rated him in English, and after a while condescended to use an interpreter. He never dared look me in the face, as I glared down upon him from my ox. I then rode away in a huff, and took up my quarters in the village, and received in great state the humble messages which he sent to me.[60]

Galton later wrote that he had "three or four interviews" with Afrikaner and other leaders, where he "lectured them soundly" in English despite the fact Afrikaner nor the other leaders spoke the language.[61] Galton's flaunting of local social conventions and admonishments towards local leaders were depicted in his narrative as signs of his moral superiority over local peoples, even if politically and militarily Galton was dependent on these same leaders for his survival. Whether Afrikaner or any other person lectured by Galton felt embarrassed, shamed, or chastised after Galton's orations is left unknown to the reader.

The Art of Travel ballooned in size in subsequent editions, as Galton added advice on excavating ruins, first aid, and more on the work of measurements.[62] At least superficially, Galton's advice to a traveller on so-called "bush laws" remained unchanged from the 1855 edition to the fifth edition of *The Art of Travel*, published in 1872. But in the first edition of the work, Galton placed his advice in the section entitled "Matters of Discipline," where the

[60] Galton, *Tropical South Africa*, 114-115.
[61] Galton, *Tropical South Africa*, 115; Galton stated that he required an interpreter to translate his admonitions into both "Dutch and Hottentot," the former a reference to the Afrikaans language and the latter a racial slur in reference to the language of the Khoekhoe (as spelled Khoikhoi) people of modern-day Namibia, South Africa, and Botswana.
[62] Francis Galton, *The Art of Travel; or, Shifts and Contrivances Available in Wild Countries*, 5th edition (London, John Murray, 1872); Whereas the 1855 edition of *The Art of Travel* consisted of 196 pages, by 1872 *The Art of Travel* was 366 pages long.

management of subordinates is categorised with other challenges to an expedition.[63] But by 1872, this advice on "bush laws" was reorganised into the section "Management of Savages."[64] In the 1872 edition of *The Art of Travel*, Galton expanded his advice to advocate for proactive violence to help the traveller survive and thrive in a "wild country." On the matter of food security, Galton suggested that "seizing food" was a viable option, whereby the flight of natives from their village in anticipation to the arrival of foreign travellers provided an opportunity to pillage huts of foodstuff.[65] On corporal punishment, Galton's words were seemingly cautious, in that he suggested that a traveller "must therefore be discriminating and cautious in the licence he allows to his stick, or he may fall into sad trouble."[66] Nonetheless, Galton believed flogging native labourers and party members was a useful means of maintaining discipline with an expedition.[67]

Francis Galton's importance in British geography and science meant that his *The Art of Travel* proved authoritative for eager explorers.[68] Galton's contribution via *The Art of Travel* was recognized by Douglas William Freshfield in his obituary of Francis Galton in 1911.[69] Freshfield recounted Galton's contributions to both the Royal Geographical Society and to British science

[63] Galton, *The Art of Travel* (1855), 55; Advice in this chapter of *The Art of Travel* included steps on organising an exploratory party, dealing with challenges "in case of death" of a party member; and carrying the wounded through unknown terrain.
[64] Galton, *The Art of Travel* (1872): 308.
[65] Galton, *The Art of Travel* (1872): 309; Galton did advise the would-be traveller to leave a "fully adequate payment" to make up for the theft of food.
[66] Galton, *The Art of Travel* (1872): 310.
[67] Galton, *The Art of Travel* (1872): 309; Galton wrote, "Be very severe if any of your own party steal trifles from natives: order double or treble restitution, if the man does not know better; and, if he does, a flogging besides, and not in place of it."
[68] Galton's contribution to British geography and science included: his role as a reviewer for the Royal Geographical Society's journal; committee member for the creation of *Hints to Travellers*; member of the Royal Society; cross-disciplinary expert in forensic science, meteorology, geology, anthropology, and biology; and more infamously, the leading figure in eugenics in the early-twentieth century.
[69] Douglas William Freshfield, "Obituary: Sir Francis Galton, F.R.S., etc," *The Geographical Journal* 37, no. 3 (March 1911): 323-325.

in general, who saw Galton's work as the basis of the society's *Hints to Travellers*.[70] However, Freshfield elevated Galton's role in introducing geography as a scientific discipline taught in British universities as Galton's greatest contribution for the field, shifting the emphasis from sharing advice to travellers to a national science.[71] Galton's views on corporal punishment were therefore not simply the opinion of a single man of science, shaped by both his experience and prejudices. Rather, Galton's legitimisation of the traveller's use of coercive methods were taken as authoritative by his contemporaries in the mid-to-late nineteenth century.

As seen in Galton's reorganisation on the matter of corporal punishment in later editions of *The Art of Travel*, the use of such punishments gradually became less a matter of survival in a hostile country than a matter of controlling the bodies and labour of subaltern peoples. As cited earlier by Dane Kennedy, this transition reflected the realities of European colonial rule in Africa, that the increase of European political and military might in the African interior coincided with an increased confidence on the use and threshold of violence against Africans.[72] This transition can be seen rapidly emerging in the context of Nile exploration.

Clarence Melville Brownell - 1861

As seen in chapter 2, Clarence Melville Brownell joined John Petherick's planned expedition to Gondokoro in 1862. Brownell recorded his journey in detail, describing the interactions he had with local people, ruins and archaeological sites of interest, meteorological

[70] Freshfield, "Obituary," 324-325.
[71] Freshfield, "Obituary," 324; Regarding the introduction of geography to British universities, Freshfield wrote of Galton, "Others may have been responsible for the successful issue, but it was Galton who initiated our educational policy, and to him in large measure is due the credit of having first brought his somewhat reluctant colleagues to accept the large responsibilities involved in it."
[72] Kennedy, *Last Blank Spaces*, 212-213.

data, and about his interaction with the crew of the ship he hired to sail up the Nile.[73] In one anecdote, Brownell believed he had impressed his crewmates by guessing accurately the speed and direction of the day's wind, remarking that "[all] the crew marvel at my testing the temperature of the water every day; and I hear them discussing it among themselves."[74] In another entry, Brownell complimented the crew of the ship who he considered to be "exceedingly willing & active; merry & good-natured."[75] Brownell made his way southwards towards Khartoum, reaching the city on 9 March 1862.[76]

Brownell's jovial interactions with local labourers were starkly different after his appointment as the chief botanist in John Pethericks' 1862-1863 White Nile expedition.[77] As the serving British vice consul in Khartoum, Petherick had garnered a reputation as an explorer in Sudan and was tasked by the Royal Geographical Society to rendezvous with John Hanning Speke with supplies at Gondokoro in support of the latter's expedition to discover the source of the Nile.[78] On 22 March 1862, Petherick's expedition departed Khartoum for Gondokoro, a trade depot south of the Sudd marshlands.[79] In addition to his work as a botanist, Brownell's responsibilities included command of a *dahabiya* in Petherick's expedition.[80] Yet the marshy and

[73] Clements Library Finding Aids, "Brownell family papers, Clements Library, University of Michigan, https://quod.lib.umich.edu/c/clementsead/umich-wcl-M-3468.2bro?view=text (accessed 20 February 2020); the brief biography afforded to Brownell on this page is the only biography of the man.
[74] Clarence Melville Brownell, diary, entry for 18 January 1862, SAD.424/9/53, Clarence Melville Brownell papers, the Sudan Archive at the Palace Green Library, Durham University, Durham, UK.
[75] Brownell, entry for 3 January 1862, SAD. 424/9/9.
[76] Brownell, entry for 9 March 1862, SAD.721/1/54.
[77] Brownell, entry for 11 March 1862, SAD.721/1/57; For more on Petherick's White Nile expedition of 1862-63, see Chapter 2 of this work. It is unclear from the surviving portions of Brownell's diary as to when he heard about Petherick's expedition. A possible cause for this is an incident Brownell mentioned in his entry for 4 March 1862, where a careless incident resulted in the loss of weeks' worth of journal entries, writing: "At 8 P.M. we arrived at the 8th cataract, (it might as well be called the 90th) and I took my portfolio out on deck to make a sketch, when, to my dismay, the lid blew open and away went papers over the water. I lost my weeks journal, several sketches & various other papers. As we were in the rapids, and a strong breeze blowing it was impossible to stop;" Brownell, entry for 4 March 1862, SAD.721/1/47-48.
[78] Gondokoro is near the site of modern-day Juba, the capital of South Sudan.
[79] Brownell, entry for 22 March 1862, SAD.721/1/57, 64; According to Brownell, there were over 200 people involved in Petherick's expedition to Gondokoro.
[80] *Dahabiya* is the name for the common transport ships that ply the waters of the Nile in Egypt and Sudan.

placid tributaries of the White Nile saw Petherick's expedition languish for weeks as the labyrinthine waterways of the Sudd made journeying southwards difficult.

With a crew consisting of Sudanese and Egyptian sailors, porters, and laborers, Brownell sought to keep order on his vessel in the face of the expedition's slow progress. In the two months after the start of the expedition, Brownell described three instances where he personally punished crew members for various transgressions. In an entry for 23 April 1862, Brownell lamented the treatment of donkeys on the dahabiya by the crew. When one subordinate struck a donkey, Brownell decided to punish the man:

> The men have no mercy on them, but push and thrash them constantly. I have done my best to protect them; and today seeing a man strike one with a large stick of wood, so as to nearly put out its eye, I lost all patience, and seizing the fellow, gave him a sound thrashing; boxing & bruising him right and left till he was well used up.[81]

Two days later, on 25 April 1862, Brownell recounted an incident where two crew members engaged in a fight. Unlike the crew of his hired ship, the crew of this dahabiya were fractious. Brownell recounted his attempt to maintain order:

> Another row: two of the men fighting like cat and dog on top of our racuba (house) [sic]. I went up & boxed them both most impartially. They seperated [sic] after they had got two blows each, when I gave them one more apiece as a warning, & went down without saying a word. They afterwards came to me and acknowledged the justice of my treatment, and I made them shake hands.[82]

Much like Galton's lecturing, it is unclear whether the men punched by Brownell were genuine in their thanks to Brownell. On 9 May 1862, Brownell intervened yet again in another fight, this time on another of the expedition's vessels:

> Another fight today on Reis Suliman Hashe's [sic] boat. I separated the men in the same summary manner as on the former occasion, which I find perfectly effectual. We then put one of the man in irons, and ordered him bread & water.[83]

[81] Brownell, entry for 23 April 1862, SAD.721/1/94; There was no indication by Brownell whether the treatment of the donkey may have been a cultural difference between the American and the Sudanese crewmen.
[82] Brownell, entry for 25 April 1862, SAD.721/1/96.
[83] Brownell, entry for 9 May 1862, SAD.721/1/105.

However, in this last case, the crew petitioned for leniency on behalf of the man put in irons. As a result, the man was released the next day after showing penitence and "acknowledging the justness of his punishment."[84] Like Galton, Brownell gave "a moral lecture on the impropriety of resisting authority" to the men.[85] If Brownell's summary of the events are to be believed, the differing reactions of the crew to Brownell's intervention in the two fights raises the question of why was the use of corporal punishment was acceptable for the men, but not acceptable in the case of using irons? The lack of sources from the perspective of the crewmen involved – much like Galton's interlocutors – is the persistent problem when assessing the impact of corporal punishment by travellers on exploratory expeditions. The one-sided nature of the sources precludes any comprehensive comparison between traveller's and subaltern's accounting of events. Nonetheless, inferencing from the traveller's narratives does provide some context about the reactions of those subjected to corporal punishment. Doing show can show how those undergoing corporal punishment dealt with the violence inflicted on them and how their fellow compatriots reacted to punishments. Likewise, a better understanding on how resistance and compliance manifested in these expeditions can be gleaned, if only in part, from these traveller's narratives.

Another question that emerges from this account is how did Brownell rationalise his decision to use corporal punishment on the crew? Unfortunately, Brownell did not elaborate his thoughts, only presenting his actions as self-evident. This is compounded by the abrupt end of new entries in Brownell's diary not long after the incident on the dahabiya. In what John

[84] Brownell, entry for 10 May 1862, SAD.721/1/106.
[85] Brownell, entry for 10 May 1862, SAD.721/1/106; Per Brownell, "The belligerent man being penitent, and acknowledging the justness of his punishment, we took his irons off at the petition of the other men, and took the opportunity to administer a moral lecture on the impropriety of resisting authority."

Petherick described as a case of "negligent exposure," Brownell succumbed to an illness on 20 May 1862 along the banks of the Sudd.[86] Whether Brownell intended to publish his diary for a wider readership is not known, although the meticulous meteorological measurements and surveying data in his diary suggested that Brownell wanted to contribute those details to the wider scientific community.[87]

Brownell's experience within Petherick's expedition highlighted how explorers instinctively used force to discipline and punish non-Western subordinates. Brownell assumed that his power to punish his subordinates was self-evident, expressing his disgust at the disorderly actions of the crew as justification. Despite Brownell's role as an adjunct to John Petherick's expedition, Brownell's use of corporal punishment was not exceptional. In the larger and more organized expeditions to come, such conduct would only escalate and be formalized by later travellers.

Samuel White Baker's Treatment of Labourers and Captives

As seen in chapter 3, Samuel White Baker's 1869-1874 expedition to Central Africa was sanctioned by the Khedive Isma'il of Egypt ostensibly to combat the Nile slave trade. This expedition took the dual role of a geographical expedition and that of a military conquest. In his

[86] John Petherick to H.B.M Consul General R.G. Colquhoun, letter, 25 May 1862, SAD.424/9/2, the Sudan Archive at the Palace Green Library, Durham University, Durham, UK.; John and Katherine Petherick, *Travels in Central Africa, and Explorations of the Western Nile Tributaries, in Two Volumes*, Vol. 1 (London: Tinsley Brothers, 1869): 137; It is unclear what illness Brownell succumbed to, although the death of a foreigner in Central Africa to a tropical disease was a regular occurrence during this time. As Katherine Petherick wrote, "Fadl Allah, one of their servants, came on board and handed a note to Petherick from Dr. Murie. It conveyed the mournful intelligence of the death of Dr. Clarence Brownell - he had expired but two hours previously. The canoe was sent back to return with Murie, who was grieving deeply. Dr. Brownell's death was sudden at last: only a few hours before the end came was he aware of its approach: His complaint, at first a bilious attack, terminated in gastric fever. As the news of his death spread from boat to boat, a great gloom settled upon all therein; and the usually noisy men paid their tribute of respect to the departed by the silence they so strictly observed."

[87] An unresolved question with Brownell's diary is whether he was imitating the writing style of other contemporaneous travel narratives. The use of weather logging is reminiscent of the practice taken by Francis Galton in his *Tropical South Africa* (1853). It is possible Brownell sought to emulate the practice of established travellers to provide publishable scientific data for geographical societies and journals. For more on the importance of measurements in travel narratives, see chapter 1.

narratives, Baker casted himself as an indefatigable foe to the slavers and to disorder, which required Egyptian rule along the entirety of the Nile to combat.[88] While the outline of Baker's expedition has been previously discussed, this expedition also serves as a case study of a militarization of the disciplining subordinates within an expedition. Unlike Brownell, Baker was not an adjunct to an expedition, but a leader of two separate incursions into Central Africa. Unlike contemporaries like Richard Francis Burton, John Hanning Speke, and Charles Gordon, Baker had no military background.[89] Instead, Baker's reputation before 1860 was as a big game hunter and planter in Ceylon. As such, Baker's later elevation as a military governor by Egypt in 1869 serves as an opportunity to examine how the use of corporal punishment developed within an era where exploratory missions became militarized. Without a background in either the army or navy, Baker's self-fashioning as an explorer and military officer could indicate what and how travellers saw themselves considering their use of corporal punishment. Finally, the radically different natures of Baker's two expeditions – from a small, haphazard expedition in 1861-65 and the large, militarized Egyptian campaign of 1869-73 provides a contrast in how Baker used and legitimized the use of coercive punishments on his African, Sudanese, and Egyptian subordinates.

Baker's narrative of his first expedition, *The Albert N'yanza* (1866) is framed as both a triumphalist account of his "discovery" of Lake Albert and as an exposé on the horrors of the Nile slave trade. Instances where Baker used violent force on others is justified as a quixotic attempt to bring British moral righteousness in the "immense wilderness" of Central Africa.[90]

[88] Samuel White Baker, *Ismailïa; A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade. Organized by Ismail, Khedive of Egypt* (New York: Harper & Bros, 1875): 1, 90, 183, 340, 486; For more on Baker's self-fashioning as an anti-slavery crusader, see Ch. 3.
[89] Ofcansky, "Baker, Sir Samuel White," *ODNB*.
[90] Samuel White Baker, *The Albert N'yanza*: *Great Basin of the Nile and Explorations of the Nile Sources*, Vol. 1 (London: Sidgwick and Jackson, 1866): xi.

For Baker, his travel into the region was not simply an exploration of blank portion of a map, but an account of his survival in a "moral desert, where all humanized feelings were withered and parched like the sands of the Soudan."[91] Corporal punishment was therefore portrayed by Baker as a means to right wrongs and highlight the civilisational chasm between the Anglophone readership of Baker's narrative with the inhabitants of the Nile Basin.

This process of "othering" can be seen in Baker's telling of an incident involving Turkish traders operating south of the Sudd and their porters, drawn from the native Otuho people.[92] According to Baker, Turkish guards accused the porters of pilfering through boxes of "beads and copper bracelets."[93] In response, the porters were captured and threatened with summary execution by the Turks. A witness to these events, Baker intervened on behalf of the porters:

> Several who had been caught in the act were now pinioned by the Turks, and were immediately condemned to be shot[…] I begged that the punishment of death might be commuted for a good flogging; at first I implored in vain, until I suggested, that if the porters were shot, there would be no one to carry their loads: this practical argument saved them, and after receiving a severe thrashing, their arms were pinioned, and a guard set over them until the morning.[94]

Baker portrayed himself as the voice of moderation, where "a good flogging" was a justifiable response to the crimes supposedly committed by the porters.

Baker's self-portrayal as a "moderate" on this issue of corporal punishment was seen in an earlier incident in Gondokoro where Baker responded violently to flogging of enslaved women.[95] These women were brought into the expedition in order to "grind the corn and prepare

[91] Samuel White Baker, *The Albert N'yanza*: *Great Basin of the Nile and Explorations of the Nile Sources*, Vol. 2 (London: Sidgwick and Jackson, 1866): 281.
[92] Baker, *The Albert N'yanza* (vol. 1), 136-137; Baker referred to these porters as being Latooka. However, this ethnic designation has since been superseded by the term Otuho or Lotuko.
[93] Baker, *The Albert N'yanza* (vol. 1), 136.
[94] Baker, *The Albert N'yanza* (vol. 1), 136-137.
[95] Baker, *The Albert N'yanza* (vol. 1), 98; This incident is said to have occurred after the departure of Speke and Grant from Gondokoro after February 1861 to return to Britain.

the food for the men."[96] After hearing screaming one night, Baker claimed that an enslaved women sought safety with him from attacks from Sudanese members of the expedition. Baker then encountered these men brutally attacking the enslaved women with whips.[97] Baker wrote that he responded in anger upon seeing the scene:

> The brutes had taken upon themselves the task of thus punishing the women for a breach of discipline in being absent without leave. Fadeela had escaped before her punishment had been completed, and had narrowly escaped being shot, by running to the tent without giving warning. Seizing the coorbatch [sic] from the hands of one of the executioners, I administered them a dose of their own prescription, to their intense astonishment, as they did not appear conscious of any outrage; "they were only Slave women."[98]

Baker's anger at the flogging of these women did not mean he was opposed to the practice. In witnessing the aftermath of a Turkish raid on a Otuho village, Baker threatened to flog his own men if they stole "the merest trifle" from the village or "insult any women."[99]

Finally, Baker used the threat of corporal punishment as a performative tool to again present himself as a fair-minded leader at the end of *The Albert N'yanza.* On his return to Egypt, Baker and his caravan encountered a group of Arabs occupying the shade of a desert tree.[100] After rebuffing Baker's demand to share the space, open hostilities broke out between both parties.[101] In the end, Baker's side won out and forced the Arabs to choose between a flogging from Baker or that Baker report the men to the Ottoman governor of Suakin; the men chose flogging as the lesser of two evils.[102] In dramatic fashion, Baker recounted the circumstance that allowed Baker to depict himself as merciful:

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[96] Baker, *The Albert N'yanza* (vol. 1), 98; The use of enslaved women in Baker's expedition undermined Baker's portrayal of himself as an antislavery force. In this anecdote of coming to these women's defence, Baker may be said to differentiate himself from his subordinates.
[97] Baker, *The Albert N'yanza* (vol. 1), 98.
[98] Baker, *The Albert N'yanza* (vol. 1), 98; According to Baker, the *coorbatch* referred to hippopotamus hide used as a flogging instrument.
[99] Baker, *The Albert N'yanza* (vol. 1), 165.
[100] Baker, *The Albert N'yanza* (vol. 2), 348-352.
[101] Baker, *The Albert N'yanza* (vol. 2), 349-350.
[102] Baker, *The Albert N'yanza* (vol. 2), 352.

> The submitted like dogs; Richard and Achmet [Baker's expedition members] stood over them with their whips, ready for the word. At this moment an old white-headed Arab of my caravan came to me: kneeling down, he stroked my beard with his dirty hands, and implored pardon for the offenders. Thoroughly understanding the Arab character, I replied, "They are miserable sons of dogs, and their swords are like the feathers of a fowl; they deserve flogging, but when a white head asks for pardon, it should be granted. God is merciful, and we are all his children. Thus was the affair ended to the satisfaction of our side.[103]

Baker demonstrated his right to inflict punishment on those he deemed threatening, even if the fracas was ultimately caused by him.[104] But Baker also presented himself as an authority of local customs to a readership with little in the way of experience with the peoples of the Middle East and North Africa to verify Baker's claim that he "thoroughly" understood "the Arab character."[105] In writing this account, Baker showed off his authority and superiority over non-Western peoples by Baker's supposed moral, physical, and intellectual superiority. Baker's expedition of 1861-65 predated formal colonial rule over the Nile Basin by decades. Despite this, Baker's use of physical violence (within and without his expedition) were in keeping with the pedagogical nature of corporal punishment that became a core assumption of imperial ideology.[106]

This escalated in Baker's second expedition of 1869-1873. Appointed by Isma'il, the Khedive of Egypt as the Governor of Equatoria, Baker led a military expedition to the lands south of the Sudd marshes to both impose Egyptian rule and to combat the Nile slave trade.[107] In his published expeditionary narrative, *Ismailïa* (1875) Baker presented himself as an abolitionist

[103] Baker, *The Albert N'yanza* (vol. 2), 352.
[104] Baker justified this encounter by stating that the Arab men broke a long-standing custom in sharing tree shade with outsiders. Whether this was a custom practiced in Sudan – or a false assertion made by Baker – is unknown.
[105] This does not mean that Baker had any actual understanding of the cultural mores of Arab-speaking peoples of Sudan or the wider Middle East. Only that Baker was confident that he had a total understanding of the psyche of non-Westerners during his travels.
[106] Killingray, "The Rod of Empire," 204; Mehta, *Liberalism and Empire*, 66; Chakrabarty, *Provincializing Europe*, 230.
[107] For more on the ideological roots of Baker's second expedition, see chapter 3 of this work.

and civiliser, fostering the development of the African interior by establishing Egyptian rule along the entirety of the Nile.[108] Even in this self-flattering account, Baker described his own methods to maintain discipline within his expedition. But instead of hired porters and guards, Baker headed an army of Egyptian and Sudanese soldiers. As the British public debated the merits of flogging as a means of corporal punishment for British soldiers and sailors, Baker institutionalised the practice when his Egyptian and Sudanese subaltern disobeyed direct orders. In one example, Baker dealt with an insubordinate soldier over the issue of bartering with local peoples:

> A number of natives, stark naked, and smeared with wood ashes, came as usual to beg for corn. I have given strict orders that on no account shall corn be exchanged in purchases from the natives - otherwise our supply will be stolen wholesale. This order was broken through by Mustapha Ali [sic], who therefore received a hundred lashes, as I was determined to enforce obedience.[109]

In a separate incident, Baker described his actions towards a deserter. When the deserter left the camp for a nearby village, Baker threatened two village leaders that he would "hold them responsible if the deserter were not captured."[110] The next day, the deserter had been located by a native search party, but was only apprehended after four soldiers surrounded him.[111] Baker ordered iron manacles to be made for the deserter, with the deserter to be left at the village to perform "hard labour" until Baker's return to the area after an indeterminate amount of time. In a separate case, another soldier was accused of "stealing a fowl" from a local village.[112] As a consequence, Baker also had this soldier flogged and placed in irons. To Baker, these punishments would be a "good lesson to the troops."[113]

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[108] Samuel White Baker, *Ismailïa; A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade. Organized by Ismail, Khedive of Egypt* (New York: Harper & Bros, 1875): 1, 90, 83, 340, 486.
[109] Baker, *Ismailïa*, 105.
[110] Baker, *Ismailïa*, 247.
[111] Baker, *Ismailïa*, 247.
[112] Baker, *Ismailïa*, 67.
[113] Baker, *Ismailïa*, 248.

As with his first expedition, Baker used flogging as a means of offering the punishment as a mercy to the accused. This was most evident in the case involving Ferritch Ajoke, a young native soldier and deserter from Baker's force.[114] Unlike the previous example, Ajoke was accused of joining a party of slave traders before being captured by Baker's men.[115] Baker decided that to "prevent further desertions," the deserter had to be executed in order to "offer an example to the troops."[116] With the soldiers assembled and locals watching on, Ajoke was led to an empty square. Forced to kneel, the firing squad awaited orders to fire when Baker had a change of heart.[117] Baker then claimed that he approached Ajoke and gave his rationale to his soldiers:

> I assured him, and the troops generally, that although I should never flinch from administering severe punishment when necessary, I should be much happier in rewarding those who should do their duty. The prisoner was flogged and kept in irons. The troops formed into sections of companies and marched past, with band playing, each company cheering as they passed before me […][118]

Baker would later claim that Ajoke would become one of his best soldiers under his command.[119] But this also that the threat of violence and the "mercy" of receiving a "lesser" punishment was strategically used to demonstrate a traveller's supposed magnanimity to his non-Western subordinates. In Ajoke's case, flogging was not only used to instil discipline and inflict punishment. Rather, the corporal punishment was contrasted with the possibility of death. Of the two possibilities, flogging was welcomed and celebrated by Baker's party.

[114] Baker, *Ismailïa*, 56-57.
[115] Baker, *Ismailïa*, 56.
[116] Baker, *Ismailïa*, 56.
[117] Baker, *Ismailïa*, 56-57.
[118] Baker, *Ismailïa*, 57.
[119] Baker, *Ismailïa*, 57; Regarding Baker's choice the reveal Ferritch Ajoke's name came at the end of his anecdote of the event. Up to this point, Ajoke was only referred as "the deserter." It is unclear if this was a deliberate choice on Baker's part to dehumanise Ajoke before revealing his decision to change the punishment.

The institutionalisation of discipline extended all the way down from the soldiers to the children who served as the domestic servants to Baker and his wife Florence.[120] These children – as young as six years old – were dressed in uniform that Baker thought was "very becoming."[121] These children were tasked with a variety of tasks, including serving dinner to the Bakers. But Baker's view of the children's transformation by discipline and work was unknowingly a comment on the imperial enterprise he was leading in Central Africa:

> There was a regular hour for every kind of work; and this domestic discipline had so far civilized the boys that they were of the greatest possible comfort to ourselves.[122]

In the transformation of these children and in the transformation of Ferritch Ajoke, Baker touted the pedagogical merits of corporal punishment. The mock execution of Ajoke is not depicted as a case of psychological torture, but a bonding experience where all the soldiers – including Ajoke – rejoice in Baker's magnanimity and justness. Only Baker's perspective is offered in this narrative, whereas the perspectives of Ajoke, the child servants, or Baker's soldiers are not given. Given Baker's overly optimistic assessment of his accomplishment at the end of his tenure as the Governor of Equatoria (as seen in chapter 3), there is justifiable scepticism over the actual opinions of the men, women, and children had in serving under Samuel White Baker.

Shifting Prerogatives

A common trope in the travel literature after 1860 is a juxtaposition between the civilised manners of the travellers in the face of the simple barbarity of Africa, with the traveller preserving and exemplifying his civilisational values in this new land. This self-serving narrative was contradictory in numerous respects. As seen earlier, Western sensibilities on corporal punishment shifted in the mid-nineteenth century, instead favouring the remediation and

[120] Baker, *Ismailïa*, 239-240.
[121] Baker, *Ismailïa*, 240.
[122] Baker, *Ismailïa*, 240.

discipline brought on by penitentiaries. This is manifested by a repeated claim that, for all the negative attention flogging and other corporal punishments may have to metropolitan readers, the use of corporal punishment represented the imposition of civilisational morality in the periphery of the world.

The changing use of how and when corporal punishment was applied in expeditions to new lands also revealed a shift in the prerogatives of expeditionary forces, as reflected in the earlier discussion on Francis Galton's *The Art of Travel*. Galton's expansion on his thoughts and views on the application of violence in expeditions correlated with the increasing ability of the British Empire to project its political and military aims the world over. That Samuel White Baker, a British hunter and planter, was selected by a semi-autonomous Ottoman province to govern African territory with the specific aim of combating the Arab and Turkic-dominated trade of slaves is evidence of Britain's diplomatic clout in the latter nineteenth century.

But Baker's tenure as explorer-cum-military leader, from 1869-1873, revealed another change in the application and justification of coercive force on Africans and other subalterns in expeditionary contexts. As seen in the previous chapter, Baker did not shy in waging war on the peoples of Equatoria. But for Baker, the pedagogical value of bodily violence for the sake of discipline could be scaled up to the societal level:

> The first steps in establishing the authority of a new government in a tribe hitherto savage and intractable were, of necessity, accompanied by military operations. War is inseparable from annexation, and the law of force, resorted to in self-defense [sic], was absolutely indispensable to prove the superiority of the power that was eventually to govern. The end justified the means.[123]

In this framing, Baker's thoughts revealed a contradiction: admitting to the violence that accompanied his expedition, Baker nonetheless believed the violence was only brought by the

[123] Baker, *Ismailïa*, 491.

supposed savagery of the Africans he encountered. This echoed Galton's view on the inherent transgressive nature of exploration: the explorer's movements violated the sovereignty of native peoples, but it is a necessary evil to progress geographical science. The ends justified the means, whether the ends were for the benefit of science or for the benefit of the civilising mission. Baker ended *Ismailïa* by writing: "In the end, every opposition was over-come; hatred and insubordination yielded to discipline and order." The subsequent decades of colonial violence put a lie to Baker's rosy assessment.

Henry Morton Stanley's – The Idealized Explorer

The 1870s witnessed the much-publicised Livingstone Expedition led by Henry Morton Stanley.[124] Stanley's pursuit of celebrity, his conduct in the various expeditions into Africa, and his involvement with the Belgian Free State meant that his reputation was polarizing to contemporary observers. But Stanley's fame produced third-party works assessing, critiquing, or celebrating Stanley's career. These works can offer a window about how these outside perspectives – that is, not the self-promotional narratives produced by Galton or Baker – viewed the use of violence during the era of the Victorian explorer.

Beyond the writings from explorers themselves, a secondary literature emerged in the 1870s on both sides of the Atlantic which lionized the exploits of explorers and framed geographical expeditions as inherently positive efforts to "civilize" Africa.[125] One example is Joel T. Headley's 1878 hagiographical treatment of Henry Morton Stanley's 1870s expeditions to Africa. Headley introduced his work by acknowledging the scientific value in the logs and

[124] For more on the meeting between Stanley and Livingstone, see: Tim Jeal, *Livingstone: Revised and Expanded Edition* (New Haven: Yale University Press, 2013).
[125] Examples not mentioned in this chapter include: Edward Gilliat, *Heroes of Modern Africa* (Philadelphia: J.B. Lippincott Co., 1911); Charles H. Jones, *Africa: The History of Exploration and Adventure* (New York: Henry Holt and Company, 1875); An interesting sidenote is that such second-hand works on African exploration were published and sold in the United States. Further investigation is needed to determine the popularity of such literature across the Atlantic.

charts commonly found in first-hand exploratory accounts. Nonetheless, Headley contended that these measurements were "of no interest to the general reader."[126] Instead, Headley sought to glorify the so-called “heroics” of explorers, mixing moralism and apologetics with a sanitized portrait of Stanley’s actions in Africa. Headley used native Africans to highlight the assumed nobility of the British explorer. Where Stanley was honour-bound, civilized, faithful, and consistently brave, Africans were depicted as treacherous, naive, and vacillating from either possessing an unparalleled martial spirit to suddenly cowering in the face of Stanley’s bravery. In this respect, Headley’s third-person account was not dissimilar to that the first-person narratives produced by Stanley himself.

Headley’s recounted an anecdote concerning of Stanley’s treatment of an errant cook. In this one can see how admirers of explorers interpreted acts of violence inflicted on non-Western labourers, labourers who were critical to the success of British-led exploratory missions. Occurring during Stanley’s search for David Livingston from 1871-72, an unnamed Arab cook was accused of "pilfering" through some supplies, supposedly the fifth time the cook had stolen from the expedition.[127] Stanley ordered that the cook be lashed twelve times, a punishment that was in keeping with Galton’s advice and the conduct of Baker, Brownell, and even Livingstone himself.[128] Headley emphasized that because the lashings were “given through his clothes,” that the experience could not be painful.[129] Further, Stanley threatened to have the cook expelled from the expedition, stranding the man in surrounding forest. Understandably, the cook fled the camp with a donkey and tried to make his way to the mountains.[130] He was never found, with

[126] Joel T. Headley, *The Achievements of Stanley and other African Explorers* (Philadelphia: Hubbard Bros., 1878): v.
[127] Headley, *The Achievements of Stanley*, 69.
[128] Headley, *The Achievements of Stanley*, 69; For the account on Livingstone’s use of flogging, refer to footnote 28 of this chapter.
[129] Headley, *The Achievements of Stanley*, 70; Headley has no explanation for why this may be the case.
[130] Headley, *The Achievements of Stanley*, 70.

Headley speculating that the cook was murdered soon after leaving the camp. But more important for Headley was that the experience was a valuable lesson for Stanley, who still learning what it took to be a better leader.[131] Stanley resolved to never again make such threats to his subordinates. However, the use of force did not abate, at either the individual or communal level.

Describing Stanley's 1875-1876 expedition to Central Africa, Headley recounted an incident where Stanley faced off against "treacherous natives." Whereas the story of the cook concerned a single member of Stanley's expedition, Stanley's conflict with a village was a wholesale massacre. Headley wrote:

> Seeing a hundred or more gathered in a group, he [Stanley] fired a bullet over their heads, which scattered them in every direction. The day before they had breasted bravely volley after volley, but now the war spirit was thoroughly cowed. In another place some natives came down to the shore and begged them to go away and not hurt them any more [sic]. This gave Stanley an opportunity to preach them a sermon on treachery, and exhort them hereafter to treat strangers, who came to them peaceably, with kindness. The dead, in almost every hut, was, however, the most effectual sermon of the two.[132]

In this telling, Headley's portrayal of Stanley's violence as a "sermon" was a pedagogical manoeuvre to teach the native population the mores of Western culture. The terror and misery inflicted on Africans was for the greater good, a necessary evil for the civilizing of Africa. Much like Baker's treatment of Ferritch Ajoke, Stanley's treatment of African villagers was meant to teach them a "good lesson." In condensing Stanley's writings for a general audience, Headley not only wrote about these acts of violence, but felt that Stanley's character and reputation as an explorer were magnified by such violent acts. This is not to say that everyone in Britain or the wider Anglophone world approved of Stanley's actions. Contemporaries like Samuel Baker and Charles Chaillé-Long criticized the wanton violence of Stanley's numerous expeditions in

[131] Headley, *The Achievements of Stanley*, 75-76.
[132] Headley, *The Achievements of Stanley*, 456-457.

Africa.[133] But while Stanley's reputation as an explorer was contested in his own life, works like that of Headley show that there was an audience receptive to the idea that the violence associated with exploratory missions in Africa only strengthened the reputation and authority of explorers.[134]

Lionel Decle

The final example looks at the turn of the twentieth century, where the exploratory missions of decades past shifted towards more narrow scientific projects and were in the service of overtly colonial and commercial ends. Lionel Decle made a name for himself as an explorer with the publication of *Three Years in Savage Africa* (first published in 1898), a narrative of Decle's anthropological expedition through much of Southern and Eastern Africa from 1891-1894.[135] Along with illustrations and pictures of his journey from Cape Town to the Egyptian Nile, Decle mentioned instances when he ordered the lashing of various porters and members of his expedition. These included twenty-five lashes to a servant accused of thievery, six lashes to an inebriated headman, and twenty lashes to a non-committal ferryman[136]. For Decle, lashing as a form of punishment was humane, as Decle argued that the pre-colonial punishment among many Africans consisted of death and wholesale massacres.[137]

Whereas his first expedition was done in the service of the French government, the second expedition of 1899-1901 would see an institutionalization of punishments meted out to porters and askaris. Now in the service of Cecil Rhodes, Decle's mission was to "study the

[133] Henry S. Wellcome to Henry Morton Stanley, letter, 31 January 1890, HMS/3/2, Henry Morton Stanley Collection, Royal Geographical Society, London, UK; Kennedy, *Last Blank Spaces*, 86.
[134] In addition to the perception that violence magnified Stanley's stature, as seen in the case of how gendered depictions and anxieties elevated John Petherick's reputation as a geographer, there is the issue how Stanley's use of mass violence lacked the pedagogical nature supposedly seen in other expeditions, such as those of Samuel White Baker and David Livingstone.
[135] Lionel Decle, *Three Years in Savage Africa* (London: Methuen & Co., 1898): xi.
[136] Decle, *Three Years in Savage Africa*, 289, 314, 459.
[137] Decle, *Three Years in Savage Africa*, 203.

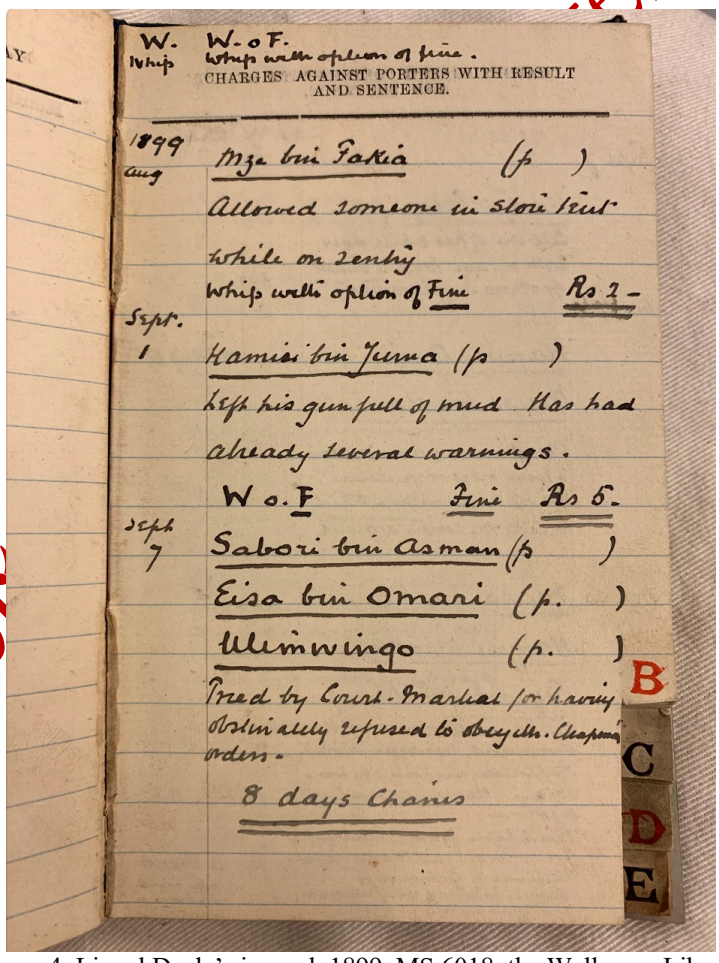
resources and capabilities of the regions through which his [Rhodes'] Cape to Cairo railway and telegraph lines were to pass."[138] Reliant on porters and askaris for his expedition, Decle used his field diaries to not only record the progress of his journey, but to meticulously keep track of the behaviour of his subordinates. Decle's journey, done at the end of the nineteenth century, marked a transitionary point in the history of exploration: mirroring past expeditions in its scope and logistical reliance on indigenous labour, Decle was nonetheless operating in a fully colonial context in the aftermath of the Berlin Conference.

When violations occurred, Decle wrote down the offenses committed by the errant porter or askari, as well as the resulting punishment. From August to November 1899, Decle wrote that fines were issued five times, five men were chained for at least two hours, and three men were given three months hard labour.[139] As seen in Figure 4 (see below), Decle's printed or stamped the words "charges against porters with result and sentence" in anticipation of his record keeping.[140]

The bulk of Decle's descriptions were short descriptions of incidents, giving the name and identity to the many porters and askaris who were critical in the success of British-led efforts to explore the African interior. Unusually, the case of the askari Juma bin Porora necessitated Decle to devote more attention than with the other cases.[141] On 26 February 1900, Decle tried Juma, with all the other askaris present, on three charges: Juma's failure to attend an assembly; Juma's unauthorized leave of absence from the camp; and Juma's failure to stay awake during

[138] Lionel Decle, "The Development of our British African Empire," *Proceedings of the Royal Colonial Institute* XXXVII (1905-1906): 312.
[139] Lionel Decle, diary entry, "Recapitulation: Punishments for 1899," ca. 1899, MS 6020, Lionel Decle Papers, Wellcome Library, London, UK.
[140] Lionel Decle, diary entry, "Charges Against Porters with Result and Sentence," MS 6018, Lionel Decle Papers, Wellcome Library, London, UK
[141] Lionel Decle, diary entry, "Charges Against Porters with Result and Sentence," MS 6018, Lionel Decle Papers, Wellcome Library, London, UK.

sentry duty. Along with the charges, Decle summarized Juma's defence. Juma claimed that a stomach-ache prevented his attendance to the assembly and that he never left the camp. The trial included testimony from three other askaris, where they asserted that Juma had slept in during the assembly and only later cited illness as his excuse for his non-attendance.[142] While the charge of unauthorized departure from the camp was dismissed, Juma was found guilty of not attending the assembly and of sleeping while on sentry duty. For the former charge, Juma was sentenced to three days of extra guard duty; for the latter charge, Juma was lashed ten times. It is unclear what became of Juma after this incident.


W. Whip
W. o F. Whips with option of fine.
CHARGES AGAINST PORTERS WITH RESULT AND SENTENCE.

1899 aug — Mza bin Fakia (p)
Allowed someone in store tent while on sentry
Whips with option of Fine Rs 2-

Sept. 1 — Hamisi bin Juma (p)
Left his gun full of mud Has had already several warnings.
W o. F Fine Rs 6-

Sept 7 — Sabori bin Asman (p)
Eisa bin Omari (p.)
Uleinwingo (p.)
Tried by Court-Martial for having obstinately refused to obey the Captain's orders.
8 days Chains

B C D E

Figure 4: Lionel Decle's journal, 1899, MS 6018, the Wellcome Library.

[142] Decle, "Charges Against Porters with Result and Sentence," MS 6018.

From Decle's accounts, much remains unknown about the nature of Decle's tribunals. For example, where did Decle derive his authority to conduct these trials? How did the porters and askaris attached to Decle's mission react to these sentences? As seen with his earlier expedition, Decle viewed certain punishments as more humane than other methods. While this rationale is missing in his later field diaries of his 1899-1901 expedition, Decle's use of corporal punishments were consistent with his earlier stance.

Like Brownell, Baker, and Stanley before him, Decle's actions indicate that the use of force to discipline subaltern labourers was an inherent part in the exploratory project. Despite the individual circumstances of each explorer, the use of corporal punishment was framed as a matter-of-fact reality of the job of the explorer as a manager of personnel. The militarized nature of later exploratory missions suggests that explorers aped military commanders and sought to discipline their subordinates in much the same way a commander would with subordinate soldiers. In the case of Baker, the militarized expedition served as an implicit justification on the use of force on his own men. But as seen with Brownell, the chief botanist in Petherick's expedition, the use of corporal punishment occurred before the militarized campaigns predominated African exploration in the 1870s onward.

The pedagogical lessons drawn by admirers of Stanley was that such violence was justified as a small cost in the civilizing mission of Africa and the growth of Stanley as a "great man." While the travellers and personalities from Britain, France, the United States, and elsewhere from the West initially operated in Africa before the establishment of colonial administration, their views on corporal punishment anticipated what would become law in much of Africa, the Middle East, and Asia during the apogee of Western colonialism by the early twentieth century.

Conclusion

This chapter is but a sketch from observations taken from my wider project on the self-fashioning of explorers as "men of science." Further research is needed to tease out this study as questions still abound. How do these explorers differ in their assumptions from the Christian missionaries who contemporaneously traversed Africa? What role did corporal punishments play in fortifying the reputation of explorers as geographers and "men of science?" What aspects of British and Western culture, at large, influenced explorers in habitually resorting to corporal punishment? Finally, how did the African and non-Western labourers, soldiers, and bystanders who bore the brunt of punishments think about this treatment?

For the latter question, we must unfortunately read between the lines in the narratives and summaries of British and Western travellers in the Nile Basin and elsewhere in Africa. The consistent anger shown by travellers to deserting porters indicates a level of resistance against the ideological justification for exploratory missions. Intimations of mutiny or betrayal by travellers such as Baker, Stanley, and others indicated a recognition of the coercive nature of traveller leadership of expeditionary parties. As seen in the earlier case of Speke and Grant being at the mercy of local rulers, the power dynamics between traveller and native inhabitant was not always to the advantage of the former. While Headley celebrated Stanley's massacre of the village, it also showed that resistance against Western encroachment was ever-present.

But from the examples given in this brief survey, I hope to have shown the embeddedness of the violence of corporal punishment in the overall process of geographical knowledge production. Such violence demonstrated how interconnected the process of knowledge production was with British and Western cultural norms regarding authority, discipline, and pedagogy. By separating acts of violence from an idealized view of the exploratory project,

certain contemporary pundits have recently sought to resuscitate the reputation of Stanley and his contemporaries.[143] But such attempts are ahistorical and ignore the human costs that resulted from the British exploration of Africa. In mapping and describing the continent, the dependence on indigenous labour and knowledge by explorers cannot be overstated. Nor can the violent force that was required to extract that labour and knowledge from Africans. Understanding how explorers interacted with these partners can help us better understand this critical period in the history of science, the British Empire, and the history of the African continent.

[143] An example of such an attempt can be seen in: Tim Butcher, "Henry Morton Stanley is a giant of history. Toppling his statue would be a disgrace," *The Telegraph*, 30 July 2021. https://www.telegraph.co.uk/news/2021/07/30/henry-morton-stanley-giant-history-toppling-statue-would-disgrace/

CHAPTER 5

The Echoes of Exploration: The Wellcome Tropical Research Laboratories and Science in Sudan (1899-1920)

In 1928, James Eric Moulsdale Mellor began his trip to East Africa and the Great Lakes. As the Senior Entomologist for the Egyptian Ministry of Agriculture, Mellor wished to visit the various entomological laboratories in the region. As his ship sailed towards Zanzibar from Suez, Mellor decided to prepare for his East Africa sojourn by reading Samuel White Baker's *The Albert N'yanza*.[1] An account of Baker's 1861-63 White Nile expedition to confirm John Hanning Speke's solution to the Nile Question, Baker's narrative was filled with tales of conflict, danger, and heroism. As much an act of self-promotion as a travel narrative, *The Albert N'yanza* nonetheless contained ethnological, cartographical, and botanical information that would interest Mellor. Mellor was entertained by Baker's narrative that day.[2]

The networks of stations Mellor would visit had their origins with the Wellcome Tropical Research Laboratories in Khartoum (WTRL). Founded by the pharmaceutical magnate Henry S. Wellcome to foster the economic and scientific development of Anglo-Egyptian Sudan in the wake of the Mahdist War, the WTRL soon became the preeminent scientific research centre in Sudan. More than that, the WTRL symbolized Britain's self-image as a benevolent colonial

[1] James E.M. Mellor. *Journal, including entomological observations, kept by Mellor on his journey through East Africa: Zanzibar and Tanganyika*. Entry of 22 July 1928. SAD.827/10/5, J.E.M. Mellor Papers (Sudan Archive), Durham University Library, Durham, UK.

[2] Mellor, *Journal*, Entry of 22 July 1928, SAD.827/10/5; James E.M. Mellor, *Notes from Zanzibar, Tanganyika, Kenya, Uganda, and the Sudan (August-December 1928)*" SAD.831/12/42-72, J.E.M. Mellor Papers (Sudan Archive), Durham University Library, Durham, UK; Mellor itinerary took him first to Tanganyika (modern-day Tanzania) to visit the East African Central Agricultural Research Station. From there, Mellor drove to the foot of Mount Kilimanjaro to a place called "Miller's Camp." From there, Mellor visited Nairobi from September to October 1928. Mellor proceeded north to Lake Victoria, to Kampala, Entebbe. From there, Mellor travelled to the Albert Nyanza, the White Nile, and up north to Khartoum by December 1928.

power. From 1903 to 1935, the laboratories backed and published research on the epidemiology, pharmacology, entomology, and on the medical anthropology of Sudan.[3] The limited scholarship on the Wellcome Tropical Research Laboratories have centred the site in the context of the commodification of Sudanese knowledge in service of metropolitan interests and within the context of the history of colonial medicine and pharmacology.[4]

Nile exploration is typically situated in the context of the wider history of geography, with the discourse between metropolitan cartographers and field explorers taking centre stage in the historiography of disciplinary geography. This project has sought to contribute to this rich historiography by showing the strategies explorers used to position themselves as "men of science" in the context of their connection with the Royal Geographical Society, non-Western informants and labour, and the shifting ideological prerogatives permeating Britain from the 1860s onwards. But the history of exploration is not limited to assessing how the practices of explorers fit into a history of disciplinary geography. In the mid-nineteenth century "geography" served as a catch-all term for a variety of knowledge producing practices that are contemporaneously associated with different trades and academic disciplines, such as surveying, anthropology, geology, entomology, and botany. As such, the history of the exploration of Africa touches upon the history of numerous scientific disciplines, not just geography. The multi-

[3] The Wellcome Tropical Research Laboratories in Khartoum was officially opened in 1902. However, work at the labs would not begin until 1903. Further, when the laboratories opened, they were called the Wellcome Research Laboratories until 1910, when the name was officially changed to the Wellcome Tropical Research Laboratories at Khartoum. However, the latter name had appeared in official reports from the laboratories as early as 1904. Therefore, to avoid confusion, I will refer to the Wellcome Tropical Research Laboratories by that name and its initials, the WTRL.

[4] For a recent monograph on the WTRL, see: Heather Bell, *Frontiers of Medicine in the Anglo-Egyptian Sudan, 1899-1940* (Oxford: Clarendon Press, 1999); for a detailed history on the WTRL from one of its scientists, see: Patrick Francis D'Arcy, *Laboratory on the Nile: A History of the Wellcome Tropical Research Laboratories* (New York: Pharmaceutical Products Press, 1999).

disciplinary nature of the WTRL serves as a suitable case study to assess the legacy of exploration on twentieth-century scientific work and within a colonial setting.

As explorers traversed the Nile basin, they did so with several prerogatives in mind, one being an ill-defined and shifting idealisation of industrial and economic development in Africa. This "rhetoric of development," as seen in chapter 3, was shared by proponents of British imperial expansion to support a set of nebulous humanitarian concerns that coincided with geopolitical and, at times, personal concerns. With the end of the Mahdist War in 1899, this exploratory rhetoric of development carried forward into a new setting; one where British colonial rule over Sudan became a reality.

In this chapter, I trace the origin and work of the Wellcome Tropical Research Laboratories – and the figures associated with the laboratories – within the context of colonial Sudan. My aim is to highlight the ideological and methodological continuities between the era of geographical exploration before 1882 and the interdisciplinary research performed in the WTRL after 1902. These continuities took three forms: the continued reliance on exploratory travel literature in published scientific research; the adoption of exploration's "rhetoric of development" to fulfil Britain's civilising mission in Anglo-Egyptian Sudan; and the teleology of scientific progress, adopted by the WTRL's scientists and backers, which considered the WTRL as the culmination of science's spread to outside of Europe. By showing how the WTRL relied on the knowledge, practice, and ideologies of earlier explorers, I hope to show how historians of geography should look at allied scientific disciplines to better understand the interdisciplinary and colonial nature of science in Sudan and in Africa.

I begin this chapter by providing a short summary of the course of the Mahdist War (1882-1899), to contextualize the motivations by the newly installed British colonial

administration in Anglo-Egyptian Sudan.[5] I then trace the life and motivation of Henry Solomon Wellcome, the Anglo-American pharmaceutical magnate and financier of the WTRL. I argue that Wellcome's motivations to fund the WTRL was rooted in Wellcome's desire to develop post-war Sudan, an effort he considered as continuing the scientific and developmental efforts of explorers in the previous century. I then examine Wellcome's close friendship with Henry Morton Stanley, where Wellcome defended Stanley's legacy in the face of professional and personal challenges.

Afterwards, I examine the founding and development of the WTRL in Khartoum. Founded in 1902. I highlight the rhetoric used by the WTRL's founders and boosters to show a conscious desire to connect the WTRL as the fulfilment of African exploration. I use the published reports of the WTRL to highlight the continuities of the laboratory's research with the exploratory past and the ideological commitment to development. I then turn my attention to the work of John Brian Christopherson (1868-1955), a frequent collaborator to the WTRL and the director of the Sudan Medical Department. I examine Christopherson's papers to show his reliance upon native informants and contacts in assessing the medical anthropology of Sudan. I look at how Christopherson's reliance on Sudanese, Egyptian, and Syrian informants mirrored the practices of the previous generation of explorers in assembling non-Western knowledge for the service of the colonial state. Finally, I conclude this chapter on the connection between twentieth-century field science with the history of nineteenth-century Nile exploration.

The Mahdist War (1881-1899)

[5] Referred to as either Sudan or Anglo-Egyptian Sudan.

The Mahdist War brought an end to the heyday of Nile exploration.[6] Muhammad Ahmad bin Abd Allah, a Sufi religious figure from Nubia, declared that he was the long-awaited Mahdi of Islamic eschatology in 1881.[7] Beginning with a small cadre of devoted followers, Muhammad Ahmad gained support in the wake of the failed Urabi Revolt of 1882, which saw the British suppress an Arab-Egyptian nationalist revolt and the *de facto* incorporation of the Khedivate of Egypt into the British Empire.[8] Sudanese discontent towards high taxation, British-backed policies to suppress the Nile slave trade, and the capricious rule of the Turco-Egyptian elite in Sudan further added to the ranks of the Mahdist army. Muhammad Ahmad's forces overwhelmed the better armed, but poorly led and isolated, Egyptian garrisons scattered across Sudan.[9] In 1883, an Egyptian expedition was assembled to destroy the Mahdist forces, led by the British officer William Hicks. However, Hick's forces were ambushed and destroyed by the Mahdists at the Battle of Shaykan.[10] This victory proved devastating to the morale of Egyptian

[6] The Mahdist War served as an important event in the history of Sudan as the conflict ultimately shifted political control from Egypt and towards Britain. The roots of twentieth-century Sudanese nationalism began with this war. While the conflict is an important topic, a detailed account of the war is not in the purview of this chapter. For more on the formation of the Sudanese Mahdist State, see: Kim Searcy, *The Formation of the Sudanese Mahdist State: Ceremony and Symbols of Authority: 1882-1898* (Leiden: Brill, 2011); Robert S. Kramer, *Holy City on the Nile: Omdurman during the Mahdiyya, 1885-1898* (Princeton: Markus Wiener Publishers, 2010); For a general introduction on the topic, see: G.N. Sanderson, "The Nile basin and the eastern Horn, 1870-1908" in *The Cambridge History of Africa, Vol. 6 - 1870-1905*, ed. Roland Oliver and G.N. Sanderson (Cambridge: Cambridge University Press, 2008): 592-679.

[7] Through the secondary literature, the names Muhammad Ahmad ibn Abdullah, Muhammad Ahmad al-Mahdi, or Muhammad Aḥmad ibn al-Sayyid ʿAbd Allāh are used. Searcy, Kramer, and Sanderson use "Muhammad Ahmad" when referring the self-proclaimed Mahdi. I will follow their lead and refer to him as such.

[8] Searcy, *The Formation*, 21-22; For more on the Urabi Revolt, see: Afaf Lutfi al-Sayyid Marsot, "Religion or Opposition? Urban Protest Movements in Egypt," *International Journal of Middle East Studies* 16, no. 4 (November 1984): 544-545; Thomas Mayer, *The Changing Past: Egyptian Historiography of the Urabi Revolt, 1882-1983* (Gainesville: University of Florida Press, 1988).

[9] Across the secondary literature on the Sudan conflict, Muhammad Ahmad's followers are alternatively called "Mahdists" or "the Ansar" (i.e., "Helpers"), the latter term in reference to an event in the history of Islam, whereby the people of Medina aided the Prophet Muhammad and his followers following their departure from Mecca in 622 CE. In the then-contemporary English reporting on the Sudanese revolt, the term "dervish" was used disparagingly to highlight the movement's perceived fanaticism. I have opted to use "Mahdist" to avoid confusion.

[10] Sanderson, "The Nile basin," 609; Searcy, *The Formation*, 33; M.W. Daly, "The Road to Shaykan: Letters of General William Hicks Pasha written during the Sennar and Kordofan Campaigns, 1883," Working Paper, Centre for Middle Eastern and Islamic Studies, Durham University, 103-104.

garrisons in Sudan, with many Egyptian soldiers opting to join the Mahdists. Alliances with separate rebel movements in Eastern Sudan aided the Mahdists by cutting off supplies and reinforcements from the Red Sea to Khartoum.[11]

The destruction of Hick's expedition caused alarm in London, where William Gladstone's government sought to balance a desire to relieve Khartoum – and its small Western, expatriate population – without sending an expensive military expedition. Charles George Gordon was appointed by Gladstone to take charge of the situation in Khartoum, despite misgivings from some members of Parliament over Gordon's reliability.[12] Having previously served as the Egyptian governor of Equatoria from 1874-77, and the whole of Sudan from 1877-79, Gordon had earlier gained renown for the earlier defence of Shanghai during the Taiping Rebellion (1863-1864), earning the sobriquet "Chinese Gordon."[13] Despite Gordon's return to Sudan in 1884, the Mahdists consolidated their control over Sudan and besieged Khartoum. In January 1885, the Mahdists captured Khartoum, with Gordon dying in the process. Gordon's death shocked the British public and was a cause for the downfall of Gladstone's government in

[11] Sanderson, "The Nile basin," 615.
[12] Richard Davenport-Hines, "Gordon, Charles George (1833-1885)," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/11029 (accessed 11 November 2019); The Urabi Revolt in Egypt saw the establishment of *de facto* British control over Egypt, with Evelyn Baring, 1st Earl of Cromer, serving as the British consul-general of Egypt from 1883-1907. Despite the continued autonomy of the Khedive of Egypt within the Ottoman Empire, Egypt was now a part of the British Empire. Hence why the Gladstone ministry could appoint Gordon to take charge of the situation in Khartoum. As for Gordon's reliability, there were concerns regarding Gordon's swings from melancholy and an increasing hatred of British society, punctuated with bouts of megalomania and a belief he was divinely destined for great accomplishments.
[13] Davenport-Hines, "Gordon, Charles George;" While not stated outright in the secondary-literature, it is an open question of how much of Gordon's reappointment to Sudan was based on the idea that he successfully help defeat a religious revolt (i.e. the Taiping Rebellion) and defend a city with a sizeable Western, expatriate population (i.e. Shanghai) on behalf of a weak state (i.e. Qing China). Given the superficial parallels with Sudan, it's uncertain whether the Gladstone ministry felt that Gordon could repeat history once more.

1885.[14] Gordon became a martyr for many in Britain, with his death seen as a stain on Britain's honour and as an example of Christian piety and service to the British Empire.[15]

Despite the anguish over Gordon's death in the British press and public, the new Salisbury ministry did not think it worth intervening in Sudan. Even the death of Muhammad Ahmad in June 1885 did not change this thinking, as the Mahdists continued to press their offensive against both Upper Egypt and Abyssinia. Beyond the British occupation of the Red Sea port of Suakin and bolstering Egyptian defences south of Aswan, there was little appetite in Whitehall to intervene further in Sudan. For the next decade, Sudan remained inaccessible to outsiders. Except for the Emin Pasha Relief expedition (1886-1890), where Henry Morton Stanley led a privately financed expedition to find and relieve the governor of Egyptian Equatoria, Eduard Schnitzer (aka Emin Pasha) there were no further expeditions into the Nile.[16] The era of Nile exploration was at an end.[17]

But the situation in Sudan changed in 1896. Under a new Salisbury ministry, attempts to foster closer ties with Italy led Britain to launch a limited military expedition in northern Sudan. The intent was to draw Mahdist forces away from the Italian colony of Eritrea, which was vulnerable due to Italy's defeat at the hands of Abyssinia at the Battle of Adwa.[18] Under the

[14] Although Gladstone would recover from the debacle, becoming Prime Minister again in 1886, and again from 1892-94; H.C.G Matthew, "Gladstone, William Ewart (1809-1898)," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/10787 (accessed 14 August 2020).
[15] Davenport-Hines, "Gordon, Charles George."
[16] For more on Stanley's treatment of Africans during the Emin Pasha expedition, refer to chapter 4 of this manuscript.
[17] Samuel White Baker made an appearance in the discussion over the 1884-85 siege of Khartoum. Baker sketched a plan to have the British launch a large-scale invasion of Mahdist-held territories through Egypt, by using ships on the Nile. While Baker's views got a hearing from the Gladstone cabinet, only one member supported Baker's plan, nor did anyone buy Baker's credulous assertion that relieving Khartoum would snowball as to garner worldwide Islamic support for Britain's great game against Russia in Central Asia; For archival material relating to Baker's failed plan, see: W.H. Hall, *Sir Samuel Baker's suggested relief of Berber and Khartoum from Cairo by the Nile Route: Observations on by Captain W.H. Hall, R.N.* 7 May 1884, Cabinet Office Papers, CAB 37/12/26, the National Archives, Kew, London; "Sir Samuel White Baker, explorer: Letter to W. E. Gladstone, with related correspondence," Supplementary Gladstone Papers Vol. IX, Add MS 56452 ff. 84-112, the British Library, London.
[18] Sanderson, "The Nile basin," 624.

command of Horatio Herbert Kitchener, the British-led expedition captured Dongola in 1896.[19] Due to the weakening of Mahdist Sudan caused by internal rebellions and a lack of military supplies, British forces advanced across the Nile by early 1898. On 2 September 1898, the Mahdists assembled their forces outside Omdurman to halt the British march on Khartoum, with the Sudanese being led by Muhammad Ahmad's protégé, the *Khalifa* Abdallahi ibn Muhammad.[20] The Battle of Omdurman effectively ended the Mahdist War. The outnumbered British used superior weaponry to inflict a devastating defeat on the Mahdists.[21] Despite the continued presence of local rebel movements, be they Mahdist holdouts or other rebellions, Sudan became a part of the British Empire. British rule in Sudan would last until 1956.

The conquest of Sudan – and its transformation into the Anglo-Egyptian Condominium in 1899 – brought a resurgence of scientific research into the region.[22] While there would not be a return to the exploratory missions of pre-Mahdist Sudan, colonial institutions established after 1899 were nonetheless founded to continue scientific research in the region. Such projects were intrinsically connected with the political and ideological prerogatives of the colonial administration of Sudan: the maintenance of stability in Sudan – that is, to prevent further uprisings and to ensure the continuation of Anglo-Egyptian rule. From fostering cordial relations with the Sudanese *ulama* to the building of canals and roads across northern Sudan, British administrators in Khartoum used a repertoire of strategies to maintain stability in Sudan. But beyond this immediate goal of a stable Sudan, British administrators were also informed by the

[19] Sanderson, "The Nile basin," 639.
[20] Sanderson, "The Nile basin," 639-40; Omdurman is on the west bank of the Nile, across the river from Khartoum. The city is also spelled Umm Durman, although I will use the traditional spelling to avoid confusion.
[21] Sanderson, "The Nile basin," 640; remnants of the Mahdist forces would be defeated at the Battle of Umm Diwaykarat in 1899.
[22] Legally, the status of Sudan as a *condominium* placed Britain and Egypt in a co-equal relationship as joint-administrators and sovereigns of Sudan. In practice, Britain's *de facto* control of Egypt (despite Egypt's nominal autonomy as a *de jure* constituent of the Ottoman Empire) made Britain the *de facto* ruler of Sudan. As such, this chapter will recognize this reality by emphasizing British administration of Sudan.

civilizing mission that had justified and legitimated colonial rule, and which had served as a rationale for the previous generation's exploration of Africa.

The founding of the Gordon Memorial College in Khartoum in 1902 was in keeping with both prerogatives, as was the addition of the allied institution, the Wellcome Tropical Research Laboratories (WTRL) in 1903. The founding of the WTRL was informed by the wishes of its patron, Henry S. Wellcome, co-founder of one of Britain's largest pharmaceutical companies. The work of the WTRL constituted a resurgence of Western scientific activity along the Nile since the rise of the Mahdists. The WTRL was tasked with the investigation of tropical diseases and to augment scientific fieldwork in Sudan in the fields of epidemiology, anthropology, chemistry, geology, and entomology. But beyond that, the WTRL was created to foster the economic, political, cultural, and moral development of Sudan in accordance with British conceptions of civilisation and progress.

Wellcome and Stanley

The story of the Wellcome Tropical Research Laboratory begins with Henry Solomon Wellcome (1853-1936). Born in rural Wisconsin to an austere, Adventist family, Wellcome received his introduction to medicine during the Dakota War of 1862, where Wellcome assisted his uncle in tending wounded settlers.[23] Wellcome left the Upper Midwest to study pharmacology in Chicago, then Philadelphia. After garnering a reputation as a promising researcher for American pharmaceutical companies, Wellcome further burnished his credentials in an 1878 expedition to Ecuador and Peru to find additional sources of quinine.[24] In 1880, after moving to London, Wellcome partnered with the fellow American pharmacologist Silas

[23] Robert Rhodes James, "Wellcome, Sir Henry Solomon," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/36824 (accessed 10 December 2021).
[24] James, "Wellcome," *ODNB*.

Mainville Burroughs, to found their own pharmaceutical company, Burroughs, Wellcome & Co.[25] Given his pharmacological expeditions to South America, Wellcome developed an interest in the efforts of the Royal Geographical Society and its various expeditionary missions around the world. It was with the expeditions into Africa, and with Henry Morton Stanley's panache as an explorer, that interested Wellcome most of all.

The relationship between Henry S. Wellcome and Henry Morton Stanley was a close one, with Wellcome tasking himself as both a patron and defender of Stanley in London. As mentioned in Chapter 4, the Emin Pasha Relief expedition (1886-1890) was marked by a level of violence that made metropolitan observers uneasy towards Stanley's conduct. Despite the growing opposition to Stanley among fellows in the RGS and among those outside the society, Wellcome nonetheless defended his friend by cultivating Stanley's image as a heroic figure and by countering any negative news emanating from Africa. In a letter dated 31 January 1890, Wellcome assured Stanley on the negative reactions to the expedition back in Britain:

> I assure you the few and feeble attacks upon you have lost their potency in the face of your last overwhelming achievement. The men who now make attacks upon you are pigmies [sic] who desire to force themselves into notoriety by denouncing you. In doing this they are impelled by the same spirit which guided Guiteau in his attack upon Garfield. He was willing to hang if he could hang in a blue of notoriety.[26]

For Wellcome, the attacks on Stanley's character were on the same moral level as the assassination of US President James Garfield by Charles J. Guiteau in 1881.[27] Regarding criticism levelled by the American explorer Charles Chaillé-Long on Stanley's conduct, Wellcome assured Stanley that he was able to refute Chaillé-Long without any difficulty.

[25] James, "Wellcome," *ODNB*. Through a series of mergers, Burroughs, Wellcome & Co. became one of the constituent parts of GlaxoSmithKline.
[26] Henry S. Wellcome to Henry Morton Stanley, letter, 31 January 1890, HMS/3/2, the Stanley Collection, Royal Geographical Society, London, UK.
[27] Both Wellcome and Stanley were Americans in addition to being British nationals, which may be why Wellcome sought to analogize Stanley's situation with events across the Atlantic.

Wellcome went on to assure Stanley, that if the need arose, Wellcome had connections with the Anglo-American press to improve Stanley's reputation:

> You may be certain that at any time when there is any statement circulated which you want corrected without having to appear in it, you need only intimate it to me and give me the point. I am fortunate enough to have friends in each of the English and American Press Agencies who would do a good turn. I only throw this out as a hint in case you would desire to refute anything without appearing to notice it personally.[28]

Nonetheless, Wellcome advised Stanley to be proactive in setting forth a positive narrative of the expedition. Wellcome was worried by Stanley's silence while in Africa, thinking that such silence played into the hands of Stanley's critics. Regarding the perception that Stanley was dismissive of both Charles Gordon and Emin Pasha, Wellcome wrote:

> An idea has got abroad in England from some meagre extracts from some of your letters, and your speeches in Zanzibar, that you have endeavoured to belittle Gordon and Emin Pasha, and that you regard them both with contempt. I know this to be erroneous but the impression has gained footing among some people of character and position - who hold you in high regard - that these distorted paragraphs are authentic and represent your views. I hope you will at a stable time and in a suitable manner make your position clear on these points.[29]

In addition, Wellcome made sure to lobby for Stanley's admittance to the Whitefriar's dining club and the Savage gentleman's club.[30] But beyond assisting Stanley social standing among London's polite society, Wellcome also assisted Stanley's expedition directly, such as in shipping medical supplies to Stanley, in analysing salt and mineral samples sent by Stanley to Wellcome, and in Wellcome sending at least one rifle to Stanley while in Africa.[31] This relationship connected Wellcome's pharmaceutical enterprise with the field science work taking place in colonial Africa.

[28] Wellcome to Stanley, 31 Jan. 1890, HMS/3/2, Stanley Collection.
[29] Wellcome to Stanley, 31 Jan. 1890, HMS/3/2, Stanley Collection.
[30] Wellcome to Stanley, 25 Feb. 1890, HMS/3/2, Stanley Collection.
[31] Stanley to Wellcome, 8 April 1890, HMS/3/2, Stanley Collection; Stanley to Wellcome, 14 March 1890, HMS/3/2, Stanley Collection; Wellcome to Stanley, 21 June 1890, HMS/3/2, Stanley Collection.

While not stated explicitly by Wellcome in his correspondence with Stanley, the friendship between both men was mutually beneficial. In return for Wellcome's material and social support, Stanley provided Wellcome with the fame and glamour associated with the self-styled discoverer of Livingstone, the Nile's source, the saviour of Emin Pasha, and the indefatigable civiliser of Africa. Wellcome's role as Stanley's defender in London coincided with Wellcome's own rise to the scientific establishment in Britain with the success of Burroughs, Wellcome & Co. in the 1890s.[32] Wellcome's raising fortunes as a pharmaceutical magnate were further bolstered by Stanley's use of Wellcome's medicine chests during and after the Emin Pasha Relief Expedition (1887-1889). Stanley expressed gratitude for the medicine chests to Wellcome, who was more than happy to oblige:

> I am more glad than I can say that the medicines we had the privilege of supplying to your expedition have so well stood the test, and that they successfully ministered to your health and comfort. [33]

The use of Wellcome's medicine chest in Stanley's expedition made the chest desirable for would-be adventurers and travellers, including Theodore Roosevelt and Robert Falcon Scott.[34] Along with Wellcome's invention of the *tabloid* and his penchant for publicity, the association of Wellcome's products with the famed outdoorsmen of the time only aided in establishing Burroughs, Wellcome & Co. as a household name.[35]

Beyond the financial and reputational benefits, the shared American identity of both Stanley and Wellcome contributed to their friendship in Britain. To commemorate Stanley's role

[32] James, "Wellcome," *ODNB*; According to James, Henry Wellcome
[33] Wellcome to Stanley, 31 Jan. 1890, HMS/3/2, Stanley Collection.
[34] James, "Wellcome," *ODNB*.
[35] James, "Wellcome," *ODNB*; The *tabloid* was a type of compressed pill invented by Wellcome in the 1880s. A portmanteau of the words *tablet* and *ovoid*, the term came to be associated with other items small and compressed items, including shorter newspapers by the early-twentieth century.

in the Emin Pasha relief expedition, Wellcome and other American expatriates in Britain sought to produce for Stanley a medallion with imagery associated with Africa and the United States:

> In every circle your reception will be warm and sincere and in no more than that of Americans in the United Kingdom. We desire to give you a hearty greeting and the arrangement for the Banquet are now complete, and we propose to present to you on this occasion a silk American flag and a large silver shield bearing American and African emblems and with scenes illustrative of some of the most important incidents in your various journeys through central Africa.[36]

Nothing else is heard about this medallion until 1899, when Stanley asked Wellcome about the whereabouts of the medallion.[37] In 1900, Stanley finally received this medallion from Wellcome, although it is unclear as to the cause of the delay.[38]

Wellcome's defence of Stanley's reputation and character continued after Stanley's death in 1904, in a situation that reflected both Wellcome's commitment to Stanley and the lengths Wellcome would go to defend Stanley.[39] Two months after Stanley's death, Wellcome and his aide became aware of the existence of a collection of Stanley's documents, dating to the 1871 Livingstone expedition.[40] However, these documents were in the hands of an old love interest of Stanley, a certain Mrs. K. Bradshaw. After alerting Stanley's widow, Dorothy, of this development, Dorothy Stanley authorized Wellcome to "receive for me [Dorothy] any letters or

[36] Wellcome to Stanley, 10 Jan. 1890, HMS/3/2, Stanley Collection; while Stanley was born in Wales, he emigrated to the United States at the age of 18 and presented himself as an American in his exploits. Only when Stanley sought to run for a seat in the House of Commons (serving as the MP for Lambeth North from 1895-1900) did Stanley re-establish his status as a British subject.
[37] Stanley to Wellcome, 2 Aug. 1899, HMS/2/3, Stanley Collection.
[38] Stanley to Wellcome, 1 June 1900, HMS/3/3, Stanley Collection.
[39] The RGS correspondence regarding Wellcome's quest to obtain Stanley's missing documents are extensive, but also reflect a reality of correspondences held in archives: namely that what is preserved is only one-half of the conversation. The bulk of this correspondence reflected letters received by Wellcome, not sent by him. Most of Wellcome's outbound messages were not preserved. Except for a few letters, it is unknown what tone Wellcome (or his aides) took in his communication with the Bradshaw's.
[40] W. Coombe-Tennant to Henry S. Wellcome, 22 July 1904, HMS/13/1, the Stanley Collection, the Royal Geographical Society, London, UK; the exact composition of Stanley's documents was not made clear in the correspondence, only that the documents included "letters and memoranda" from Stanley. Later letters mentioned journals kept my Stanley.

other documents - photographs - etc of my late Husband [sic], Sir Henry Morton Stanley, or relating to his life and work."[41]

The news of Bradshaw's ownership of Stanley's documents came to Wellcome by way of Owen "Morien" Morgan, a Welsh journalist, local historian, and occultist.[42] Morien recounted how he discovered the document's existence in researching his own history of Stanley. Morien described the engagement of Stanley and Bradshaw, the end of the relationship, and Stanley's refusal to speak with Bradshaw after returning from the Livingstone expedition.[43] Morien lamented his inability to find a would-be publisher for his biography but urged Wellcome to find these documents for the sake of preserving Stanley's legacy.[44] Wellcome soon wrote to Lady Bradshaw about procuring these documents, but both Mr. and Mrs. Bradshaw responded separately to Wellcome, expressing sympathy to Dorothy Stanley, but were reluctant to part with the manuscript.[45] Wellcome feared that Mr. Bradshaw would publish Stanley's documents. Wellcome sought legal advice as to whether the Bradshaw's were legally able to publish the document, and attempted to guilt the Bradshaws, but this attempt went nowhere.[46] In 1906, Mr. Bradshaw affirmed to Wellcome of his decision to keep the Stanley documents.[47]

In 1907, after another failed attempt to solicit Stanley's documents from the Bradshaws, Wellcome changed tactics. Wellcome used the services of a certain "G. Langston" (a pseudonym

[41] While the letter's recipient is unnamed, the letter's arrival to Wellcome's office indicates that Dorothy Stanley was responding to an earlier letter sent by Wellcome's office to her; Dorothy Stanley to Unknown, 1 August 1904, HMS/13/1, the Stanley Collection.
[42] Morien to Henry S. Wellcome, letter,18 August 1904, HMS/13/1, the Stanley Collection; Given Owen Morgan's use of "Morien" as his pen name, I will refer him as such.
[43] The correspondence simply refers to Stanley's ex-partner as "Mrs. Bradshaw," who, by 1904, had married and taken her husband's surname. I will refer to her as such.
[44] Morien to Henry S. Wellcome, 18 August 1904, HMS/13/1, Stanley Collection.
[45] Henry S. Wellcome to Lady Bradshaw, 18 August 1904, HMS/13/1; Mr. Bradshaw to Henry S. Wellcome, 19 August 1904, HMS/13/1; Mr. Bradshaw to Henry S. Wellcome, 24 August 1904, HMS/13/1; Lady Bradshaw to Henry S. Wellcome, 25 August 1904, HMS/13/1, the Stanley Collection.
[46] R.A. Wright, "Opinion," memorandum, 30 August 1904, HMS/13/1, the Stanley Collection.; Henry S. Wellcome to Lady Bradshaw, 31 August 1904, HMS/13/1, the Stanley Collection.
[47] Mr. Bradshaw to Henry S. Wellcome, 15 December 1906, HMS/13/1, the Stanley Collection.

for one of Wellcome's agents) to fool the Bradshaw's into selling the documents to a person perceived to not be affiliated with Wellcome.[48] The scheme was convoluted, as another of Wellcome's agent inquired about buying the documents.[49] Despite the Bradshaw's having expressed some doubt about G. Langston's affiliation, they nonetheless agreed to sell him the documents for £150 in December 1907.[50] Langston passed the documents to Dorothy Stanley, who expressed her thanks to both Langston and Wellcome for resolving the situation.[51]

While the three-year saga surrounding Stanley's documents was certainly filled with drama and intrigue, it is also important in that it showcased Henry S. Wellcome's commitment to defend Henry Morton Stanley's reputation from any perceived threat. Be it from Stanley's fellows in the RGS or from Stanley's former lover, such distinctions did not matter to Wellcome. In the controversy surrounding Stanley's brutal conduct in the Emin Pasha relief expedition, Wellcome hinted of his ability to influence the Anglo-American press to bolster Stanley's reputation as a heroic figure. Wellcome used his legal and financial resources to ultimately deceive a couple to buy Stanley's old letters and journals.[52] Wellcome's commitment to Stanley spanned decades and had few limits.

Part of this devotion came from a shared American background among both men. Another is that both men offered something to the other: Wellcome with his wealth and social

[48] G. Langston to Henry S. Wellcome, 15 October 1907, HMS/13/2, the Stanley Collection, Royal Geographical Society, London, UK.
[49] It is unknown as to the identity of this third agent, but Mr. Bradshaw asked how the agent would have known that he and his wife had Stanley's document. Langston denies having told anyone about the meeting, except this is not true as Langston recounted the details of this meeting to Wellcome on 15 October 1907; Mr. Bradshaw to G. Langston, 21 October 1907, HMS/13/1, the Stanley Collection.
[50] Bradshaw to Langston, 21 October 1907, HMS/13/1, Stanley Collection; Langston to Bradshaw, letter, 23 October 1907, the Stanley Collection; Littlechild to Henry S. Wellcome [ADD]
[51] Lady Stanley to Henry S. Wellcome, HMS/13/1, the Stanley Collection, Royal Geographical Society, London, UK.
[52] In HMS/13/2, there was a rough draft of a statement was written declaring Henry S. Wellcome the executor of the Stanley estate, with edits by an unknown reader suggesting fixes to the draft.

standing in London; and Stanley and his fame as the most famous explorer of his era. But Wellcome's interest in Stanley also reflected Wellcome's wider fascination with Africa and the wider exploration of the continent. Wellcome collected manuscripts from other explorers during the twentieth century, holding a collection that would ultimately be passed on to the Wellcome Library.[53] Wellcome ventured to Sudan in 1900, as part of the first visitations by Western civilians into Sudan since the end of the Mahdist War. Inspired by the rhetoric of development in post-war Sudan, his interest in the Nile basin, and his interest in tropical medicine, Wellcome's donation to the Gordon Memorial College led to the founding of the Wellcome Tropical Research Laboratories in 1903.

Post-war Khartoum

In rebuilding Khartoum, British administrators sought to prevent the resurgence of a Mahdist rebellion in Sudan. To accomplish this, the newly founded Anglo-Egyptian administration (headed by Governor-General Reginald Windgate) opened the Gordon Memorial College in 1902 to assist in the education of the Sudanese people. Starting with a primary school education for Sudanese children, the college soon began to teach Sudanese adults to work in specific trades, such as teaching, surveying, engineering, and telegraphy.[54] By 1905, the Gordon

[53] Now known as the Wellcome Collection; The impetus to examine Henry S. Wellcome came from an observation during my research. Given the Wellcome Library's emphasis on medical history, I wondered why it held so much material related to African exploration. Apart from Stanley's documents, Henry S. Wellcome acquired further manuscripts from other explorers such as the Pethericks, Samuel White Baker, and Lionel Decle. Currently housed in the Wellcome Collection, these manuscripts seem to be a rather incongruous part of a library which emphasizes its focus on medical and pharmacological history. But on further investigation, this incongruity reflected the connection Wellcome saw between exploratory history and medical history as allied science. In examining Wellcome's life, his relationship with Henry Morton Stanley, and his involvement in Sudan after the Mahdist War, I argue that Wellcome saw exploration as fulfilling both practical and ideological goals that benefitted Wellcome's financial needs, as well as his declared commitment to a nebulous notion of scientific progress as being coterminous with the maintenance of the British Empire.

[54] Windgate succeeded Horatio Kitchener as both Governor-General of Sudan and as Sirdar, or the commander-in-chief, of the Egyptian Armed Forces; The approach taken by the Anglo-Egyptian administration in financing education programs in Sudan differed across northern Sudan and southern Sudan, previously known as Equatoria. In southern Sudan, British administrators allowed Christian missionaries to build schools as part of a wider program of evangelization. Given the experience of the Mahdist Revolt and precedent in Muslim-majority territories of the

Memorial College included a military college to educate and train officers for the Sudanese army. These initiatives were in keeping with the broader goal to transform Sudan from a perceived hotbed of Islamic fanaticism to something more amenable to British notions of civilisation. In a 1904 article published in *The Sphere* newspaper, the Gordon Memorial College is likened as the "Eton of the Soudan." Before the college's construction, the people of Sudan were once "shouting, fanatical dervishes" but were now "wise men and learned in the law."[55] Such Islamophobia was not unusual in British rhetoric regarding Sudan. Writing in 1914 to commemorate Charles Gordon's death, the naturalist and author Frederick George Aflalo wrote on his scathing view towards Islam and Muslims when he visited Khartoum:

> Here [Khartoum], as I remember noticing elsewhere only in Damascus and Marrakesh, the elect of Islam exults in barbarous contempt of all else, black or white, despising alike his cannibal Nyam Nyam neighbours and his English overload. He may ape the trappings of civilisation, but, like any monkey tricked out in its owner's finery, he holds himself a finer fellow than his master [...] The haughty Moslem [sic] may be a ludicrous object in the piping times of peace, but he will always be a fined incarnate when the roll of the war-drum calls him to be standard of any pinchbeck Inspired One screwed enough to seize the moment for a rally of Islam.[56]

As seen in Chapter 3, Samuel White Baker's earlier contempt for Islam was a motivating factor in portraying his second expedition as a necessity for the civilisational uplift of Africa. While negative views towards Islam were pervasive among British administrators and officials in Sudan, there was a strand that argued for the possibility of uplifting the people of Sudan towards civilisation.

British Empire, however, Christian missionaries were barred from operating in the predominantly Muslim north. For more on the legacy of Christian education in South Sudan, see: Christopher Tounsel, *Chosen Peoples: Christianity and Political Imagination in South Sudan* (Durham, NC: Duke University Press, 2021).

[55] "The Eton of the Soudan: Gordon College at Khartoum," *The Sphere*, 12 November 1904.

[56] Frederick George Aflalo, "The Memory of Gordon," *The Outlook*, 25 April 1914.

Wellcome visited Sudan in 1900, as part of the resumption of Western civilian visitations to the region after the end of the Mahdist War.[57] At Khartoum, Wellcome saw the Gordon Memorial College under construction, and offered to finance the building of laboratories attached to the college, which would work in tandem in furthering the economic development of Sudan.[58] Initially, Wellcome had promised a "handsome gift" of "complete medical equipment and stock for the dispensary in connection with the [Gordon Memorial] College."[59] This evolved into something more expansive by late 1901. In a letter from Wellcome to Governor-General Wingate, Wellcome listed the aims of the proposed laboratories and described how the research of the laboratories would aid in the administration of Sudan:

> To promote technical education; To undertake the testing and assaying of agricultural, mineral and other substances of practical interest in the industrial development of the Sudan; To carry out such tests in connection with waters, food stuffs and sanitary matters as may be found desirable; To aid criminal investigation in poisoning cases…To study bacteriologically and physiologically tropical disorders, especially the infective diseases of both man and beast, peculiar to the Sudan, and to render assistance to the officers of health and to the clinics of the civil and military hospitals.[60]

In a 1914 memoranda produced by the WTRL, a retrospective is given on the building of the laboratories, where the WTRL is presented as the culmination of centuries of scientific progress:

> "It is the beginning of a work comparable in importance to that of the great Portuguese travellers and explorers of the fifteenth and sixteenth centuries. Prince Henry the Navigator, Vasco de Gama [sic], and Bartolomeo Diaz laid open the coasts of Africa to the exploitation and commerce of Europe; but through all the intervening centuries the interior of the Dark Continent has remained inhospitable and deadly. It seems as if modern science and hygiene may once more restore it to civilisation and render it habitable and wholesome for the northern races."[61]

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[57] Frank Addison, *The Wellcome Excavations in the Sudan: Jebel Moya, Vol. 1* (London: Oxford University Press, 1949): 1.
[58] Given Wellcome's prior use of Stanley's fame to promote the durability and utility of his medicine chests, it is not known if Wellcome was attempting to associate himself with the perceived heroism of Charles Gordon and the fall of Khartoum.
[59] James Currie to Henry S. Wellcome, 5 January 1901, WF/E/01/03/23, Wellcome Collection, London, UK.
[60] Henry S. Wellcome to Sir F. Reginald Wingate, 28 September 1901, WF/E/01/03/23, Wellcome Collection, London, UK.
[61] "The Wellcome Tropical Research Laboratories in Khartoum [Final Copy]," memorandum, 15 December 1914, Papers of the Gordon Memorial College, Khartoum, WF/E/01/03/23, Wellcome Collection, London, UK.

Here, the work of the WTRL is presented as continuing the work of explorers from the heady days of the Age of Discovery. Similarly, the promise of settler-colonialism in Africa was seen as a possibility due to the work of the WTRL in much the same way the discoveries of early navigators opened the world up for European colonialism. But this vision of the past was not only imagined by those involved in the WTRL to legitimize the institution with the work of famed explorers. For at least one explorer, the WTRL continued his work in Africa.

The Wellcome Tropical Research Laboratories

Appointed as the inaugural director of the Wellcome Laboratories in Khartoum in 1902, Andrew Balfour received his medical education at Cambridge University and Edinburgh University, before serving as a civil surgeon in Transvaal during the Second Boer War, from 1900-1901.[62] Interested in tropical medicine, Balfour was now tasked with managing a multidisciplinary laboratory in Khartoum.[63] To see Balfour off, Wellcome threw a lavish party at the posh Prince's restaurant at Piccadilly, London in December 1902.[64] While the majority of guests consisted of medical professionals and Balfour's colleagues, the keynote toast was given by Henry Morton Stanley. In a write up of the dinner in the *Journal of Tropical Medicine*, Stanley's speech is summarized:

> [Stanley] remarked that it was but a few years ago since the term "darkest" was wholly appropriate to many regions of Africa, but to-day the advance in civilisation was so pronounced and rapid that light was being admitted to even the most obscure parts [...] In the fulness [sic] of time Africa had come to its destiny [...] He could imagine no project

[62] "Sir Andrew Balfour," *The British Medical Journal* 1, no. 3657 (7 February 1931): 245-246.
[63] For a detailed account of Andrew Balfour's activities in Sudan, see: Ahmed A.A. Adeel, "A pioneer of tropical medicine worldwide: Andrew Balfour, of Khartoum," *Sudan Journal of Paediatrics* 13, no. 1 (2013): 63-74.
[64] "Dinner to Dr. Andrew Balfour, Director of the Chemical and Bacteriological Research Laboratories of the Gordon Memorial College, Khartoum," *The Journal of Tropical Medicine: A Bi-Monthly Journal Devoted to Medical, Surgical and Gynæcological Work in the Tropics* Vol. IV (15 December 1905): 390-391; For a look at the Prince's Restaurant, see: "The Prince's Restaurant, Piccadilly: London, W.," Yale Center for British Art, https://collections.britishart.yale.edu/catalog/orbis:11618316 (accessed 14 December 2021).

> better calculated to hasten that desirable end than the establishment of a centre of education such as the Gordon Memorial College at Khartoum promised to become.[65]

Stanley's toast to Balfour, and the WTRL in general, situated the work of the laboratories as building on his labours. The use of "darkest" was intentional on Stanley's part, as the term alluded to two aspects of Stanley's work. In 1878, Stanley coined the term "the dark continent" in his travelogue *Through the Dark Continent* of his 1874-1877 expedition from Zanzibar to Boma, a port town on mouth of the Congo River on the Atlantic coast.[66] It also referred to Stanley's narrative of the Emin Pasha expedition (1887-1890), *In Darkest Africa* (1891), where Stanley defended his conduct in the face of mounting criticism for his expedition's brutality against Africans. In Stanley's toast, then, we see an assumed continuity between Stanley's forays into Africa and the work of laboratorial science in Khartoum.

Stanley's rhetoric, connecting the WTRL with his own projects in Africa, was augmented by a pervasive paternalism towards the Sudanese, where the WTRL, Gordon Memorial College, and the British administration of Sudan would uplift the populace towards civilisation. Speaking after Stanley, Henry Wellcome cited his visit to Sudan in 1900 as the impetus for the creation of the laboratories. While in Khartoum, Wellcome said he was impressed "by the intellect of many of the natives, and he believed that many of them could be trained in the College [sic]."[67] Three years previously, Rudyard Kipling published "The White Man's Burden" to beseech Americans to take up the civilising mission Britain had supposedly practiced for over a century. It is unknown what contact Wellcome had with Kipling's writing. But for Wellcome, at least, the WTRL would serve the civilising mission in Sudan.

[65] "Dinner to Dr. Andrew Balfour," 390.
[66] Felix Driver, "Stanley, Sir Henry Morton," *Oxford Dictionary of National Biography*, https://doi.org/10.1093/ref:odnb/36247 (accessed 15 November 2019).
[67] "Dinner to Dr. Andrew Balfour," 390.

Thereafter, Hugh Colin Smith, a trustee for the Gordon Memorial College fund, echoed Wellcome's sentiments. Smith thought the college would serve as both "the centre of the pacification" and "the seat of learning" and "improvement" for the people of Sudan.[68] The aim, Smith concluded, was bringing "the people and the country in touch with the commerce of England."[69] Taken together, the WTRL was seen as the natural progression to the exploration of Africa; as a means to pacify Sudan and prevent the emergence of another revolt on the scale of the Mahdists; an institution to uplift the Sudanese people; and to foster commerce in Sudan. Such goals were in keeping with the rhetoric of development that pervaded the exploratory missions after Speke's 1861-64 expedition.[70] Whereas there existed opposition to Speke's desire to augment the exploratory missions in Africa with the rhetoric of development, the intervening decades had made such rhetoric a foundational rationale for scientific research in Africa. The idiom of development was inherited by tropical scientific researchers, explicitly connecting their work in colonial Africa as the next stage in the process of civilisational uplift that began with the explorers of the latter-nineteenth century. Even as the age of African exploration ended by 1900, the rhetoric of development continued to serve as a moral justification of scientific work in Sudan into the twentieth century.

When the WTRL opened in 1903, the laboratories themselves consisted of five rooms, a museum, and a garden, all part of the second floor of the east wing of the Gordon Memorial College.[71] Of the five rooms, there was a kitchen where "general rough work" and the "preparation of culture media" took place. There were separate bacteriological and chemical

[68] "Dinner to Dr. Andrew Balfour," 390.
[69] "Dinner to Dr. Andrew Balfour," 390.
[70] For more on the "rhetoric of development" as the raison d'être of post-1864 African exploration, refer to chapter 3 of this work.
[71] Andrew Balfour, *First Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government, 1904): 9-10.

rooms, a photographic dark room that also served as a cold storage room (fig. 1).[72] Despite Henry S. Wellcome's donation to the Gordon Memorial College, in 1903 the laboratories were, in Balfour's words, "in a very backward condition."[73] Adjacent to the director's office, the museum contained "a score of mounted specimens illustrative of human pathology and tropical diseases," along with a "small collection of skulls," and photographs "illustrative of the native diseases of the Sudan."[74]

Initially, the staff only consisted of the director, Andrew Balfour, along with "a laboratory assistant, two Sudanese, one of whom was a small boy."[75] Balfour lamented the need for more staff.[76] By 1905, the staff grew to include a chemist, an economic entomologist, two assistants, a clerk, and a travelling pathologist/naturalist.[77] As the years passed, the WTRL grew in size, both physically, financially, and in its staff. However, the staff was dominated by British and European scientists, with few participants among the Sudanese and Egyptian population. By 1906, a Sudanese formally became a listed staff member of the WTRL. As an early alumna of the Gordon Memorial College, Mahmoud Effendi Khalil, came to serve as the cleck for the laboratories. Initially the sole clerk, Balfour praised Khalil in streamlining the paperwork at the

[72] See Figure 5 for a layout of the laboratories in 1904; Balfour, *First Report*, 9; It should be noted that Balfour writes that the WTRL is on the second floor of the college's east wing. However, figure 5 describes it as the first-floor plan.
[73] However, Balfour did tout the craftmanship of what was completed at the laboratories, noting that the woodwork consisted of "English oak and Indian teak," which proved "very satisfactorily" in surviving the Sudanese summer; Balfour, *First Report*, 7, 9.
[74] Balfour, *First Report*, 9; The photographs were taken by the photographer Roberto Türstig, on behalf of John Brian Christopherson. Türstig would later participate in a quixotic German expedition in 1914-15 (led by Leo Frobenius) to Arabia and Ethiopia to foster a pan-Islamic revolt against the British Empire. According to Rocío da Riva, Türstig once lived in Khartoum, was married to a German woman, and did not get along with his neighbors, who "cordially detested him." For more on this expedition and Türstig's role, see: Rocío da Riva, "Lawrence of Arabia's forerunner. The bizarre enterprise of Leo Frobenius, aka Abdul Kerim Pasha, in Arabia and Eritrea (1914-1915)," *Wiener Zeitschrift für die Kunde des Morgenlandes* 99 (2009): 29-111.
[75] There is no indication who this small boy was, or what the small boy did at the WTRL. Only that a small boy helped in some capacity; Andrew Balfour, *First Report*, 11.
[76] Balfour, *First Report*, 11.
[77] Andrew Balfour, *Second Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government, 1906): 9.

laboratories, which had hitherto "greatly interfered with research."[78] However, by 1908, Khalil was no longer the clerk, with a Westerner assuming the role of "Clerk" and a certain Ibrahim Effendi Hafiz becoming the "Junior Clerk."[79] Beyond clerical work, an unknown number of Sudanese worked at the WTRL in menial and adjunct positions. Andrew Balfour mentioned a couple in his *Third Report*, first describing the laboratory's "chief native laboratory attendant." Balfour explained that having been a "dervish" in Kordofan, the attendant was now "trusted to make excellent blood films and attend to the sterilisation of bacteriological media."[80] Another Sudanese, this time the museum's cleaner, fought at the Battle of Omdurman.[81] For Balfour, the inclusion of Sudanese attendants, cleaners, and clerks was indicative of the "change which has come over the Sudan since it fell under civilising influences."[82] Nonetheless, Westerners would retain the top positions in the WTRL's staff until the laboratory's closure in 1935.

Field Pathology at the Wellcome Tropical Research Laboratories

Sheffield Airey Neave, the WTRL's travelling pathologist, represented the changes in colonial field science in Africa at the turn of the twentieth century. Neave, educated at both Eton and Oxford, arrived in Africa in 1904 and engaged in three expeditions between 1904-1908 to study vertebrates and invertebrates (with an emphasis on butterflies) in the Congo Free State and Rhodesia.[83] Initially, Neave was a naturalist, an ambiguous term that had served a similar purpose to that of the explorer for the field of geography: a term that implied both the gentlemanly scholar of the early-to-mid nineteenth century in the tradition of Charles Darwin or

[78] Balfour, *Second Report*, 10.
[79] Andrew Balfour, *Third Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government Khartoum, 1908): 2.
[80] Balfour, *Third Report*, 16.
[81] Balfour, *Third Report*, 16.
[82] Balfour, *Third Report*, 16.
[83] R.A. Baker and R.A. Bayliss, "Two Naturalists in Africa: Sheffield Airey Neave (1879-1961) and James Jenkins Simpson (1881-1937) with particular reference to their work on insects and ticks from 1910 to 1915," *The Linnean* 25, no. 1 (2009): 20-28.

Alfred Russell Wallace, and the amateur "artisans" who provided specimens and data to the established gentlemanly scientist for profit.[84]

In Neave's contribution to the WTRL – a 1904-05 investigation on sleeping sickness in South Sudan – Neave formatted his report in the manner that blended the travel narrative with a pathological review of South Sudan.[85] Neave's itinerary relied on the prior work of John Petherick and Samuel White Baker: Neave followed the path of the White Nile from Khartoum, cutting through the Sudd marshes, before setting off overland from the trade depot of Gondokoro.[86] Unlike Petherick and Baker, Neave's goal was at once less grandiose than solving the Nile Question, but more useful in aiding the lives of the people of Sudan: to investigate the distribution of *Glossina palpalis*, a species of the tsetse fly, and the parasitic protozoa which caused sleeping sickness.[87] Neave's appointment to the position as the travelling pathologist was due to Andrew Balfour's fear that sleeping sickness afflicting populations in Uganda would spread northwards to South Sudan.[88] To accomplish this task, Neave took blood samples from people and animals to study the parasite, as well collecting samples of the flies for further study in Khartoum.[89]

However, Neave was not limited to this one objective alone. In addition to this task, Neave would also "collect specimens of animal and vegetable life and articles of interest, and to

[84] For more on this relationship, see: Anne Secord, "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History," *The British Journal for the History of Science* 27, no. 4 (December 1994): 383-408; For more on the professionalization of disciplinary geography, see: David R. Stoddart, "The RGS and the 'New Geography': Changing Aims and Changing Roles in Nineteenth," *The Geographical Journal* 146, no. 2 (July 1980): 190-202.
[85] Sheffield Neave, "Report of Travelling Pathologist and Naturalist," *Second Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government, 1906): 183-204; Pathological in this meaning means the study of diseases at large.
[86] Neave, "Report of Travelling," 183.
[87] Neave, "Report of Travelling," 183.
[88] Balfour, *Second Report*, 9-10; Uganda, originally claimed by the Khedivate in Egypt during the 1870s, had become a possession of the Imperial British East Africa Company in 1888, which included both Uganda and modern-day Kenya. In turn, Uganda was reorganized into the Uganda Protectorate in 1894.
[89] Neave, "Report of Travelling," 183

obtain any influence likely to be of medical or economic value, and to observe and note native customs, etc., as far as possible."[90] Similar to the explorers of the nineteenth century, Neave used his research as an opportunity to contribute to various scientific disciplines such as botany, pharmacology, and ethnology.[91] To garner the assistance of the peoples of South Sudan for his expedition, Neave planned to provide free medical care in return for blood samples and interviews, but ran into difficulties as most patients only visited Neave once for treatment and refused follow-up visits.[92] Neave cooperated with the Royal Society's Sleeping Sickness Commission in Uganda, but this partnership resulted in a truncated schedule to accomplish the goals of the expedition.[93] Whereas Neave claimed he needed two years to fully gather samples, the short window in time where Neave could cooperate with the Commission's expedition north of Uganda meant that Neave only had four months from 1904 to 1905 to find samples of the tsetse fly and draw blood samples from local populations.[94]

However, missing in Neave's account is any indication as to the size of his expedition. Whereas previous expeditions into the region relied on African and Sudanese porters to carry equipment and supplies across Central Africa. Beyond a passing reference of a nameless assistant and a member from the Sleeping Sickness Commission, there is no indication as to the

[90] Neave, "Report of Travelling," 183.
[91] Neave utilised *gyassas* – local sailing craft – to facilitate his expedition. A photograph is below in Figure 6.
[92] Neave, "Report of Travelling," 183-184; According to Neave, the reason for this was due to cultural differences between British and South Sudanese notions of medical, whereby the latter wanted medical treatment to treat the ailment immediately. Neave did note, however, that the cough lozenges he provided to various patients was quite popular, with patients complimenting the medicine's taste. Neave related that one local sheik was so enamoured with the taste of the lozenges that he had his subjects come to Neave to complain of coughs so that he could take more lozenges for himself.
[93] Balfour, *Second Report*, 9-10; For more on the Royal Society's Sleeping Sickness Commission, see: Walter Ledermann, "Aldo Castellani y las expediciones de la Royal Society al país del sueño negro," *Revista chilena de infectología* 28, no. 3 (2011): 276-281; Kirk Arden Hoppe, "Lords of the Fly: Colonial Visions and revisions of African Sleeping-Sickness Environments on Ugandan Lake Victoria, 1906-61," *Africa: Journal of the International African Institute* 67, no. 1 (1997): 86-105; John Boyd, "Sleeping Sickness: The Castellani-Bruce Controversy," *Notes and Records of the Royal Society of London* 28, no. 1 (June 1973): 93-110.
[94] Neave, "Report of Travelling," 183.

size or composition of Neave's party to support his sojourn in South Sudan and Uganda.[95] The two vessels Neave and Grieg used to navigate the White Nile would imply a larger crew, but no other participant is mentioned (see fig. 2). Indeed, this pattern held true for Captain Greig's report of the same expedition.[96] However, unlike in Neave's account, Greig provided some context as for why the size of the expedition may have been small:

> As it is of extreme importance to ascertain whether *G. palpalis* [sic] is present or absent, not only on the banks of the Nile but throughout the whole Sudan, an arrangement was made by which each official of the Sudan Government stationed in the various districts will receive a specimen of the *G. palpalis* with a memorandum requesting information as to the presence or absence of this fly or flies resembling it (collections to be sent for identification to headquarters), and as to the character of the country, &c., should the fly or one resembling it be found.[97]

In other words, the establishment of colonial administrations across South Sudan negated the need for large expeditions composed of porters, sailors, and soldiers operating alongside explorers. Whereas Gondokoro served as a lonely outpost for Nile explorers operating south of the Sudd, the spread of British colonial administration throughout the length of the Nile had created numerous centres which could be used to both supply scientific missions in the region and be used by the expeditions to gather data and specimen for further study. Likewise, the establishment of governmental outposts and centres obviated the need to carry supplies to maintain a given expedition. Whereas British rule over Uganda and South Sudan was not consistent and relied on what Mahmood Mamdani called "legal dualism" – a division of administration between British and local rulers – the existence of these depots and improved

[95] Neave, "Report of Travelling," 183; despite being identified as "Captain Greig" in Neave's report, Greig's full name was Edward David Wilson Greig.
[96] Captain E.D.W. Greig, "Summary of Report Number VI. of the Sleeping Sickness Commission of the Royal Society," *British Medical Journal Military Health* 5 (1905): 582-597.
[97] Greig, "Summary of Report Number VI," 583.

infrastructure marked a radical departure from the situation facing field explorers in the mid-nineteenth century.[98]

By 1908, the WTRL had expanded its activities to include the research of scientists outside the immediate laboratorial staff. Despite the dominance of Western scientists in the pages of the WTRL's *Third Report* (1908), there was a curious exception to this rule. Hasan Effendi Zeki served as the one time medical advisor to the *Khalifa*, Abdallahi Ibn Muhammad.[99] Writing a historical paper to the WTRL's report, Zeki provided a detailed account of the medicine practice by the Mahdists before 1898, including the use of herbal remedies, the treatment of various ailments (e.g. smallpox, infantile diarrhoea, and fever), and surgery on wounded soldiers.[100] Interestingly, Zeki's description of Sudanese medicine did not seem to have led Balfour or the WTRL's staff to question their attitudes regarding Sudanese medicine as inherently inferior to Western science. Instead, Balfour situates Zeki's description of Sudanese medicine as not constituting modern medicine, as it predated the introduction of "civilisation" by way of the British conquest of Sudan.[101]

Perceptions of the WTRL

[98] Mamdani argues that colonial states in Africa created in regime of "legal dualism" that melded Western law with African customary law. It was in defining the myriad customary laws that the British defined ethnic groups and tribes, where the groups were defined as such by having these laws. Often unwritten, colonial officials relied on the "Native Authority" to be the representative and manager of customary groups and laws. Further, in what Mamdani calls "decentralized despotism," the colonial state selected local proxies to ensure the continued economic exploitation of their lands. The use of local proxies allowed these proxies to rule on their own terms in their given dominion, their power ensured so long as they were economically friendly to the colonial administrators. For more, see: Mahmood Mamdani, *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism* (Princeton: Princeton University Press, 1996).
Authorities in a variety of examples.
[99] Balfour, *Third Report*, 16.
[100] El Bimbashi Hassan Effendi Zeki, "The Healing Art as Practiced by the Dervishes in the Sudan during the rule of the Mahdi and of the Khalifa," *Third Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government Khartoum, 1908): 269-279.
[101] Balfour, *Third Report*, 16.

In the first decade of the WTRL's existence, scientific research was published in official reports. Four reports were published between 1904 and 1911 detailing the WTRL's interdisciplinary research on Sudan and its people. Published in printed, bounded volumes, these reports were not only distributed to universities and other research centres but were also distributed to the British press for review. Evaluated by laymen, these reviews of the WTRL's reports echoed the enthusiasm for the laboratories expressed by Henry S. Wellcome, Andrew Balfour, and Henry Morton Stanley. Universally, reviewers saw the scientific research conducted at the WTRL as proof positive of the humanitarian *raison d'être* of the British Empire. In their 1906 review of the *Second Wellcome Report*, the *Pall Mall Gazette* was effusively positive, stating that:

> Here, in palpable form, is a convincing proof - doubtless one of many such - that the rule of England in Egypt is a rule of beneficence. Surely, when the natives of that ancient land, which played such a great, though distant, part in the evolution of the young civilisation that is now engaged in her rejuvenescence - when they being to realize what the Gordon Memorial College stands for, and to contrast it with the abominations for which Turkey has been responsible for so long, they may say "The dayspring from on high hath visited us.[102]

Likewise, *The Sphere*'s review of the same report remarked upon the progress made by the WTRL in transforming Khartoum into a more civilised city:

> Seldom do we get such a vivid example of the enormous progress of Egypt as is afforded by Khartoum. Only eight years ago it was a barbaric dot in the desert; to-day [sic] it is one of the hopes of the Soudan Government.[103]

The *Manchester Guardian* praised the *Second Report*'s study on the composition of the waters of the Blue and White Nile, whereas *The Graphic* praised the laboratories for producing a quick and effective means to rid Khartoum of mosquitos: adding petroleum to the city's water supply.[104]

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[102] "Empire and Beneficence.*," *Pall Mall Gazette*, 9 October 1906.
[103] [Untitled], *The Sphere*, 22 September 1906.
[104] "The Second Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum, Khartoum: Department of Education, pp. 255.," *Manchester Guardian*, 22 October 1906; "Science in the Sudan,"

For the press, the laboratories symbolized the connection between scientific progress with the development of Sudan.

Yet, the effusive rhetoric towards the WTRL was not universal. Among scientific journals, the initial WTRL reports were not seen as scientifically novel. In a review published in *The Hospital*, the reviewer was unimpressed with various articles found in the WTRL's *Second Report*.[105] The review found the chapter on *trypanosomiasis* as "rather uninteresting reading, the repetition of so many inoculation experiments becoming wearisome, and then after all no very definite conclusions, apparently, are reached from them." Regarding Sheffield Neave's chapter, the review chastised the WTRL for giving Neave too little time to accomplish his work finding suitable fly specimens.[106] This scepticism was similarly expressed in the *British Medical Journal*, where the WTRL's report "contains nothing new." Nonetheless, the *BMJ* lauded Henry S. Wellcome in financing the laboratories and expressed optimism for future reports.[107]

This discordance between the press and medical journals in their view of the WTRL's early research was due to the differing emphasis placed on the WTRL's research. For the press, the Wellcome Tropical Research Laboratories symbolized Britain's imperial project in Sudan. Attached to the Gordon Memorial College, the WTRL became connected with the death of Charles Gordon. Since his death in 1885, Gordon became less a man than a votive offering to Britain's glory. In avenging his death at Omdurman, the WTRL represented a fulfilment of the British imagination of Gordon's dream. Disconnected from the reality of Gordon's flaws and

The Graphic, 20 October 1906; Regarding the issue of adding petroleum to water as described in the same article: "Curiously enough, the natives have developed a great liking for petroleum, which they now regard as a panacea for every kind of winged nuisance, including flies and midges."

[105] "Second Report of the Wellcome Research Laboratories at the Gordon Memorial College, Khartoum. By Andrew Balfour, M.D., B.Sc., F.R.C.P.Edin., D.P.H.Camb., Director, Department of Education, Sudan Government, Khartoum. 1906.," *The Hospital* 41, no. 1047 (13 October 1906): 35.

[106] "Second Report," *The Hospital*, 35.

[107] "The Khartoum Laboratories," *The British Medical Journal* 2, no. 2392 (3 November 1906): 1232-1233.

failures, this imagining bolstered the perceived scientific work of the laboratories as a site of the civilisational uplift of the Sudanese. In contrast, scholarly journals found the WTRL's early research as being lacklustre at best, if still sympathetic to the laboratory's struggle operating in Anglo-Egyptian Sudan.

That is not to say that British scholarly reviewers were not susceptible to imperial rhetoric. Rather, these differing receptions revealed how the "rhetoric of development," innovated by earlier explorers in Africa, bolstered the reputation of scientific researchers to certain lay metropolitan audiences. The aura of the age of exploration led to a mythologising of the figures and events involved in the endeavour, such as David Livingstone, Richard Francis Burton, John Hanning Speke, and Samuel White Baker. In turn, metropolitan "men of science" relied on the measurements, ethnographies, and samples taken from Central Africa to better map and catalogue the world. As an example, Andrew Balfour relied upon the works of explorers to map out a history of illnesses in Khartoum.[108] In his article published in the WTRL's *Second Report* (1906), Andrew Balfour used George August Schweinfurth's travel narrative, *The Heart of Africa*, to understand Khartoum's malarial condition in 1871.[109] After providing a long quote from Schweinfurth's account of Khartoum's relatively undeveloped sanitation infrastructure, Balfour exclaimed, "How suggestive are these passages!"[110]

In connecting scientific research with the moral mission of civilisational uplift and economic development, explorers positioned themselves as "men of science" despite disapproval from scholarly geographers. Despite its origin as a research laboratory, the WTRL's backers and staff embraced the rhetoric of development to position the WTRL as a tool in Britain's civilising

[108] Balfour, *Second Report*, 18.
[109] Balfour, *Second Report*, 18
[110] Balfour, *Second Report*, 19.

mission in Sudan. Doing so elevated the reputation of the WTRL among the popular press even if the early work did not impress academic audiences. While the latter perception would change as the WTRL found its footing, the work of the Wellcome Tropical Research Laboratories continued to be seen in the British imaginary as continuing the scientific work started by Nile explorers.

John Brian Christopherson and Medical Knowledge in Sudan

While not a formal member of the WTRL, John Brian Christopherson was a frequent collaborator of the WTRL, contributing to various chapters in the WTRL's *First Report*. Garnering praise for his discovery of an effective treatment for schistosomiasis (known in Sudan as *bilharzia*) in 1917, Christopherson's research on the medical practices and diseases of Sudan were cited by the WTRL and other venues.[111] Christopherson's copious journals and notes gives a specific view in how scientific work was conducted in early twentieth-century Sudan. Unintentionally, Christopherson's journals complicated the assumed teleology of scientific progress held by Christopherson and his contemporaries, insofar that the introduction of exploratory missions in Sudan were the start of scientific work in Sudan and the Nile Basin. Significant in Christopherson's journals was his reliance on Sudanese knowledge in assessing the epidemiological and the medical anthropological state of early twentieth-century Sudan. Reliant on native informants for his research, Christopherson's work revealed the extent to which colonial science depended on the knowledge and practices of non-Western actors. Despite Christopherson's dim view on Sudanese practices and beliefs, the incorporation of such data showed a continuity in practices from the previous era of exploratory work in the Nile Basin.

[111] There are few scholarly works on John B. Christopherson. The only published study on Christopherson's career is by his grand-niece, Ann Crichton-Harris, who investigated the reasons Christopherson has become a forgotten figure. For more on J.B. Christopherson, see: Ann Crichton-Harris, *Poison in Small Measure: Dr. Christopherson and the Cure for Bilharzia* (Leiden: Brill, 2009).

Further, Christopherson's work for the WTRL and the Sudan Medical Department demonstrated a continuity with the ideological goals of colonial development that permeated both the Anglo-Egyptian administration of Sudan and the earlier geographical expeditions of the latter-nineteenth century.

John Brian Christopherson had his start in Africa during the Second Boer War, serving as a volunteer medical officer at the Imperial Yeomanry Hospital at Deelfontein, Cape Colony.[112] In 1902, Christopherson became the private physician to the Governor-General of Sudan, Reginald Wingate, before reaching the honorary title of *binbashi* within the Egyptian Army's medical corps in 1904.[113] From his arrival in Sudan, Christopherson also worked in the Omdurman Civil Hospital, becoming the hospital's director from 1909-1919.[114] Having concurrently served as the Director of the Sudan Medical Department (1905-1919), Christopherson researched a variety of topics regarding epidemiology and the medical anthropology of Anglo-Egyptian Sudan.

The Omdurman Civil Hospital was one of many small hospitals constructed throughout Sudan at the beginning of the twentieth century.[115] Colonial medicine practiced by the British in Sudan evolved from the army field hospitals from Kitchener's campaign.[116] Christopherson operated within a stratified environment, with senior medical doctors being British, with the

[112] In 1910, Cape Colony would be reconstituted into the Union of South Africa; "John Brian Christopherson," Durham University Library Archives & Special Collections Catalogue, Durham University, https://reed.dur.ac.uk/xtf/view?docId=ark/32150_s1sn009x80z.xml# (accessed 19 February 2020); Crichton-Harris, *Poison in Small Measure*, 67-96.
[113] The rank of *binbashi* is the equivalent of "Major" in Western militaries.
[114] "John Brian Christopherson," Durham University.
[115] Abdel A'al Abdallah Osman, "Milestones in the History of Surgical Practice in the Sudan," *Sudan Notes and Records* 54 (1973): 139.
[116] This is not to say, however, that medicine was not practiced in Sudan. As it becomes clear, medical knowledge among the Sudanese was extensive and diverse in its practices. Abdel A'al Abdallah Osman, writing in the 1970s, still held onto the belief that medical history in Sudan began with the fall of the Mahdist state; Osman, "Milestones," 139.

junior doctors being Syrian or Egyptian in origin.[117] To familiarize himself with Sudan, Christopherson composed a list of twenty-two books of the history and geography of the region.[118] The works of Burton, Speke, Petherick, and Romolo Gessi were cited by Christopherson as informative works pertaining to Sudan. In assessing the racial categorization of Sudan, Petherick relied on the works of the Russian explorer Wilhelm Junker and that of John Petherick.[119] Finally, to make sense of the state of Sudanese medicine before and during the Mahdist period, Christopherson compiled a history of the topic.[120] For Christopherson, knowledge of Sudanese medicine allowed for not only a better understanding of the topic for its own sake, but would assist in leveraging the pre-existing medical knowledge in Sudan to serve the prerogatives of the Anglo-Egyptian administration.[121]

Christopherson's scholarship on the medical anthropology of Sudan was reliant upon the contribution of Sudanese informants and Egyptian medical officers. In March 1908, Christopherson sent out a memorandum to the staff of the Sudan Medical Department to collect information from "the district you are working or any source that you have been able to draw from" regarding five topics: the nature and prevalence of "tribal markings;" the existence of "Earth Eaters in the Sudan" [sic]; "Tattooing [sic] in the Sudan, lips or other portions of the

[117] Abdel A'al Abdallah Osman, "History of Surgical Practice," 139.
[118] John Brian Christopherson, "List by Christopherson of 19th and early 20th century books on travel in Africa," n.d., SAD.407/11/37-38, J.B. Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[119] Christopherson, J.B. *Miscellaneous notes and references from various works*…, 1909-10, SAD.407/9/15-63, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[120] John Brian Christopherson, "Description of Sudanese native remedies in the Mahdi's and Khalifa's time...," 1909, SAD.407/6/1-14, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK; John Brian Christopherson, "Notes on medicine in the Sudan," after 1910, SAD.407/6/15-26, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[121] This understanding of the role where faith and folklore did not imply, however, that Christopherson was sympathetic to the faith of Sudanese Muslims. On the contrary, much like Aflalo and his contemporaries, Christopherson's view on Islam was wholly negative: "The Mohammedan Religion has never done anything in this World [sic] except engender a selfish peace of mind to the individual and […] a total disregard to other peoples feelings [sic]. It breeds wars for Nations [sic] by its intolerance. It has never invented anything, nor am I aware of any Mohammedan has initiated peaceful work of any kind at any time. It is the opposite to the Christian Religion of Charity, Peace, Diligence and Usefulness;" Christopherson, "Notes on medicine," SAD.407/6/20.

body;" the "[circumcision] of female children;" and any notes on "Native remedies or surgery or appliances [sic]."[122] Christopherson further clarified the subjects of any reports were "Sudanese or Arab." Finally, Christopherson suggested that "Sanitary Barbers, Midwives and patients are useful sources of information [sic]."[123]

After a few months, several reports came in to Christopherson from across Sudan. Habib Suaadi served as the medical officer in northern Sudan and provided a report in August 1908. Apologetic for the tardiness of his report, Suaadi focused primarily on data gathered in Dongola province.[124] Only portions of Suaadi's report survived, but the surviving pages details a thorough investigation of the medical treatments practiced in Dongola.[125] In one passage, Suaadi relates the practice of "cataract extraction, a "familiar operation among the natives" of Dongola. Specifying that the procedure could only be performed by a "wise man" – who, in turn, could only be an Arab and never a "a Barbarine or a Sudanese [sic]" – Suaadi provides a detailed account of the procedure.[126] According to Suaadi, if a wise man, after inspecting the patient, decides to operate on the cataract, the wise man:

> […] goes into the patient's room, together with his private assistant who accompanies him any where [sic] he goes, both of them all alone, close up the door and keep every lady away, and then begins his operation [sic]

[122] John Brian Christopherson, "Circular letter from Christopherson to 20 medical officers [...]," 26 March 1908, SAD.407/2/1, John Brian Christopherson Papers, Durham University Library (Sudan Archive), Durham University, Durham, UK.
[123] Christopherson, "Circular letter," SAD.407/2/1.
[124] Letter from Habib Suaadi to J.B. Christopherson, 12 August 1908, SAD.407/2/3, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[125] Only nine pages survive of Suaadi's report; Habib Suaadi's report to Christopherson, 1908, SAD.407/2/4-12, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[126] One difficulty with assessing the discourse on ethnic identities in early-twentieth century Sudan is that such boundaries were messy and contingent on local conditions. This was especially true regarding the differences between "Sudanese" and "Arab," given that both groups shared the Arabic language and Islam. This distinction has since been muddled further by the pan-Arabism of the mid-twentieth century and Arabizing efforts of the Sudanese state after independence. The use of these terms in the writings quoted in this chapter is, therefore, problematic but preserved, nonetheless. However, I make a distinction between Sudanese and Egyptian regarding the geographical origin of the given individual: whether that individual was either from the Khedivate of Egypt (and later the Sultanate of Egypt) or whether the individual was from Anglo-Egyptian Sudan or the earlier Mahdist state.

> The assistant holds down the patient's head, and the operator takes out his "golden-needle" as the natives call it, probably a nanawknife [sic], and cuts up the upper hemisphere of the cornea, and the extracts the lens. Evidently, he uses the same knife to cut up the capsule of the lease, as he has no other instruments for the purpose. On finishing with this, he at once conceals his knife, so that no one is able to have a look at it, and closes the patient's eyes, covers it with a piece of cotton + binds it up, and haves [sic] the patient in the dark room. On the third day, he opened the eyes again and drops into it few drops of a woman's milk, provided she has no infectious disease. He keeps up with this treatment for three weeks, at the end of which the patient operation [sic] is either successful or otherwise. Old people rarely succeed, but young ones are more successful. The operator's fee is never less than 100 dollars [sic] together with a slave girl, or boy, as a present. The operation is always done in secret, and no one is allowed to witness it or ever have a glance at the knife.[127]

Suaadi went on to give detailed accounts of other practices, such as amputations, treatments for syphilis, and setting and healing fractures and dislocated joints.[128]

Dr. Tawfik Rasi, the medical officer for Singa, Sudan, provided a report to Christopherson on tribal markings, tattoos, and on his thoughts on the so-called "Earth Eaters."[129] Centring his report on Sennar province, some 350 kilometres southeast of Khartoum, Rasi states that tribal markings in the region did not follow ethnic nor tribal lines.[130] In fact, Rasi theorized that those who abstained from tattoos and markings – such as immigrating Arabs to Sennar – would eventually adopt the practice. Rasi wondered if the use of facial and body markings was not to differentiate an individual on the basis of tribal or ethnic differences, but that the "only reason for marking practices is fantasia, and to look beautiful?! [sic]."[131]

[127] Habib Suaadi's report, SAD.407/2/5.
[128] Regarding amputations: the surgeon used a "heavy sword," as well as a boiling oil pot, to perform the procedure. The extremity to be amputated was put through a hole in a door, wall, or table. The sword man cut the limb in one motion, and the patient's remaining arm was immediately immersed in the boiling oil. Suaadi went on to say that most patients died "from the shock," and those who do survive have many months of recovery for their stump to heal; Habib Suaadi's report, SAD.407/2/9-11.
[129] Tawfik Rasi to J.B. Christopherson, 30 June 1908, SAD.407/2/64-66, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[130] Rasi to Christopherson, 30 June 1908, SAD.407/2/64.
[131] Rasi to Christopherson, 30 June 1908, SAD.407/2/64.

Dr. Hassah Jehr provided a short report on herbal medicines from Khartoum, including a remedy said to come from a "wild plant" from "the mountains of Abyssinia."[132] Ali Canani provided a bilingual (Arabic and English) report from Dongola detailing the practice of scarification among local women – called a *balad* – with the use of razors.[133] Sketches of markings are found across multiple reports. While several reports have since been lost, these manuscripts nonetheless reveal the relationship between indigenous knowledge and colonial knowledge. Christopherson's subordinates received data and anecdotes from local contacts across Sudan. In turn, the synthesized reports reached Christopherson who synthesized these reports further. Regardless of whether Christopherson's reports were used by the Anglo-Egyptian administration or by scholars in Britain, these reports show the critical importance of local contacts and support in colonial knowledge production.

Christopherson's data gathering by proxy reflected two aspects of colonial science. On the one hand, Christopherson's curiosity towards Sudan was evident in his work. Christopherson gained renown when, in 1917, he developed an effective treatment for bilharziasis, via the use of injections of antimony tartrate.[134] The treatment of that disease saved many lives in subsequent decades. But along with that work, Christopherson's view towards Sudan reinforced colonial attitudes in "othering" Sudan. In that regard, Christopherson's scientific work contributed to what Gaurav Gajanan Desai calls the "colonial library," the compendium of literature written throughout the colonial era that had "invented Africa as a locus of difference and alterity."[135] In

[132] Hassah Jehr to J.B. Christopherson, 7 October 1908, SAD.407/2/62-63, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[133] Ali Canani to J.B. Christopherson, report, ca. 1908, SAD.407/2/67-68, John Brian Christopherson Papers (Sudan Archive), Durham University Library, Durham, UK.
[134] "Obituary: J.B. Christopherson, C.B.E., M.D., F.R.C.P., F.R.C.S.," *The British Medical Journal* 2, no. 4934 (30 July 1955): 327-328.
[135] Gaurav Gajanan Desai, *Subject to Colonialism: African Self-Fashioning and the Colonial Library* (Durham: Duke University Press, 2001): 4.

studying the medical anthropology of Sudan, Christopherson's tone and view reflected a belief that Sudanese customs regarding body modification and medicine were inferior to that of the West. Assuming that body markings reflected atavistic ethnic differentiations, Christopherson was engaging in what Johannes Fabian called the "denial of coevalness," whereby "a persistent and systemic tendency to place the reference(s) of anthropology in a Time [sic] other than the present of the producer of anthropological discourse."[136] Through the institutional weight of the Sudan Medical Department, Christopherson perpetuated – through his role in gatekeeping medical knowledge production – the perspective that Sudan was both spatially and temporally separate from Britain.[137]

But despite the ways in which this knowledge augmented the British "othering" of Sudan, the relationship between Christopherson and his Egyptian, Syrian, and Sudanese informants destabilized the dichotomy of "indigenous" and "colonial" forms of knowledge. As Frederick Cooper has argued, historians of colonialism in Africa have understandably examined the relationship between victim and victimizer, the resistors and oppressors, and the centre and the periphery, but must look beyond these perspectives as if they were "fixed and self-contained doctrines unaffected" by Africans and Europeans.[138] As Dr. Rasi surmised in examining the body marking customs in Sennar, the reasons for why people received markings and tattoos reflected the individuality and creativity of the Sudanese, along with a movement of peoples and customs that challenged Western views of Africa and the Middle East as unchanging, temporally backward realms. In other words, the Sudanese and Egyptians contributing to Christopherson's

[136] Johannes Fabian, *Time and the Other: How Anthropology Makes Its Object* (New York: Columbia University Press, 1983): 31.
[137] This is not to mention Christopherson's (and other British official's) own Islamophobia, which accords with Edward Said's notion of *Orientalism*. For more, see: Edward Said, *Orientalism* (New York: Pantheon Books, 1978).
[138] Frederick Cooper, "Conflict and Connection: Rethinking Colonial African History," *The American Historical Review* 99, no. 5 (December 1994): 1516-1545.

field work should not only be seen as subordinates within the sphere of colonial knowledge production, but as knowledge producers in their own right.

Indeed, the information gathering by the sanitary barbers and other informants mirrored that of the explorers working in the service of metropolitan institutions such as the Royal Geographical Society. If, according to Felix Driver, the "centre of calculation" of British geography was the Royal Geographical Society in the mid-nineteenth century, Christopherson, the Sudan Medical Department, and the WTRL all served that role in the context of Sudanese colonial science in the early-twentieth century. In effect, while Western anthropologists, botanists, and pathologists continued to engage in field work in Sudan and the Nile Basin through the twentieth and into the twenty-first centuries, the Sudanese informants who assisted – and continue to assist – Western scientists are themselves scientists, the heirs of both the legacy of geographical exploration and the resulting synthesis of African and non-African forms of knowledge production.

Disciplinary Boundaries

The scientists and technicians of the WTRL and the Sudan Medical Department would have recognized the teleological chronology as laid out by the historian of science George Basalla in 1964. Basalla argued that science had spread from Europe to non-European places, first manifesting itself as geographical exploration before becoming specialized and complex as colonial rule set in and the colony began to develop.[139] While this understanding of the development colonial science has since been superseded in the historiography of the history of science, there are nonetheless aspects of Basalla's model that speaks to the practice of science in

[139] George Basalla, "The Spread of Western Science," *Science* 156, no. 3775 (May 5, 1967): 611-622.

the context of the British exploration of Africa.[140] Namely, as colonial rule solidified in sub-Saharan Africa, the initial exploratory forays of small exploratory parties were followed by better organized expeditions with narrower missions. Whereas explorers of the mid-nineteenth century were expected to provide geographical, ethnographical, botanical, meteorological, and geological data and measurements for metropolitan scientists, expeditions of the latter-nineteenth century focused more on accomplishing increasingly narrow and specific aims.

One such example is on ethnography. Johannes Fabian's study of explorers in Central Africa is well-known for its study on the mental state of Westerners.[141] But as significant is Fabian's intervention into the history of anthropology, when he extends the roots of twentieth-century ethnography not to the canonical founders of the discipline (e.g. Boas), but to "proto-ethnographers" embodied by explorers in Africa.[142] But one can take Fabian a step further: rather than seeing the fieldwork practiced by explorers as an antecedent for one discipline (i.e. contemporary geography), we can instead view the field of "geography" as a catch-all term for a variety of practices and interests that later became identified as belonging to separate scientific disciplines. In thinking about geography in this way, we can trace the influences and effects of exploratory missions beyond our current understanding of disciplinary boundaries where we can more holistically assess how the practice of knowledge production in the WTRL was rooted in multiple practices outside the realm of laboratorial science or a teleological history of medicine.

[140] A significant shift in the historiography of the history of science has been on defining "science" as part of the practice of knowledge production. Basalla's perspective (along with mid-twentieth century thinkers such as Thomas Kuhn) considered forms of knowledge production originating in Europe to be *science*. In the last three decades, this geographical limitation has been replaced by an understanding that recognizes forms of non-Western knowledge production to be part of the larger history of science.
[141] Johannes Fabian. *Out of Our Minds: Reason and Madness in the Exploration of Central Africa* (Berkeley: California University Press, 2000).
[142] Fabian, *Out of Our Minds*, xii-xiii.

In this, the British geography practiced in nineteenth-century Africa was a prime example of what Susan Faye Cannon calls "Humboldtian science."[143] Committed to the "the accurate, measured study of widespread but interconnected real phenomena in order to find a definite law and a dynamical cause," Humboldtian science could not be classified into our contemporary understanding of scientific disciplines.[144] Indeed, Cannon refers to the scientific work of Alexander von Humboldt (and his contemporaries) as *Humboldtian* for lack of any other term to adequately encompass the vast array of scientific interests and practices worked on by these "men of science."[145]

British explorers operating in Africa in the mid-nineteenth century were operating, consciously or not, on the Humboldtian model. As seen in Chapter 1 and 2, explorers brought a variety of tools to aid in the data collection of new lands. Regardless of their experience with surveying, explorers gestured towards practices that corresponded with those of the archetypical explorer. Regardless of each explorer's unique background and formal educational background (or, as was often the case, lack thereof), explorers followed the practices of those expeditions published and promoted by the RGS to conform to set of shared practices and standards. In the mid-nineteenth century, exploratory expeditions emphasized a holistic view of assessing the world that is outside our contemporary understanding of disciplinary boundaries, a view that was committed to the collection of data and measurements above all else. Written within the long-

[143] Susan Faye Cannon, "Humboldtian Science," in *Science in Culture: The Early Victoria Period* (New York: Dawson and Science History Publications, 1978): 73-110.
[144] Cannon, "Humboldtian Science," 105.
[145] Cannon, "Humboldtian Science," 77; as Cannon further observed, "We have, in short, no term available which includes astronomy and the physics of the earth and the biology of the earth all viewed from a geographical standpoint, with the goal of discovering quantitative mathematical connections and interrelationships - "laws," if you prefer, although they may be charts or graphs. Hence, I call it "Humboldtian science" in spite of the obvious objections that some of its parts (like applied astronomy) and some of its own characteristic emphases (like the accuracy of portable instruments) were major concerns before Humboldt appeared on the scene. If Humboldt was a revolutionary (as I think perhaps he was), it was not in inventing all the parts of Humboldtian science. It was in elevating the whole complex into the major concern of professional science for some forty years or so."

established tradition of the travel narrative, mid-nineteenth century expeditionary reports weaved data collection into the narrative, interspersing passages on heroism and self-promotion in the exotic locale of Central Africa with tables, figures, and maps of the regions they measured.[146]

However, the latter-nineteenth century saw a reorientation of the purpose of exploratory missions into one of two directions. As seen in chapter three, Samuel Baker's second expedition (1869-1873) had more to do with bolstering the political prerogative of Khedival Egypt as it had with the production of geographical knowledge. Likewise, whereas Henry Morton Stanley claimed acknowledgement for his (1874-77) expedition in resolving the Speke-Burton dispute regarding the purported source of the Nile, it was Stanley's search for David Livingstone (1871) that cemented Stanley's status as the most famous explorer operating in Africa. This is not to say that prior to the 1870s that self-aggrandizement or political concerns did not factor into exploratory missions into the Nile Basin. However, whereas the Nile Question served as the defining mission of British exploration in the Nile Basin through the 1860s, these political and personal concerns gradually took centre stage for a subset of exploratory missions sanctioned by the Royal Geographical Society. In addition, the latter-nineteenth century saw other exploratory missions take on narrower scientific or developmental aims.[147]

Conclusion

[146] This is not to say that British explorers, in aping Humboldt and his contemporaries, were only interested in measuring the world to accord with the perceived standards of how an explorer should write and act. Rather, that explorers worked towards the practice and aesthetics of exploratory fieldwork *in addition to the prerogatives of individuals, institutional, and state actors*. That is to say, the desire of Charles Beke or David Livingstone to write exploratory reports coincided with their personal commitment to evangelization and abolitionism. In turn, this coincided with the RGS's prerogatives as the clearing house of British geographical knowledge. And, in turn, this coincided with the British state's desire to make Africa "legible" for geopolitical and colonial purposes; For more on legibility and the state, please see: James C. Scott, *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed* (New Haven: Yale University Press, 1998).

[147] As seen in Chapter 4, the 1890s expeditions of Lionel Decle, while broad in terms of distance covered, were nonetheless limited in their aim to survey a potential railroad for Cecil Rhodes' Cape-to-Cairo railway. Likewise, expeditions in post-Mahdist Sudan increasingly prioritized singular goals, such as medical epidemiology, cadastral surveying, or geological missions to find petroleum deposits.

Institutions like the Wellcome Tropical Research Laboratory, the Omdurman Civil Hospital, and the Gordon Memorial College in Khartoum were all founded as part of the exploratory program of development and "civilisation." In other words, these institutions were seen by its staff as explicitly building upon the moralizing mission of geographical exploration. More important was the continued use of exploratory practices by epidemiologist, botanists, entomologists, ethnographers, surveyors, and geologists through the early-twentieth century. I have argued that instead of viewing Nile exploration as an idiosyncratic story in disciplinary geography, that the history of Nile exploration is tied with the larger process of disciplinary formation that affected the social and natural sciences during the latter-nineteenth century.

For the staff of the Wellcome Tropical Research Laboratories, the work of Nile explorers in the previous two generations were seen as the forerunner of scientific work in the region. In the laboratory's chronology of events, explorers provided the initial data set in the investigation of the people, flora, fauna, and geography of Sudan. In this view, there was a teleological sense of "civilisation building" in Sudan, whereby British explorers were retroactively portrayed as presaging colonial rule. The rhetoric of development (examined in chapter 3) was utilised in the wake of the Mahdist War to lend moral credibility to Britain's colonisation of Sudan. The construction of colonial research institutions and the establishment of a Western medical research community by scientists such as Balfour, Neave, and Christopherson, was seeming proof of this vision of science abetting the civilising mission.

Yet this view of Western scientific predominance was undermined by the work of Sudanese and Egyptian doctors and medical practitioners. Their investigative work across Anglo-Egyptian Sudan revealed the deep local medical knowledge of the region that would not be subsumed by Western medical science but be incorporated and analysed. More than that, the

work of local doctors, sanitary barbers, and midwives in contributing to mapping the medical ethnology of Sudan echoed the techniques that British travellers used to position themselves as "men of science." Much like the work of these travellers, the development of scientific work in the Wellcome Tropical Research Laboratories depended on the knowledge, labour, and expertise of local peoples.

The rhetoric of development – and the realities of the dual mandate – guided British administration in Sudan into the mid-twentieth century. The WTRL in Khartoum was followed by the founding of additional research institutions and stations across Africa. James Eric Moulsdale Mellor's voyage into East Africa was seen by Mellor and his contemporaries as the culmination of the age of African exploration: the lone explorer establishing the beachhead of civilisation. But such an image – tinted by imperial nostalgia and a disregard for African sovereignty – belied the reality that at no point did the work of British science in Africa was ever solely the work of the lone explorer or the lone pathologist or the lone chemist. Rather, the production of scientific knowledge was always a collaborative affair. The knowledge and work of African subalterns mapped the continent for British geographers. Sudan's incorporation into the British Empire did not change this fact.

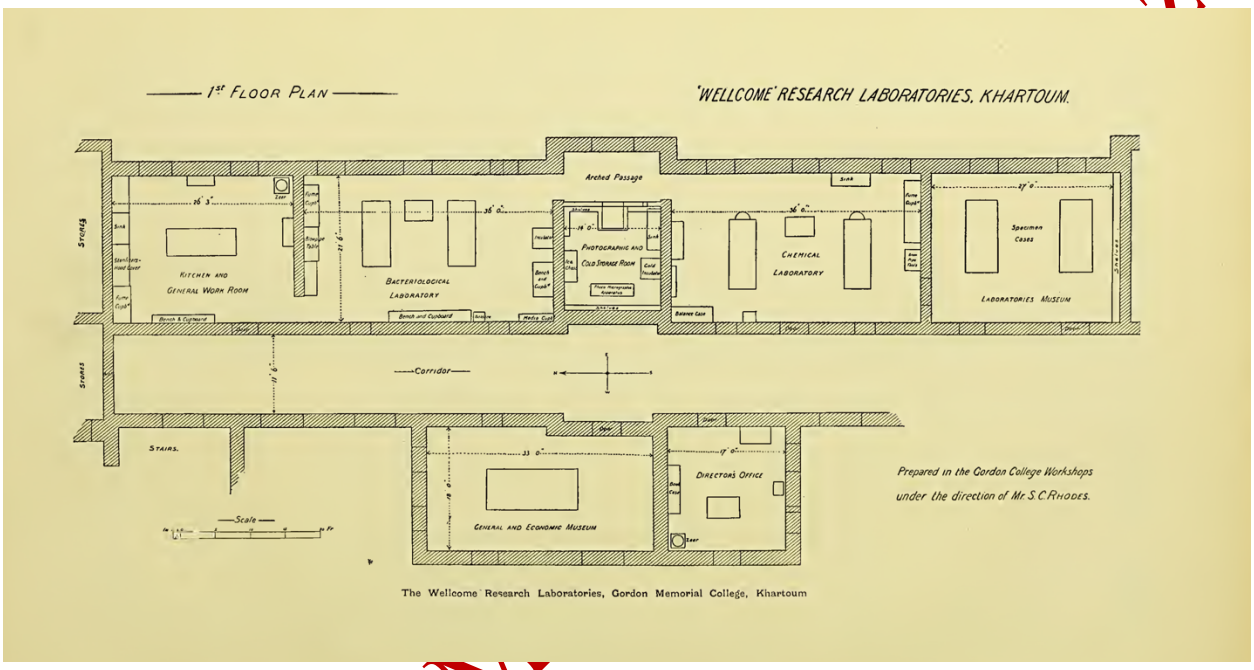

Figure 5: Floor plan of the Wellcome Research Laboratories in Khartoum (1903). Published in Andrew Balfour, *First Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government, 1904): 6.

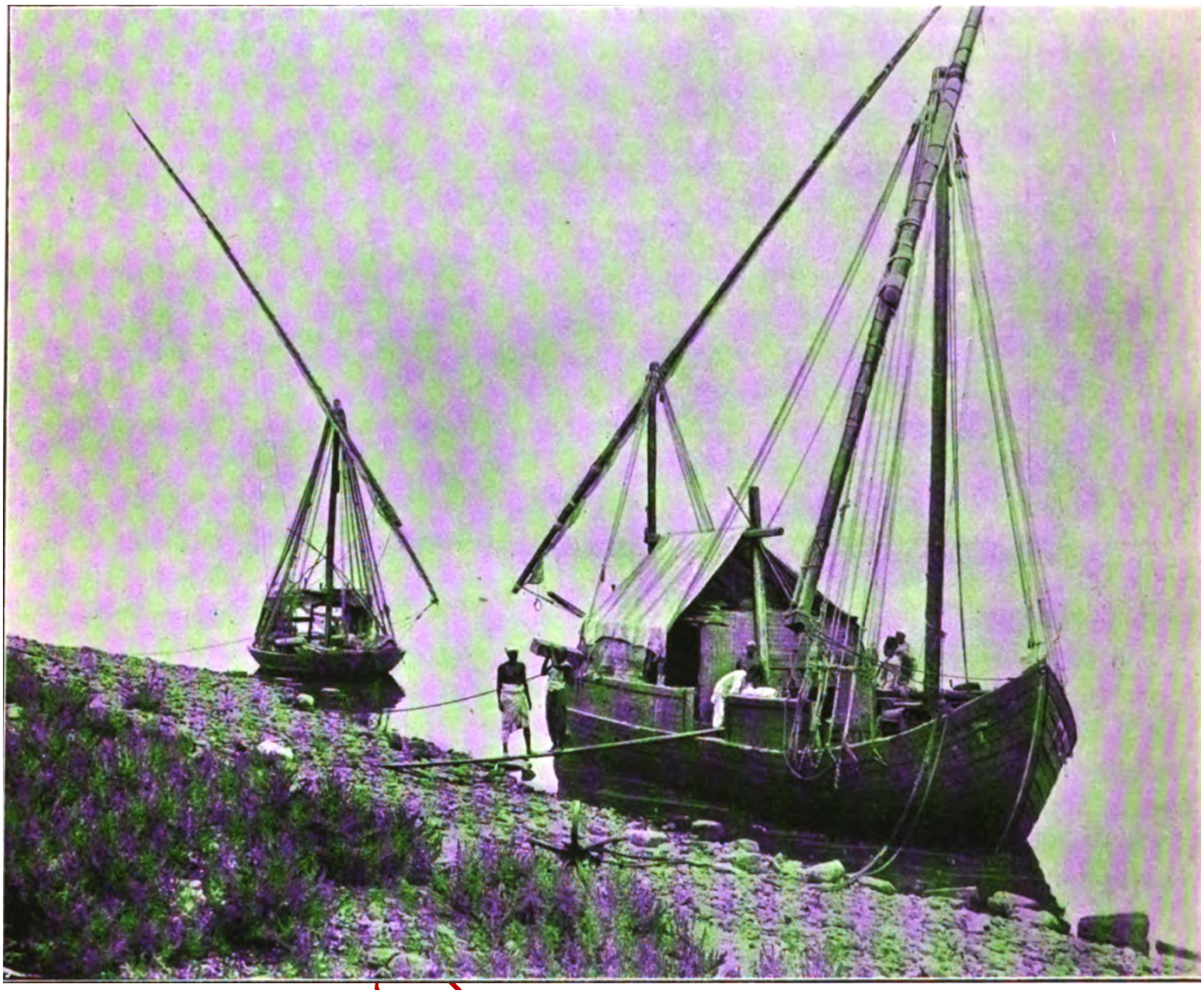

Figure 6: *Gyassas* of Neave's Expedition (1904-1905). Published in Andrew Balfour, *Second Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum* (Khartoum: Department of Education Sudan Government, 1906): 184.

CONCLUSION

The era of exploration quickly became mythologised in the Anglophone world. The drama of Speke and Burton, the meeting of Stanley and Livingstone, and the triumph of colonial rule over Africa added a sense of inevitability to the exploratory project. As seen in the previous chapter, a teleology emerged by the twentieth century that connected the British explorers of Africa with navigators like da Gama, Columbus, and Cook. The act of "discovery" connected these figures in the Western imagination. In this narrative, the act of "discovery" served as both a scientific endeavour and as a rationale for conquest.

In the exploration of Africa of the latter nineteenth century, this project has analysed the field of geography as it underwent the process known as professionalisation. Professionalisation within this scientific field emerged in the context of the Second Industrial Revolution, the growth of the British Empire, the formation of political liberalism, and, most important, on the decline of the gentlemanly "man of science" in the face of scientific newcomers drawn from social classes previously unrepresented in the community of science. But the process of professionalisation – as seen through the actions, assumptions, and careers of explorers – was unusual insofar that it occurred in a scientific field that was more a collection of allied *field sciences* than a coherent "discipline." In addition to providing measurements and surveying lands unknown to Westerners, the explorers – as field scientists – also provided ethnological, botanical, sociological, historical, and geological analyses to metropolitan audiences.

But these various fields all became professionalised and disciplined through the end of the nineteenth century. Whereas the establishment of these scientific fields saw a proliferation of field scientists operate in the newly-colonised territories of Africa, the prototypical explorer faded into history, mythologised in the Western imagination in much the same way the

frontiersmen of the American West became a symbol of masculine strength and savvy in an unknown and untamed land. Nominally geographers, the professionalisation of science *writ large* by the start of the twentieth century had, more or less, rendered this style of scientific research moot. Field science continued. As such, *exploration* continued, if defined as strictly non-laboratorial field science. But the prototypical explorer became redundant: specialists among geologists, ethnographers, botanists, pathologists, and surveyors took on the roles once held by the explorer.

Nonetheless, the practice and ideological assumptions of exploration continued into this new era. As seen in the Wellcome Tropical Research Laboratory, operating in Anglo-Egyptian Sudan after 1900, the *rhetoric of development* guided the funding of laboratorial and field scientific research in colonial Africa. The works of explorers were still used as reference points by specialists seeking to understand the demography and history of the lands they now operate in. While mythologised, these explorers unintentionally created the foundations of how colonial science functioned in the imperial possessions of Britain and the Western world.

The Nile Basin and East Africa have served as the geographical region of analysis of this study. But the exploratory expeditions of these lands were simply not possible without the labour and intelligence of Africans. Ultimately, explorers did not discover anything new. The lands they traversed were settled by millions of people, living in a world already connected to international trade routes. The porters, sailors, soldiers, guides, and translators serving for the various British explorers in nineteenth-century East Africa were often unnamed or little acknowledged. But when we assess the history of British geography, the exploration of Africa was ultimately a multinational scientific project.

Finally, the civilising mission became a increasingly important function of geographical exploratory missions after 1864. The *rhetoric of development* became all-important in giving a raison d'être to justify expeditions: for ostensible humanitarian and economic ends. But in the process of legitimising themselves as scientific authorities, the logic of liberal paternalism and increased political power saw explorers increase their usage of corporal punishment. Many punishments were recorded – touted even – as examples of clear leadership and discipline in the so-called edge of civilisation. But other cases were only remembered by those involved, and by those who witnessed the beatings, lashings, and mock executions. This, all in the service of a violent pedagogy that proved to be a preview of the violence inherent in the colonisation of Africa after the Berlin Conference of 1884-85.

This project is a first look on this important era in the histories of Africa, science, and imperialism. More needs to be said as to the many contributions made by Africans in the creation of scientific knowledge during the height of geographical exploration. More research is needed to examine how these trends manifested in other regions in Africa, and among other colonial powers such as France, Germany, Italy, and Belgium. Likewise, the role of women was unfortunately understudied in this study. More needs to be said on the role of women explorers and their recognition (or lack thereof) by metropolitan audiences. I endeavour to examine this critical point in the history of science, empire, and of Africa in nineteenth and twentieth century. Future trips to archives in Zanzibar, Uganda, France, and Belgium will no doubt add to the depth and breadth of this study.

REFERENCES

Archives

The Royal Geographical Society

- Correspondence Blocks (CB)
- John Hanning Speke Collection (JHS)
- Journal Manuscript Collection (JMS)
- The Stanley Collection (HMS)

The Wellcome Library

- Henry Solomon Wellcome Papers (WF/E/01)
- John and Katherine Petherick Papers
- Lionel Decle Papers

The British Library

- Gordon Papers (Bell Collection)
- Supplementary Gladstone Papers

The Bodleian Library, Oxford University

- Journal of Samuel and Julian Alleyne Baker.

The National Archives at Kew

- Cabinet Office Papers (CAB)
- Foreign Office Papers (FO)
- Home Office Papers (HO)
- Records of the Keepers of the Privy Purse (PP)

The Sudan Archive, Durham University

- Clarence Melville Brownell Papers
- James E.M. Mellor Papers
- John Brian Christopherson Papers

The Huntington Library

- Burke E. Casari Papers

Online Sources

Livingstone Online

Wiley Digital Archive

Archives Unbound

Cambridge Archives Online Edition

Confidential Print: Africa

Gale Primary Sources

Adam Matthew

- Age of Exploration
- Empire Online

Oxford Dictionary of National Biography

Periodicals

Blackwood's Edinburgh Magazine

MacMillan's Magazine

Manchester Guardian

Pall Mall Gazette

The Aberystwyth Observer

The Academy

The Anti-Slavery Reporter

The Eclectic Magazine of Foreign Literature

The Examiner and London Review

The Graphic

The Morning Advertiser

The Outlook

The Saturday Review

The Sphere

The Telegraph

The Times

Bibliography

Abbas Ibrahim Muhammad Ali. "A History of European Geographical Exploration of the Sudan, 1820-1865." *Sudan Notes and Records* 55 (1974): 1-15.

Abdel A'al Abdallah Osman, "Milestones in the History of Surgical Practice in the Sudan." *Sudan Notes and Records* 54 (1973): 132-152.

Abdul Sheriff et al. *Transition from Slavery in Zanzibar and Mauritius: A Comparative History*. Dakar: Council for the Development of Social Science Research in Africa, 2016.

Abruzzo, Margaret. *Polemical Pain: Slavery, Cruelty, and the Rise of Humanitarianism*. Baltimore: John Hopkins University Press, 2011.

Addison, Frank. *The Wellcome Excavations in the Sudan: Jebel Moya*. Vol. 1. London: Oxford University Press, 1949.

Ahmed A.A. Adeel. "A pioneer of tropical medicine worldwide: Andrew Balfour, of Khartoum." *Sudan Journal of Paediatrics* 13, no. 1 (2013): 63-74.

African Association. *Proceedings of the Association for Promoting the Discovery of the Interior Parts of Africa*. London: C. Macrae, 1790.

al-Sayyid Marsot, Afaf Lutfi. *Egypt in the Reign of Muhammad Ali*. Cambridge: Cambridge University Press, 1984.

al-Sayyid Marsot, Afaf Lutfi. "Religion or Opposition? Urban Protest Movements in Egypt." *International Journal of Middle East Studies* 16, no. 4 (November 1984): 544-545.

Allen, James de Vere. *Swahili Origins: Swahili culture & the Shungawaya phenomenon*. London: J. Currey, 1993.

Armston-Sheret, Edward. “Diversifying the historical geography of exploration: Subaltern body work on British-led expeditions c. 1850-1914.” *Journal of Historical Geography* 80 (2023): 58-68.

Ayandele, E.A. *The Missionary Impact on Modern Nigeria, 1842-1914: A Political and Social Analysis*. London: Longman, 1966.

Baigent, Elizabeth. "Founders of the Royal Geographical Society of London (act. 1828–1830)." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/95334 (accessed 14 May 2018).

Baker, J.H. "Rede, Sir Robert." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/23247 (accessed 12 December 2021).

Baker, R.A. and R.A. Bayliss. "Two Naturalists in Africa: Sheffield Airey Neave (1879-1961) and James Jenkins Simpson (1881-1937) with particular reference to their work on insects and ticks from 1910 to 1915.” *The Linnean* 25, no. 1 (2009): 20-28.

Baker, Samuel White. “Extracts from a letter of Samuel W. Baker, Esq., F.R.G.S., to Rear-Admiral the Hon. Henry Murray. Dated Khartûm, 24th Nov. 1862.” *Proceedings of the Royal Geographical Society of London* 7, no. 2 (1862-1863): 78-80.

Baker, Samuel White. *The Albert N’yanza: Great Basin of the Nile and Explorations of the Nile Sources*. Vol. 1. London: Sidgwick and Jackson, 1866.

Baker, Samuel White. *The Albert N’yanza: Great Basin of the Nile and Explorations of the Nile Sources*. Vol. 2. London: Sidgwick and Jackson, 1866.

Baker, Samuel White. *The Nile tributaries of Abyssinia, and the sword hunters of the Hamran Arabs*. London: Macmillan and Co., 1867.

Baker, Samuel White. “Expedition to Central Africa,” *Proceedings of the Royal Geographical Society of London* 18, no. 1 (1874): 50-69.

Baker, Samuel White. *Ismailïa; A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade. Organized by Ismail, Khedive of Egypt*. New York: Harper & Bros, 1875.

Baker, Samuel White. *Ismailïa: A Narrative of the Expedition to Central Africa for the Suppression of the Slave Trade, Second Edition*. London: MacMillan and Co., 1879.

Baker, Samuel White. *The Albert N’yanza: Great Basin of the Nile and Explorations of the Nile Sources*. London: MacMillan and Co., 1888.

Balfour, Andrew. *First Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum*. Khartoum: Department of Education Sudan Government, 1904.

Balfour, Andrew. *Second Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum*. Khartoum: Department of Education Sudan Government, 1906.

Balfour, Andrew. *Third Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum*. Khartoum: Department of Education Sudan Government Khartoum, 1908.

Barrow, John. "Prospectus of the Royal Geographical Society." *The Journal of the Royal Geographical Society of London* 1 (1831): vii-xii.

Barton, Ruth. "'Men of Science': Language, Identity, and Professionalization in the Mid-Victorian Scientific Community." *History of Science* 41 (2003): 73-119.

Basalla, George. "The Spread of Western Science." *Science* 156, no. 3775 (5 May 1967): 611-622.

Bayly, Christopher. *Imperial Meridian: The British Empire and the World, 1780-1830*. London: Longman, 1989.

Beke, Charles Tilstone. "Communications Respecting the Geography of Southern Abyssinia." *The Journal of the Royal Geographical Society of London* 12 (1842): 84-102.

Beke, Charles Tilstone. "Route from Ankóber to Díma." *The Journal of the Royal Geographical Society of London* 12 (1842): 245-258.

Beke, Charles Tilstone. "Abyssinia. Being a Continuation of Routes in That Country." *The Journal of the Royal Geographical Society of London* 14 (1844): 1-76.

Beke, Charles Tilstone. *Letters on the Commerce and Politics of Abessinia and Other Parts of Eastern Africa addressed to the Foreign Office and the Board of Trade*. London: Printed for Private Use, 1852.

Bell, Heather. *Frontiers of Medicine in the Anglo-Egyptian Sudan, 1899-1940*. Oxford: Clarendon Press, 1999.

Best, Jeremy. *Heavenly Fatherland: German Missionary Culture and Globalization in the Age of Empire*. Toronto: University of Toronto Press, 2021.

Biger, Gideon. "The First Map of Modern Egypt Mohammed Ali's Firman and the Map of 1841." *Middle Eastern Studies* 14, no. 3 (October 1978): 323-325.

Blanco, Richard L. "Attempts to Abolish Branding and flogging in the Army of Victorian England Before 1881." *Journal of the Society for Army Historical Research* 46, no. 187 (Autumn 1968): 137-145.

Bleichmar, Daniela. *Visible Empire: Botanical Expeditions and Visual Culture in the Hispanic Enlightenment*. Chicago: University of Chicago Press, 2012.

Bowen, John Eliot. *The Conflict of East and West in Egypt*. New York & London: Putnam, 1887.

Boyd, John. "Sleeping Sickness: The Castellani-Bruce Controversy." *Notes and Records of the Royal Society of London* 28, no. 1 (June 1973): 93-110

Brantlinger, Patrick. *Rule of Darkness: British Literature and Imperialism, 1830-1914*. Ithaca: Cornell University Press, 1988.

Brannigan, Augustine. "Discovery as a meaningful action," in *The Social Basis of Scientific Discoveries*. Cambridge: Cambridge University Press, 1981: 63-88.

Bridges, Roy. "Cooley, William Desborough." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/6201 (accessed 12 December 2021).

Bridges, Roy. "Speke, John Hanning (1827–1864), explorer in Africa." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/26101 (accessed 14 September 2022).

Brigitte, Lau. *Southern and Central Namibia in Jonker Afrikaner's Time*. Windhoek: National Archives Department of National Education, 1987.

Bruce, James. *Travels to Discover the Source of the Nile in the Years 1768, 169, 1770, 1771, 1772, and 1773*. Dublin: Graisberry and Campbell, 1790.

Burnett, D. Graham. *Masters of All They Surveyed: Exploration, Geography, and a British El Dorado*. Chicago: University of Chicago Press, 2000.

Burton, Richard Francis. "The Lake Regions of Central Equatorial Africa, with Notices of the Lunar Mountains and the Sources of the White Nile; Being the Results of an Expedition Undertaken under the Patronage of Her Majesty's Government and the Royal Geographical Society of London, in the Years 1857-1859." *The Journal of the Royal Geographical Society of London* 29 (1859): 1-454.

Burton, Richard Francis. "Kilimanjaro and its snows." *The Athenæum* no. 1812 (19 July 1862): 81-82.

Burton, Richard Francis. "The African Mystery." *The Athenæum* no. 1899 (19 March 1864): 407-408.

Burton, Richard Francis and James M'Queen. *The Nile Basin*. London: Tinsley Brothers, 1864.

Burton, Richard Francis. “Correspondence. The Proposed British Commercial Geographical Society of London City.” *The Academy* no. 633 (21 June 1884): 439.

Cain, P.J. and A.G. Hopkins. “Gentlemanly Capitalism and British Expansion Overseas I. The Old Colonial System, 1688-1850. *The Economic History Review* 39, no. 4 (November 1986): 501-525.

Cannon, Susan Faye. “Cambridge Network.” in *Science in Culture: The Early Victorian Period*. New York: Dawson and Science History Publications, 1978.

Cannon, Susan Faye. “Humboldtian Science.” in *Science in Culture: The Early Victoria Period*. New York: Dawson and Science History Publications, 1978.

Carnochan, W. B. *The Sad Story of Burton, Speke, and the Nile; or, Was John Hanning Speke a Cad?: Looking at the Evidence*. Palo Alto: Stanford University Press, 2006.

Chakrabarty, Dipesh. *Provincializing Europe: Postcolonial Thought and Historical Difference*. Princeton: Princeton University Press, 2007.

Chichester, H. M. and James Falkner. "Harris, Sir William Cornwallis (bap. 1807, d. 1848), army officer and traveller." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/12428 (accessed 11 Jan. 2022).

Crichton-Harris, Ann. *Poison in Small Measure: Dr. Christopherson and the Cure for Bilharzia*. Leiden: Brill, 2009.

Conrad, Joseph. *Heart of Darkness: Complete, Authoritative Text with Biographical and Historical Contexts, Critical History, and Essays from Five Contemporary Critical Perspectives*, 2nd Edition, ed. Ross C. Murfin. New York: Palgrave Macmillan, 1996.

Cooley, W.D. “The Eternal Snow and the Great Zambezi.” *The Athenæum* no. 1793 (8 March 1862): 332-333.

Cooley, W.D. "Kilima Njaro and the Royal Geographical Society," *The Athenæum* no. 1864 (18 July 1863): 84-85.

Cooper, Frederick. "Conflict and Connection: Rethinking Colonial African History.” *The American Historical Review* 99, no. 5 (December 1994): 1516-1545.

Cowan, Ruth Schwartz. “Galton, Sir Francis.” *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/33315 (accessed 4 December 2021).

Cox, Natalie. “Armchair Geography: Speculation, Synthesis, and the culture of British exploration, c. 1830-1870.” PhD. diss., University of Warwick, 2017.

Croucher, Sarah K. *Capitalism and Cloves: An Archaeology of Plantation Life on Nineteenth-Century Zanzibar*. New York: Springer, 2014.

Crummey, Donald. "Beke, Charles Tilstone (1800-1874)," *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/1974 (accessed 13 September 2021).

Daly, M.W. "The Road to Shaykan: Letters of General William Hicks Pasha written during the Sennar and Kordofan Campaigns, 1883." Working Paper. Durham: Centre for Middle Eastern and Islamic Studies, 1983.

Daniels, George H. "The Process of Professionalization in American Science: The Emergent Period, 1820-1860." *Isis* 58, no. 2 (Summer 1967): 150-166.

D'Arcy, Patrick Francis. *Laboratory on the Nile: A History of the Wellcome Tropical Research Laboratories*. New York: Pharmaceutical Products Press, 1999.

da Riva, Rocío. "Lawrence of Arabia's forerunner. The bizarre enterprise of Leo Frobenius, aka Abdul Kerim Pasha, in Arabia and Eritrea (1914-1915)." *Wiener Zeitschrift für die Kunde des Morgenlandes* 99 (2009): 29-111.

Davenport-Hines, Richard. "Gordon, Charles George (1833-1885)." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/11029 (accessed 11 November 2019).

de Diesbach, Ghislaine. *Ferdinand de Lesseps*. Paris: Perrin, 1998.

Decle, Lionel. *Three Years in Savage Africa*. London: Methuen & Co., 1898.

Decle, Lionel. "The Development of our British African Empire." *Proceedings of the Royal Colonial Institute* 37 (1905-1906): 311-340.

Desai, Gaurav Gajanan. *Subject to Colonialism: African Self-Fashioning and the Colonial Library.* Durham: Duke University Press, 2001.

Desmond, Adrian. "Redefining the X Axis: "Professionals," "Amateurs" and the making of Mid-Victorian Biology - A Progress Report." *Journal of the History of Biology* 34, no. 1 (2001): 3-50.

Desmond, Adrian and James Moore. *Darwin: The Life of a Tormented Evolutionist*. New York: Warner Books, 1992.

Driver, Felix. "Stanley, Sir Henry Morton." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/36247 (accessed 15 November 2019).

Driver, Felix. *Geography Militant: Cultures of Exploration and Empire*. Oxford: Blackwell Publishers, 2001.

du Camp, Maxime. *Le Nil (Égypte et Nubie)*. Paris: Librairie Nouvelle, 1855.

Edney, Matthew. *Mapping an Empire: The Geographical Construction of British India, 1765-1843*. Chicago: University of Chicago Press, 1990.

Endersby, Jim. *Imperial Nature: Joseph Hooker and the Practices of Victorian Science*. Chicago: University of Chicago Press, 2010.

Evans, William McKee. "From the Land of Canaan to the Land of Guinea: The Strange Odyssey of the 'Sons of Ham.'" *The American Historical Review* 85, no. 1 (February 1980): 15-43.

Ewald, Janet J. "The Nile valley system and the Red Sea Slave Trade 1820-1880." *Slavery & Abolition* 9, no. 3 (1988): 71-92.

Ewald, Janet J. *Soldiers, Traders, and Slaves: State Formation and Economic Transformation in the Greater Nile Valley, 1700-1885*. Madison: University of Madison Press, 1990.

Fabian, Johannes. *Time and the Other: How Anthropology Makes Its Objects*. New York: Columbia University Press, 1983.

Fabian, Johannes. *Out of Our Minds: Reason and Madness in the Exploration of Central Africa*. Berkeley, University of California Press, 2000.

Fahmy, Khaled. *All the Pasha's Men: Mehmed Ali, His Army, and the Making of Modern Egypt*. Cairo: American University in Cairo, 2002.

Fahmy, Khaled. *Mehmed Ali: from Ottoman governor to ruler of Egypt*. Oxford: One World, 2009.

Fielder, Klaus. *Interdenominational Faith Missions in Africa: History and Ecclesiology*. Oxford: Mzuni Press, 2018.

Flint, John E. (ed.). *The Cambridge History of Africa, Volume 5, from c. 1790 to c. 1870*. Cambridge: Cambridge University Press, 1976.

Foucault, Michel. *The Order of Things: An Archaeology of the Human Sciences*. New York: Pantheon Books, 1971.

Foucault, Michel. *Discipline and Punish: The Birth of the Prison*. New York: Vintage Books, 1977.

Freshfield, Douglas William. "Obituary: Sir Francis Galton, F.R.S., etc." *The Geographical Journal* 37, no. 3 (March 1911): 323-325.

Galison, Peter and Andrew Warwick. "Introduction: Cultures of Theory." *Studies in History and Philosophy of Modern Physics* 29, no. 3 (1998): 287-294.

Galton, Francis. *The Narratives of an Explorer in Tropical South Africa*. London: John Murray, 1853.

Galton, Francis. *The Art of Travel, or Shifts and Contrivances Available in Wild Countries*. London: John Murray, 1855.

Galton, Francis. *The Art of Travel; or, Shifts and Contrivances Available in Wild Countries*. 5th edition. London, John Murray, 1872.

Gilliat, Edward. *Heroes of Modern Africa*. Philadelphia: J.B. Lippincott Co. 1911.

Godwin-Austen, H.H., John Knox Laughton, and Douglas W. Freshfield, eds. *Hints to Travellers: Scientific and General*. London: Royal Geographical Society, 1883.

Golinski, Jan. *Making Natural Knowledge: Constructivism and the History of Science*. Cambridge: Cambridge University Press, 1998.

Greig, E.D.W. "Summary of Report Number VI. of the Sleeping Sickness Commission of the Royal Society." *British Medical Journal Military Health* 5 (1905): 582-597

Grove, Richard H. *Green Imperialism: Colonial Expansion, Tropical Island Edens and the Origins of Environmentalism, 1600-1860*. Cambridge: Cambridge University Press, 1995.

Harley, John Brian. "Deconstructing the Map." In *The New Nature of Maps: Essays in the History of Cartography*, edited by Paul Laxton. Baltimore: John Hopkins University, 2001.

Harlow, Barbara. *Archives of Empire, Volume II: The Scramble for Africa*. Durham: Duke University Press, 2003.

Harris, William Cornwallis. *The Highlands of Ethiopia Vol. I of III*. London: Longman, Brown, Green, and Longmans, 1844.

Hassan Effendi Zeki. "The Healing Art as Practiced by the Dervishes in the Sudan during the rule of the Mahdi and of the Khalifa." *Third Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum*. Khartoum: Department of Education Sudan Government Khartoum, 1908: 269-279

Hayman, John, ed. *Sir Richard Burton's Travels in Arabia and Africa: Four Lectures from a Huntington Library Manuscript*. San Marino, CA: Huntington Library, 1990.

Headley, Joel T. *The Achievements of Stanley and other African Explorers*. Philadelphia: Hubbard Bros., 1878.

Heggie, Vanessa. "Why Isn't Exploration a Science?." *Isis* 105, no. 2 (June 2014): 318-344.

Hewett, J.F. Napier. *European settlements on the west coast of Africa: with remarks on the slave-trade and the supply of cotton*. London: Chapman and Hall,1862.

Hopkins, Harry. *The Strange Death of Private White: A Victorian Scandal That Made History*. London: Weidenfeld & Nicolson, 1977.

Hoppe, Kirk Arden. "Lords of the Fly: Colonial Visions and revisions of African Sleeping-Sickness Environments on Ugandan Lake Victoria, 1906-61." *Africa: Journal of the International African Institute* 67, no. 1 (1997): 86-105.

Howitt, William. *Visits to Remarkable Places: Old Halls, Battle Fields, and Scenes Illustrative of Striking Passages in English History and Poetry*. Philadelphia: Carey and Hart. 1841.

Hunt, Bruce J. "The Ohm is Where the Art Is: British Telegraph Engineers and the Development of Electrical Standards." *Osiris* 9 (1994): 48-63

Hunt, Bruce J. "Scientists, Engineers and Wildman Whitehouse: Measurement and Credibility in Early Cable Telegraphy." *British Journal for the History of Science* 29, no. 2 (Jun. 1996): 155-170.

James, Robert Rhodes. "Wellcome, Sir Henry Solomon." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/36824 (accessed 10 December 2021).

Jeal, Tim. *Stanley: The Impossible Life of Africa's Greatest Explorer*. New Haven: Yale University Press, 2007.

Jeal, Tim. *Explorers of the Nile: Triumph and Tragedy of a Great Victorian Adventure*. New Haven: Yale University Press, 2011.

Jeal, Tim. *Livingstone*. New Haven: Yale University Press, 2013.

Johnston, Charles. *Travels in Southern Abyssinia Through the Country of Adal to the Kingdom of Shoa, In Two Volumes, Vol. I*. London: J. Madden and Co., 1844.

Jones, Charles H. *Africa: The History of Exploration and Adventure*. New York: Henry Holt and Company, 1875.

Joyce, Patrick. *Democratic Subjects: The Self and the Social in Nineteenth-Century England*. Cambridge: Cambridge University Press, 1994.

Kennedy, Dane. *Highly Civilized Man: Richard Burton and the Victorian World*. Cambridge: Harvard University Press, 2009.

Kennedy, Dane Keith. *The Last Blank Spaces: Exploring Africa and Australia*. Cambridge: Harvard University Press, 2013.

Killingray, David. “The ‘Rod of Empire’: The Debate over Corporal Punishment in the British African Colonial Forces, 1888-1946.” *Journal of African History* 35, no. 2 (1994): 201-216.

Koditschek, Theodore. *Liberalism, Imperialism, and the Historical Imagination: Nineteenth-Century Visions of a Greater Britain*. Cambridge: Cambridge University Press, 2011.

Kölbl-Ebert, Martina. "George Bellas Greenough (1778–1855): A Lawyer in Geologist's Clothes.” *Proceedings of the Geologists' Association* 114, no. 3 (2003): 247-254.

Kramer, Robert S. *Holy City on the Nile: Omdurman during the Mahdiyya, 1885-1898*. Princeton: Markus Wiener Publishers, 2010.

Lambert, David. “James MacQueen.” *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/17736 (accessed on 16 September 2021).

Lambert, David. *Mastering the Niger: James MacQueen’s African Geography & the Struggle Over Atlantic Slavery*. Chicago: University of Chicago Press, 2013.

Lane, Edward William. *An Account of the Manners and Customs of the Modern Egyptians, Vol 1 and 2*. London, Charles Knight, 1836.

Laughton, J.K. "Washington, John (1800-1863).” *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/28807a (accessed 7 July 2021).

Ledermann, Walter. "Aldo Castellani y las expediciones de la Royal Society al país del sueño negro.” *Revista chilena de infectología* 28, no. 3 (2011): 276-281.

Ledyard, Gari. "Cartography in Korea." *The History of Cartography, Vol. 2*. Chicago: University of Chicago Press, 1994: 235-345.

Livingstone, David N. "Of Design and Dining Clubs: Geography in America and Britain, 1770-1860," *History of Science* 22, no. 2 (1991): 153-183.

Lovell, Mary S. *A Rage to Live: A Biography of Richard and Isabel Burton*. New York: W.W. Norton & Company, 1998.

Lucier, Paul. "The Professional and the Scientist in Nineteenth-Century America." *Isis* 100, no. 4 (December 2009): 699-732.

Lugard, Frederick John Dealtry. *The Dual Mandate in British Tropical Africa*. Edinburgh: William Blackwood and Son, 1922.

Mamdani, Mahmood. *Citizen and Subject: Contemporary Africa and the Legacy of Late Colonialism*. Princeton: Princeton University Press, 1996.

Matthew, H.C.G. "Gladstone, William Ewart (1809-1898)." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/10787 (accessed 14 August 2020).

Mayer, Thomas. *The Changing Past: Egyptian Historiography of the Urabi Revolt, 1882-1983*. Gainesville: University of Florida Press, 1988.

McClelland, Charles E. "Professionalization." In *The Oxford Encyclopædia of the Modern World*. Oxford: Oxford University Press, 2008.

McCoan, James Carlile. *Egypt Under Ismail, A Romance of History*. London: Chapman and Hall, 1889.

Mehta, Uday Singh. *Liberalism and Empire: A Study in Nineteenth-Century British Liberal Thought*. Chicago: University of Chicago Press, 1999.

Mifsud, Anton. "Medical History of J.H. Speke." *The Practitioner* no. 214 (January 1957): 129-130.

Mitchell, Brigitte. "The Debate in Parliament about the Abolition of Flogging during the Early Nineteenth Century, with References to the Windsor Garrison." *Journal of the Society of Army Historical Research* 88 (2010): 19-28.

Montgomery, James, James Grahame, and E. Benger. *Poems on the Abolition of the Slave Trade*. London: T. Bensley, 1809.

Moorehead, Alan. *The White Nile*. New York: Harper, 1960.

Moorehead, Alan. *The Blue Nile*. New York: Harper & Row, 1962.

Morrell, J.B. "The Patronage of Mid-Victorian Science in the University of Edinburgh," *Science Studies* 3, no. 4 (October 1973): 353-388.

Neave, Sheffield. "Report of Travelling Pathologist and Naturalist." *Second Report of the Wellcome Research Laboratories at the Gordon Memorial College Khartoum*. Khartoum: Department of Education Sudan Government, 1906): 183-204.

Nettelbeck, Amanda. "Flogging as Judicial Violence: The Colonial Rationale of Corporal Punishment." In *Violence, Colonialism and Empire in the Modern World*. Philip Dwyer and Amanda Nettelbeck, eds. Cham, Switzerland: Springer International Publishing, 2017.

Newman, James L. *Paths Without Glory: Richard Francis Burton in Africa*. Washington, D.C: Potomac Books, 2010.

Norden, Frederick Lewis. *Travels in Egypt and Nubia*. London: Lockyer Davis and Charles Reymers, 1757.

Nyhart, Lynn. *Modern Nature: The Rise of the Biological Perspective in Germany*. Chicago: University of Chicago Press, 2009.

O'Connor, Jean G. and A.J. Meadows. "Specialization and Professionalization in British Geology." *Social Studies of Science* 6 (1976): 77-89.

Ofcansky, Thomas Paul. "Baker, Sir Samuel White (1821–1893)." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/1135 (accessed 4 March 2017).

Olusoga, David. *Black and British: A Forgotten History*. London: Picador, 2016.

Park, Mungo. *Travels, in the Interior Districts of Africa: performed under the direction and patronage of the African Association, in the years 1795, 1796, and 1797*. London: W. Bulmer and Co., 1799.

Peté, Stephen Allister. "Keeping the Native in their place: The Ideology of White Supremacy and the Flogging of African Offenders in Colonial Natal - Part 1." *Fundamina* 26, no. 2 (2020): 67-100.

Petherick, John. *Egypt, the Soudan and Central Africa: with Explorations from Khartoum on the White Nile to the Regions of the Equator being Sketches from Sixteen Years' Travel*. Edinburgh: William Blackwood and Sons, 1861.

Petherick, John. "Land Journey Westward of the White Nile, from Abu Kuka to Gondokoro." *Journal of the Royal Geographical Society of London* 35 (1865): 289-300.

Petherick, John and Katherine Petherick. *Travels in Central Africa and Explorations of the Western Nile Tributaries*. London: Tinsley Brothers, 1869.

Petherick, Katherine. "Mrs. Petherick's African Journal." *Blackwood's Edinburgh Magazine*, June 1862, 673-701.

Pinkerton, John. "Abyssinia, Nubia &c. Drawn under the direction of Mr. Pinkerton by L. Hebert." Map. In *Pinkerton's Modern Atlas*. London: Cadell and Davies,

Price, Richard N. "The Psychology of Colonial Violence." In *Violence, Colonialism and Empire in the Modern World*. Philip Dwyer and Amanda Nettelbeck, eds. Cham, Switzerland: Springer International Publishing, 2017.

Prout, H.G. and W.J. Turner. "Notes upon some Astronomical Observations made in Kordofan and Darfur." *The Journal of the Royal Geographical Society of London* 49 (1879): 392-398.

Raper, Henry and Robert FitzRoy. "Hints to Travellers." *The Journal of the Royal Geographical Society of London* 24 (1854): 328-29.

RGS. "Reviewed Work: Reise in Abyssinien by Eduard Rüppell." *The Journal of the Royal Geographical Society of London* 10 (1840): 570-574.

RGS. "Summary of Geographical and Scientific Results Accomplished by Expeditions Made by the Government of the Khedive of Egypt during the Three Years 1874-5-6," *Proceedings of the Royal Geographical Society of London* 21, no. 1 (1876-77): 63-66.

Riffenburgh, B.A. "Cameron, Verney Lovett," *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/4452 (accessed 12 November 2019).

Roberts, David. *The Holy Land, Syria, Idumea, Arabia, Egypt & Nubia*. London: Day & Son, 1855.

Robinson, Michael. "Manliness and Exploration: The Discovery of the North Pole." *Osiris* 30 (2015): 89-109.

Robinson, Michael Frederick. *The Lost White Tribe: Explorers, Scientists, and the Theory That Changed a Continent*. Oxford; Oxford University Press, 2016.

Rudwick, Martin. *The Great Devonian Controversy: The Shaping of Scientific Knowledge among Gentlemanly Specialists*. Chicago: University of Chicago Press, 1985.

Said, Edward. *Orientalism*. New York: Pantheon Books, 1978.

Said, Edward. *Culture and Imperialism*. New York: Vintage Books, 1994.

Sanderson, G.N. "The Nile basin and the eastern Horn, 1870-1908." In *The Cambridge History of Africa, Vol. 6 -1870-1905.* Roland Oliver and G.N. Sanderson, eds. Cambridge: Cambridge University Press, 2008: 592-679.

Schaffer, Simon. "Astronomers Mark Time: Discipline and the Personal Equation." *Science in Context* 2, no.1 (1988): 115-145.

Schaffer, Simon. *Late Victorian Metrology and Its Instrumentation: Manufactory of Ohms**. Washington: Spie Optical Engineering Press, 1992.

Schonhardt-Bailey, Cheryl. *From the Corn Laws to Free Trade : Interests, Ideas, and Institutions in Historical Perspective*. Cambridge: MIT Press, 2006.

Scott, James C. *Seeing like a State: How Certain Schemes to Improve the Human Condition Have Failed*. New Haven: Yale University Press, 1998.

Searcy, Kim. *The Formation of the Sudanese Mahdist State: Ceremony and Symbols of Authority: 1882-1898*. Leiden: Brill, 2011.

Secord, Anne. "Corresponding Interests: Artisans and Gentlemen in Nineteenth-Century Natural History." *The British Journal for the History of Science* 27, no. 4 (December 1994): 383-408.

Shapin, Steven. *A Social History of Truth: Civility and Science in Seventeenth-Century England*. Chicago: University of Chicago Press, 1994.

Shapin, Steven and Simon Schaffer. *Leviathan and the Air-Pump: Hobbes, Boyle and the Experimental Life.* Princeton: Princeton University Press, 2011.

Smith, A. Donaldson. "An Expedition between Lake Rudolf and the Nile." *The Geographical Journal* 16, no. 6 (December 1900): 600-624.

Smith, Crosbie. *Science of Energy: A Cultural History of Energy Physics in Victorian Britain*. London: Athlone, 1998.

Society for the Extinction of the Slave Trade and for the Civilization of Africa. *Prospectus of the Society for the Extinction of the Slave Trade and for the Civilization of Africa, instituted June, 1839*. 1840.

Speke, John Hanning. *Journal of the Discovery of the Source of the Nile*. Edinburgh: William Blackwood and Sons, 1863.

Sponsel, Alistair. *Darwin's Evolving Identity: Adventure, Ambition, and the Sin of Speculation*. Chicago: University of Chicago Press, 2018.

Sitwell, O.F.G. "John Pinkerton: An Armchair Geographer of the Early Nineteenth Century." *The Geographical Journal* 138, no. 4 (December 1972): 470-479.

Stoddart, David R. "The RGS and the 'New Geography': Changing Aims and Changing Roles in Nineteenth." *The Geographical Journal* 146, no. 2 (July 1980): 190-202.

Thomson, John. "Arabia, Egypt, Abyssinia, Red Sea &c." Map. in *A New General Atlas* [...]. Edinburgh: John Cumming, 1814.

Thomson, Joseph. "Through the Masai Country to Victoria Nyanza." *Proceedings of the Royal Geographical Society and Monthly Record of Geography* 6, no. 12 (December 1884):

Thompson, E.P. *Customs in Common*. London: Penguin Books, 1993.

Tosh, John. "Masculinities in an Industrializing Society: Britain, 1800–1914." *Journal of British Studies* 44 (April 2005): 330-342.

Tounsel, Christopher. *Chosen Peoples: Christianity and Political Imagination in South Sudan*. Durham, NC: Duke University Press, 2021.

Turley, David. *The Culture of English Antislavery, 1780-1860*. London: Routledge, 1991.

Turner, Michael J. *Stonewall Jackson, Beresford Hope, and the Meaning of the American Civil War in Britain*. Baton Rouge: Louisiana State University Press, 2020.

Valensi, Lucette. *The Birth of the Despot: Venice and the Subline Porte*. London: Hachette, 1987.

Verdcourt, Bernard. *The Conchologists' Newsletter* no. 132 (March 1995): 453-458.

White, Hayden. *Metahistory: The Historical Imagination in Nineteenth-Century Europe*. Baltimore: John Hopkins University Press, 1973.

Wisnicki, Adrian. *Fieldwork of Empire, 1840-1900: Intercultural Dynamics in the Production of British Expeditionary Literature*. London: Routledge, 2021.

Wright, Thomas. *The Life of Sir Richard Burton, Vol I*. London: Everett & Co., 1906.

Wyatt, John. "Greenough, George Bellas," *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/11432 (accessed 14 September 2021).

Yeo, Richard. "Whewell, William (1794–1866), college head and writer on the history and philosophy of science." *Oxford Dictionary of National Biography*. https://doi.org/10.1093/ref:odnb/29200 (Accessed 5 April 2022).