The Indigenous map:

native information, ethnographic object, artefact of encounter

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Declaration of Authorship

I, Joy Slappnig, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed: 

Date: 18 March 2021

ABSTRACT

This thesis examines the significance of Indigenous maps in the collections of the Royal Geographical Society and explores some of the wider questions they raise for histories of empire, mapping and Indigenous agency. During the long nineteenth century, so-called "native maps" were typically acquired, commissioned, or co-produced in the process of European geographical exploration and territorial expansion, preceding or accompanying the imposition of colonial rule. Far from being simply embodiments of Indigenous knowledge, the form and content of such maps often reflected aspects of the process of colonial encounter and exchange. When these maps were accessioned into Western collections, their uses and meanings changed as they became sources of "native information", ethnographic artefacts, or exotic curiosities. Using examples of maps from the collections of the Royal Geographical Society, the thesis explores the epistemological and historical integrity of the "Indigenous map" as a concept. By re-conceptualising maps produced in colonial contexts as artefacts of encounter, the thesis examines themes such as the co-production of geographical knowledge; the circulation of Indigenous maps; and the contribution of Indigenous people to colonial map collections.

The first part of the thesis addresses the history of approaches to the definition of the "Indigenous map" and details the methodology, sources, and research strategy. Using the celebrated "stick charts" from the Marshall Islands as an exemplary case, the ways in which such Indigenous maps have been understood within the history of cartography, geography, and anthropology is examined. Situating the idea of the Indigenous map within a longer history of scholarship than has often been acknowledged, wider questions are raised about the relationships between empire, geographical knowledge, and the history of collections.

The second part of the thesis consists of three case studies from the collections of the Royal Geographical Society, representing a variety of different kinds of maps originating in South Asia. The first case study concerns a Gujarati chart of the Red Sea, said to have been produced in the seventeenth century and acquired by Alexander Burnes, an East India Company officer, in 1835. This chapter examines the role played by Indigenous maps and charts in the creation of Western hydrographic knowledge of the Red Sea and the development of Orientalist discourses about the Indian and Arabic maritime worlds. Moving from a single manuscript to a collection of maps including manuscripts and copied tracings, the second case study investigates the co-production of maps of Burma between Burmese and Shan traders and a British colonial judge in the 1860s and 1870s. This chapter discusses the mediation and transformation of Indigenous geographical knowledge as it travelled from the colonies to the metropole of the British Empire. The final case study, a printed version of a Tibetan map of Sikkim, originally captured by the British army on a Himalayan battlefield, situates the production and reproduction of Indigenous maps alongside the work of contemporary institutions including the Survey of India, the Asiatic Society of Bengal, and the Royal Geographical Society.

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PREFACE

"Non-European maps—Chinese, Japanese, Arabian, and so on—would well repay attention. Very little has been done in this field, and much interesting material is surely awaiting discovery; but there must be no delay, since time claims many victims", the well-known historian of cartography Leo Bagrow (1881-1957) wrote in his foundational text on the history of cartography (1964: 21). He continued: "in 1914 there were still many little book-shops about the walls of the imperial palace in Seoul in Korea, where once could find ancient native maps. Five years later, these little shops had been demolished, and heaven knows what became of their stock. (…) The museums of Siam have not a single native map to show. In nearby Burma one could still find early native maps in the early nineteenth century, but they are now unheard of" (Bagrow, 1964: 21-2). Bagrow had no doubt what this meant: "collecting in such countries should begin at once" (Bagrow, 1964: 22). In his view, non-European maps worth collecting and studying were those from the pre-colonial era, which showed no influence of European contact and thus represent Indigenous mapping traditions in their "original" forms. He was interested specifically in maps "drawn by primitive artists on birch-bark, blocks of wood, skins"; maps like the so-called "stick charts" of the Marshall Islands (discussed in Chapter 2), which were "without parallel in the whole development of cartography" (Bagrow, 1964: 26).

Bagrow was right to suggest that such maps were rare in Western archives and collections. They had only started to be collected in earnest in the second half of the nineteenth century in parallel with the development of ethnology and the idea that societies could be studied through their material culture (consequently, these maps were mostly accessioned into ethnographic collections). However, there are other kinds of Indigenous maps, which are more

plentiful in Western collections and archives, suggesting that European interest in the cartographic practices of non-European peoples has a longer history than Bagrow acknowledged over fifty years ago. In general, these maps had been acquired in the context of European exploration and colonisation, and they had been accessioned not for the purpose of research in the history of cartography but for the potentially useful geographical and ethnological information they were thought to contain. Mostly drawn on paper, such maps often display the characteristics of more than one mapping tradition, including multilingual inscriptions; and they frequently have a sketch-like appearance, having been produced quickly in the field. Bagrow dismisses these types of maps—describing them as "products of European influence" and stating that "any native character they may seem to have is due to their artists' unfamiliarity with the pencils and paper provided by Europeans who may have been actually directing their work" (Bagrow, 1964: 206). However, as this thesis will demonstrate, such maps provide insights into the process of knowledge creation in the colonial era and the significant role Indigenous people played in this process.

The maps discussed in this thesis—which on the basis of their iconography and the materials used to create them would not have been regarded as authentically Indigenous by collectors like Bagrow—were generally accessioned into the archives of imperial government departments, learned societies, and other institutions that were involved in the government and science of European empires. There, they were stored alongside other maps, most of which were printed Western maps produced by official mapping agencies such as, in the British case, the Survey of India. Traditionally, the focus of research on such colonial-era map collections has been placed on the imperial map and the instrumentalization of cartography for the benefit of empire. By shifting focus instead towards materials that question the authority of imperial maps, this thesis will explore what we can learn from these map collections about Indigenous contributions to mapmaking in the age of empire, as well as highlighting the relationships between imperial encounter, geographical knowledge, and the history of collections.

This thesis focusses on one particular colonial-era map collection: that of the Royal Geographical Society.[1] Assembled over the course of nearly two centuries, this collection is of genuinely global extent while at the same time providing a mirror to the development of the British Empire from 1830 to the time of decolonisation. The Society received annual donations of the newest maps produced by the Survey of India and other departments of the British government, as well as frequent gifts of maps from explorers, colonial officials, and British settlers. And the Society also commissioned and produced its own maps to illustrate lectures to its Fellows and articles published in its *Journal.* The RGS map collection thus offers a useful "field site" for investigating how colonial-era map collections have engaged with the Indigenous materials they hold.

Due to the Society's close connection with British India during the nineteenth century, I decided at a relatively early stage, as described in Chapter 3, to focus my attention on maps originating in South Asia. The thesis is structured around a range of case studies, setting the "trajectories" of individual map objects within the context of British imperial expansion in South Asia in the period when the administration transitioned from the East India Company's rule to that of the India Office. The first part of the thesis addresses the historiography of the idea of the Indigenous map and the methodologies and sources available for the study of such maps in colonial-era collections. This represents a diverse set of approaches, not only because the source material is so varied, but also because the field and its attitudes have developed and evolved: at the beginning of the nineteenth century, so-called "native maps" were valued as potential sources of information for western knowledge; a century later, they were studied as objects of ethnography, influencing the emergent disciplines of anthropology and the history of

[1] Since its merger with the Institute of British Geographers in 1995, the formal name of this institution has been "The Royal Geographical Society (with the IBG)". Before then, it was simply referred to as the Royal Geographical Society. As this thesis largely focusses on the nineteenth and early twentieth century, I use the latter name or its abbreviation, RGS, throughout the text. When citing collections items, I preface the catalogue reference with RGS-IBG.

cartography. The second part of the thesis includes a series of case studies of individual maps or collections of maps created in contrasting historical and geographical contexts in South Asia. Each of these maps can be read through the lens of Indigenous knowledge systems in relation to trade, place, and territory. At the same time, their presence in western map collections signals their significance within colonial encounters and exchanges in South Asia.

1.1 A note on place names and terminology

A variety of different spellings occur for place names in the manuscript and printed sources quoted in this thesis. Some of them are British inventions or mistranslations of Indigenous names, and many have now fallen completely out of use, not least because numerous places in India were renamed following the end of British colonialism. For consistency and practicality, and unless otherwise stated in the text, I use the same version of the historical name of a place throughout the text (usually this will be the most commonly used spelling). The first time I am using a historical placename no longer in use, it will be followed by the modern name in parentheses. Concerning my usage of other terms describing maps in colonial-era collections, including “primitive”, “native” and “Indigenous”, I use contemporary terms where appropriate to the context, and put historical terms in quotation marks. Terminology and classification are discussed throughout the thesis: see especially Chapters 2 and 7.

CHAPTER 2

The idea of the Indigenous map: a history

2.1 Introduction

In May 1928, the Director of the Science Museum, Henry Lyons, [1] read a paper at the Afternoon Meeting of the Royal Geographical Society the subject of which was a group of charts made by Indigenous people from the Marshall Islands in the central Pacific Ocean. Lyons had recently secured a long-term loan of five Marshallese "stick charts"[2] from the Royal Colonial Institute and took advantage of the opportunity to present them to RGS Fellows.[3] While Lyons did not bring the actual objects with him, he illustrated his presentation with photographs of each individual chart (figs 2.1-2.5);[4] the photographs were subsequently published alongside his paper in the 72nd volume of the *Geographical Journal*. In his short presentation, Lyons describes the stick charts as "the most striking example of (…) primitive cartographical effort" (Lyons 1928: 325).

[1] Lyons was a Fellow of the Royal Society and previously served as the Honorary Foreign Secretary of the RGS (Baigent, 2011a).

[2] It appears that the first time the term "stick charts" was used to describe the navigational tools of the Marshall Islanders was by the missionary L. H. Gulick in 1862 (Finney, 1998: 476).

[3] The charts had been donated to the Royal Colonial Institute by the erstwhile Governor of Fiji, Sir George Le Hunte. Lyons went on to express frustration about the lack of knowledge about the charts in his care: their collector had not provided the Institute with any additional information (Lyons, 1928: 326). Lyons' efforts to find out more about the charts were futile. He sent an inquiry to the Secretary of the Royal Colonial Institute, G. M. Boughey, who handled the long-term loan of the charts to the Science Museum; but Boughey responded that he did not know anything else about them (Science Museum archives, File 2439. Correspondence between Henry Lyons and G. M. Boughey, 25 January 1928).

[4] The RGS-IBG reference numbers for the stick chart photographs are: PR/026212 "Sailing chart of the Marshall Islanders. Mattang: instructional chart"; PR/026213 "Sailing chart of the Marshall Islanders. Medo: local chart."; PR/026214 "Sailing chart of the Marshall Islanders. Rebbelib: general chart of island group"; PR/026215 "Sailing chart of Marshall Islanders. Mattang: instructional chart"; PR/026211 "Sailing chart of the Marshall Islanders. Mattang: instructional chart"

Following Lyons' reading, a discussion took place, chaired by the RGS President, Sir Charles Close. The dominating question concerned the use of these objects: were they taken onboard Marshallese canoes, or were they, as Lyons claimed, too fragile to survive a longer voyage (Close, Schwarz, Lyons et al., 1928)? This was not a new debate. By the time Lyons presented his paper to the RGS, the Marshallese stick charts had been a subject of interest in Europe for over half a century, with more than fifty of these artefacts having been accessioned into various Western collections, including those of ethnographic, natural history, and maritime museums (Finney, 1998). However, European understanding of these charts remained basic, possibly because the use of stick charts had declined rapidly after the formal colonisation of the Marshall Islands in the early nineteenth century, which severely disrupted the voyaging practices of the Indigenous navigators. Lyons readily admitted that "all of [his] information is second-hand" (Close, Schwarz, Lyons et al. 1928: 327).

The same might be said for the other studies about stick charts available by that time, with all of them using as their main source an account from 1862 by the American missionary Dr L. H. Gulick, who was stationed in the Marshall Islands in the late 1850s and early 1860s. Gulick's article appeared in the *Nautical Magazine*, a British publication sponsored by the Admiralty Hydrographic Office, which focussed on seamanship, shipbuilding, and discoveries of islands and reefs (Barford, 2015). Gulick had observed first-hand "rude maps" that "consist of small sticks tied together in straight or curved lines". He learnt from the Islanders that the sticks were "intended to represent the currents or waves to be met". From observation, he concluded that these charts were used by the Marshallese navigators to "retain and impart knowledge regarding the direction and relative distance of the various groups" (Gulick, 1862: 304).

In his paper, Lyons draws extensively on Gulick's account as well as two others, which have also become well-established in the canon of literature on stick charts. Published in 1897 and 1902 respectively, they were written by Captain Otto Winkler, an officer in the German Navy

who visited the Marshall Islands as part of his employment, and by the German anthropologist Albert Schück. While Schück did not spend any time in the Marshall Islands, he conducted a survey of all known stick charts in European collections at the time (said to be 43 in total) (Schück, 1902). Lyons stated in his presentation that he hoped to "supplement" Schück's work by "giving details of an interesting series of five of these charts which are now at the Science Museum, South Kensington" (Lyons, 1928: 325). Using a typology first developed by Winkler, which distinguishes between three different types of stick charts, Lyons proposed that three of the charts from the Royal Colonial Institute were "Mattang" charts, one of them a "Medo", and one a "Rebbelib" (Lyons, 1928: 326).[5]

In a letter to the Secretary of the Royal Colonial Institute, G. M. Boughey, who had handled the loan of the stick charts to the Science Museum, Lyons wrote that he "mounted [the stick charts] in glazed cases" and exhibited them at the Science Museum "alongside the maps of some other primitive races".[6] Lyons further noted that this exhibition "aroused a great deal of interest" among London's museum-going public.[7] This suggests that the stick charts and other non-Western maps held a considerable academic as well as public appeal at the time. The discussion following Lyons' presentation at the RGS is further evidence of this. Charles Close raised the point that several recently published books mentioned stick charts and other non-Western maps (Close, Schwarz, Lyons, et al., 1928: 327). Close specifically refers to the work *Maps and Map-Making*, a book based on lectures given by the RGS's map curator, E.A. Reeves, and published by the RGS in 1910. The opening paragraph of Reeves introduction provides some

[5] According to Winkler, "Mattang" charts are made for instructional purposes, often representing a smaller geographical area and focussed on a specific set of swell patterns; charts belonging to the "Medo" type represent a portion of an island archipelago only; and "Rebbelib" charts depict a more extensive part of the Marshall Island atoll (Winkler, 1898). These terms are still in use today and feature in many academic articles about stick charts.
[6] Science Museum archives, File 2439. Correspondence between Henry Lyons and G. M. Boughey, 25 January 1928.
[7] *Ibid.*

insights into why there existed such a "great deal of interest" in what were called "maps of some other primitive races":[8]

> The connection between man and his immediate terrestrial surroundings is (…) very intimate, and the configuration of the surface features of the earth would thus naturally soon attract his attention. It is only reasonable to suppose that, even in the most remote ages of the history of the human race, attempts were made, however crude they may have been, to depict these in some rough manner; and possibly, to begin with, the representation of hills, rivers and plains was scratched upon the sides of rocks and cave dwellings by our primitive forefathers, much in the same way that a child commences to draw, or the native Tahitian (…) constructs a rough relief map of his islands by pieces of wood (…); or the aboriginal inhabitant of the remote Marshall Islands in the Pacific attempts to make a chart of his native group by bamboos (…). The Eskimo again are noted for their intuitive skill in mapmaking (…) (Reeves, 1910: 1).

Reeves proposed that the Western fascination with non-Western maps stemmed from the fact that they demonstrated the affinity between different cultures: they proved that there are universal human instincts, of which mapping is one. Despite this belief, Reeves made a stark distinction between modern Western maps on the one hand, and maps made by prehistoric humans, children, and Indigenous peoples (three groups which he equates with one another) on the other. According to Reeves, then, the European cartographic tradition continuously developed, while the rest remained, metaphorically speaking, stuck in the past. Reeves adopted these ideas from anthropological literature, which had used non-Western maps to create such cultural hierarchies since at least the 1880s (de Hutorowicz, 1911: 670).

The publication of Lyons' paper in the *Geographical Journal* is worthy of note, principally because it discusses non-Western maps—the stick charts—not as accessories to European exploration and mapmaking, but as belonging to an independent tradition worthy of study: an idea which had rarely been acknowledged in the RGS's publications before, though it may have formed an element of the work of some more anthropologically-inclined geographers. The decision to publish Lyons' paper was perhaps related to the fact that he was an influential figure

[8] Science Museum archives, File 2439. Correspondence between Henry Lyons and G. M. Boughey, 25 January 1928.

at the RGS, having acted as the Society's Honorary Foreign Secretary in the past. Lyon's previous career had included eight years in Egypt as the head of the cadastral survey, which is presumably what sparked his interest in non-Western methods of surveying. Lyons published several articles related to this topic in the *Geographical Journal,* including one on "Geographical Aspects of the Nile" (1908), which includes a description of ancient Egyptian methods of measurement.[9]

Elsewhere, there had been more scholarly engagement with non-Western maps including Marshallese stick charts for well over fifty years. As the European empires continued to expand over the course of the nineteenth century, the encounters between colonisers and local populations gave rise to a new object of study: "primitive maps". Such maps were occasionally brought back to Europe and entered a variety of collecting institutions where they were studied and displayed. As this Chapter will discuss, the category of "primitive map" was far from clearly defined, not only because these maps were produced in many significantly different contexts, but also because most of them contained characteristics of more than one mapping tradition, frequently having been created and collected in the process of colonial encounter and exchange. In the decades following Lyons' paper, notably within the newly emergent field of the history of cartography, such "primitive maps" were described, in turn, as "native", "traditional", and "Indigenous". This chapter will trace the evolution of these terms to explore how non-Western maps have been understood in anthropology, geography, and the history of cartography.

[9] Lyons' article encompassed a discussion of ancient Egyptian maps on papyri and a reproduction of a fresco from Thebes, which depicts "two chainmen measuring a field of corn with a long cord" (Lyons, 1908: 471). In a discussion following the presentation, George Darwin (son of Charles) remarked upon the ancient Egyptian mapping technique described in the paper. He said that: "The few words which fell from him [Lyons] indicate that he will agree with me in thinking that we are too apt to believe ourselves far superior to our ancestors. No doubt with our mechanical appliances we obtain more accurate results than they did, but they also attained results of great accuracy, although with greater trouble. This survey of the time of the Pharaohs is very ancient, but there must, in the meantime, have been a long interval when the survey practically ceased to exist, and the Egyptians have to thank the present occupiers of Egypt for its re-establishment" (Hogarth et al., 1908: 475). In a classically Orientalist argument, Darwin here justifies British colonialism in Egypt by suggesting that the seeming decline in Egyptian mapping since the time of the pharaohs is indicative of the decline of Egyptian society more generally.

2.2 “Primitive maps”: from exploration narratives to anthropological scholarship

Considered to be the first study of stick charts, Reverend L. H. Gulick‘s article, published in the *Nautical Magazine* in 1862, marks an important moment in scholarship about non-Western cartography. While a large section of Gulick’s piece is taken up by a technical description of the vessels used by Marshallese navigators (Indigenous Pacific craft have been a subject of interest to European explorers and scholars since the voyages of James Cook), he also offers a detailed description of these navigational devices and attempts tentative interpretations of their production and use. Gulick’s article was published at a time when European governments started to systematically collect and categorise information about their colonies in a dual attempt to extend and strengthen their control and preserve evidence of what they saw as disappearing Indigenous cultures (Stocking, 1987). Many learned societies and universities were involved in this effort: studies by James Urry (1972) and Felix Driver (2001) about the development of instructional manuals for fieldwork at the Anthropological Institute and the Royal Geographical Society respectively have demonstrated that there was a clear (if not always explicitly stated) objective to gather knowledge while abroad in the colonies, which would be beneficial to the imperial state.

A significant aspect of this “information gathering project” (Edney, 1997) was the collection of material culture: the commonly held belief at the time was that objects could reveal insights into the societies that produced them (Gosden and Knowles, 2001). It is no coincidence, therefore, that the arrival of a significant number of Marshall Islands stick charts in collections in Europe and North America during the last few decades of the nineteenth century sparked a flurry of studies about “primitive maps”, as these accounts were starting to call them. In some cases, the stick charts were used to challenge entrenched opinions about non-Western mapping traditions. For example, the anthropologist and assistant curator at the British Museum, Thomas Athol Joyce, revised his opinion about the inaccuracy of “primitive maps” when he examined a stick chart: he wrote that although “the distances from island to island are not so correctly

shown", this was "of little importance" because "the winds in these latitudes being constant at certain seasons, the boat can be steered by the swells alone, and its position on the chart relative to the islands judged by indications which the practiced eye gather from cross-swells and the like" (Joyce, 1908: 148).

In his own article, Gulick marries humanitarian concerns about Indigenous cultures and anthropological interests with geographical methods. For example, he mapped the voyaging routes of the Marshallese navigators in order to learn about networks of communication between the different islands: his aim was to demonstrate how voyaging patterns were being disrupted by colonisation (Gulick, 1862). This confluence of what we now recognise as anthropological and geographical thinking also defined some of the most influential scholarly publications of that time, for example the work of Friedrich Ratzel, especially the two volumes of *Anthropogeographie* ("Anthropogeography", published in 1882 and 1891) and the three volumes of *Völkerkunde* ("Ethnology", published between 1885 and 1888). In the former, Ratzel explores the effect of environmental conditions on the development of societies, while the latter offers comparisons between the societies of Africa, Oceania, Asia, the Americas, and ancient Europe. Influenced by the evolutionary theories of Charles Darwin, Ratzel famously coined the term *Lebensraum* ,"living space", to describe physical geography as a factor that influences the development of a society.[10] For most of his career, Ratzel was based in the Geography Department of the University of Leipzig, but his scholarship had a global and trans-disciplinary impact. Richard Powell has thus described Franz Boas's *Baffin-Land* as "a Ratzelian-influenced anthropogeography" showing "an extensive influence of contemporary geographical methods, such as maps of explorations and patterns of seasonal migration, often drawn from Inuit testimony and knowledge" (Powell, 2015: 22, 26). G. Malcolm Lewis, in turn, argued that *Anthropogeographie "*marked the coming of age of

[10] Ratzel's concept of Lebensraum became a justification first for German settler colonialism, and later for the territorial expansion into Central and Eastern Europe under Nazism. A recent English translation of the essay has been published in the *Journal of Historical Geography*, 61 (2018). This volume of the *JHG* also contains many thematic essays on Ratzel.

a new global, systematic, and evolutionary-based human geography" (Malcolm Lewis, 1998: 35). Most importantly in the context of this thesis, Ratzel's work had a noteworthy influence on one of the seminal publications about "primitive maps": Bruno Adler's *Maps of Primitive Peoples*, published in 1910.

Maps of Primitive Peoples, "Karty pervobytnykh narodov"*,* originally published by a Moscow-based scientific society in Russian,[11] was based on a study of "fifty-five maps from Asia, fifteen from America, three from Africa, forty from Australia and Oceania and two from the East Indies," which were held in European and American collections (de Hutorowicz, 1911: 669). Adler's familiarity with museum collections likely stemmed from his employment as a curator, first at the Ethnographic Museum in Leipzig, then at the Kunstkamera in St Petersburg and finally at the State Historical Museum in Moscow, which is where he worked when he wrote *Maps of Primitive Peoples* (Kan, 2009: 174). Before becoming a curator, Adler had studied geography and anthropology in Russia and Germany, notably at the University of Leipzig under the tutelage of Ratzel, whose ideas on geographical determinism had a clear influence on him (de Hutorowicz, 1911: 669). Perhaps surprisingly, Ratzel himself was dismissive of "primitive maps". Indeed, he argued in 1912, possibly in response to Adler's extensive study, that their "importance for the history of geographical discoveries had been grossly overrated" (Ratzel, 1912: 33). While conceding that "primitive maps" had "some value as psychological documents," he insisted that scholars had wasted their time on trying to interpret them, since "the reports of Indians are not to be trusted" (Ratzel, 1912: 33).[12]

[11] Adler's book was published by the Imperial Society of the Devotees of National Sciences, Anthropology, and Ethnology ("Izvestiya Imperatorskago Obshchestva Lyubiteley Yestestvoznanya, Antropologii i Etnografii"), a scientific organisation founded at Moscow University in 1863.

[12] The full citation in German goes as follows: "In diesem Kapitel gehören ohne Zweifel auch die Karten der wissenschaftslosen Völker, von denen ein viel zu grosses Wesen gemacht worden ist, wenn man sie als Beiträge zur Geschichte geographischer Entdeckungen auffasste. Man kann ihnen nur den Wert psychologischer Dokumente zusprechen, welche uns unterrichten über die Weite des Gesichtskreises und den Grad der Bestimmtheit der geographischen Vorstellungen. Ihrer Entstehung nach sind es Umrisse aus der Erinnerung, an einmal gemachte Wege angeschlossen, daher im allgemeinen richtiger in den Richtungen als den Grösse- und Formverhältnissen. So wie Krause sagt von der Geographie der Chillkat:

Maps of Primitive People has never been fully translated; a partial English abridgement completed by H. de Hutorowicz was published in the *Bulletin of the American Geographical Society* in 1911 and most scholars continue to rely on this. More an extended abstract than a faithful rendering of the book, it condenses the original 350 pages into a mere eleven and does not include any of the illustrations printed in the original. Moreover, it is missing Adler's extensive footnotes, which cite a diverse array of sources.[13] The images of maps accompanying the original text are particularly instructive (for illustrations of stick charts included in Adler's book, see fig. 2.6-2.8). Most of them are depicted in the exact same format, which suggests that they were completed by the same illustrator. Besides a few exceptions, they are of a similar, standard size (about a quarter of an A4 page). While the illustrations successfully provide the reader with a rough idea of what these unfamiliar maps looked like, the format of these drawings works effectively to minimise the diversity in forms, scales, materials, and styles of the original maps, creating the distinct impression that "primitive maps" are a homogenous category and can, in principle, be interpreted on the same basis as "modern maps".

Adler's analysis of the maps depicted in his book is driven by comparisons between "primitive maps" and ancient and modern European maps. Although usually the European examples emerge as superior, there are a few exceptions. For example, Adler asserted that some of the maps created in "ancient Peru and Mexico" are "better and more serviceable than those made by Europeans in the Middle Ages" (de Hutorowicz, 1911: 675). Like the map curator of the RGS, E. A. Reeves, Adler recognised mapping as a universal instinct: he regarded it as a means used by humanity to externalise knowledge about their physical place in the world. In his opinion,

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Indianerberichte sind sehr unzuverlässig. Wir haben sieben verschiedene Indianerkarten, nur eine derselben stimmt schematisch mit dem jetzt bekannten wahren Sachverhalt, so haben gründlich urteilende Reisende in Afrika wie in Polynesien die Geographie der Eingeborenen mehr verworren als orientierend gefunden. Selbst die Vorstellungen viel und weit wandernder polynesischer Schiffer sind nur hinsichtlich der Richtungen zuverlässig, fehlen dagegen oft weit in den Entfernungen" (Ratzel, 1912: 33).

[13] These sources include exploration narratives by Dixon Denham and Hugh Clapperton (1826) and Adelbert von Chamisso and Otto von Kotzebue (1821); accounts of Marshall Islands stick charts (including those by Schück and Winkler); and recent literature from anthropology and geography (for example works by Richard Andree and Friedrich Ratzel) (Adler, 1910).

the sophistication of European maps speaks directly to the superior intelligence of their makers. Thus, Europeans invented the compass, which enabled them to depict the world in a systematic and abstract way, while "primitive people" had not created comparable instruments of science. Adler argued that "primitive peoples" had a more embodied, "natural" ways of seeing and depicting the world: rather than mapping according to a fixed orientation, they relied on "the general directions of rivers, sea coasts, mountains, etc. (…)" (de Hutorowicz, 1911: 678).

As noted above, hierarchical thinking had dominated academic discourses on race and culture for decades before Adler's study was published.[14] A direct comparison can be made with a work cited by Adler and published almost thirty years before his own: Richard Andree's *Ethnographische Parallelen und Vergleiche,* "Ethnographic Parallels and Comparisons" (1878). Andree was a German geographer, cartographer, and anthropologist, who, like Ratzel and Adler, was associated with the University of Leipzig (Wiswe, 1996). *Ethnographische Parallelen und Vergleiche* offers exactly what the title suggests: it evaluates the way in which practices including the creation of myths and art as well as family life were expressed in different cultures. One of the chapters, "Anfänge der Kartographie", which concerns the historical development of cartography, describes Andree's belief that European and "primitive" mapping traditions could be distinguished by the occurrence of technology. Andree argued that while instruments such as the compass have enabled Europeans to make the most accurate maps, technology has also contributed to the loss of their natural "mapping instinct" (Andree, 1878: 198). This instinct continued to exist in "primitive peoples", who were able to imagine mental "paintings" of their surroundings and externalise them through drawing as soon as "they were given pencil and paper" (Andree, 1878: 198-9). Andree supported his theories by assigning well-known historical

[14] The acknowledgment page of his book demonstrates the influence on Adler of prominent European and American anthropologists/geographers including Clark Wissler, Franz Boas, Erland Nordenskiöld, Friedrich Ratzel, and Richard Andree (Adler, 1910: 1).

maps (including Tupaia's chart, discussed below) to different developmental "stages". He concluded that Europeans had reached the highest such "stage" (Andree, 1878: 206, 209).

While Adler adopted many aspects of Andree's argument (also echoed in other contemporary publications),[15] he also introduced innovative ideas, for example conceptualising instances of mapping as transfers of knowledge, with Indigenous people sketching maps in the ground as a way of responding to questions asked by European explorers (de Hutorowicz, 1911: 670).[16] He said:

> The desire to express on a small scale some sort of a picture of the part of earth they live in is widespread. Some tribes carve maps out of wood, as the natives of east Greenland, some of the North American Indians and many Polynesians. When a traveler [sic.] asks for directions to reach this or that place many Indians of South America, Negro tribes, Siberian natives or Australians rapidly sketch a map on the sand or snow, paper or birch bark. They seem to think that this graphic delineation will be more helpful than mere verbal guidance (de Hutorowicz, 1911: 670).

Adler's book is most remarkable, however, for its scope, both in terms of the diversity of maps discussed in the book and also in terms of the extensive body of literature on which the book is based. In the footnotes, Adler lists some of the earliest references to non-Western maps in exploratory accounts, published either as narratives or in the journals of learned societies, including the *Journal* of the RGS.[17] He also cites works from the early geographical canon, such as H. Kiepert's *Lehrbuch der alten Geographie,* "Textbook for the History of Geography", published in Berlin in 1878. Finally, he references anthropological literature such as Karl E. Ranke's "Einige

[15] Another comparable work is a dissertation written in Erlangen, Germany, by Wolfgang Dröber in 1903. Again, the approach is similar: while the compass has given European maps an unprecedented amount of accuracy, it has also inhibited the "natural" ability of Europeans to draw maps.

[16] For a more recent discussion of instances in which Indigenous people drew ephemeral maps for Europeans, see Bruno Latour (1987) Lapérouse's encounters with Inuit in Sakhalin. For a critique of Latour's ideas, see Michael Bravo (1998).

[17] Examples of articles published in the RGS's *Journal* are: Charles T. Beke (1847), "On the Nile and Its Tributaries", and W. Huttmann (1844), "On Chinese and European Maps of China". Other exploratory accounts Adler mentions include: Denham D. and Clapperton, C. (1826), *Narrative of Travels and Discoveries in Northern and Central Afrika*; von Kotzebue, O. (1821) *Entdeckungs-Reise in die Süd-See und nach der Berings-Strasse zur Erforschung einer nordöstlichen Durchfahrt*; Meinicke, C. E. (1876), *Die Inseln des Stillen Oceans*.

Beobachtungen über die Seeschärfe bei süd-amerikanischen Indianern", "Observations on the Vision of South-American Indians" (1897), and studies by Franz Boas on the Inuit (including illustrations which Boas made of Inuit maps in his own work: Adler, 1910: 68-9).

As is to be expected from a text that was written over a century ago, Adler's analysis appears outdated and somewhat imprecise by today's standards. For example, he conflates mapping traditions that developed independently from European influence (such as the Tungus of Siberia, of which Adler says that "none of the natives who drew the (…) [maps] had ever seen or heard our cartographic products") and maps which were commissioned by Europeans (for example, those co-produced by explorers and "African natives") (de Hutorowicz, 1911: 673, 673). Nevertheless, his book is an important document for the historiography of non-Western maps, demonstrating that at the beginning of the twentieth century, the study of such maps was located at the intersection of the disciplines of geography and anthropology.[18]

2.3 The birth of a discipline: *Imago Mundi* and the study of "early maps"

From the 1930s onwards, "primitive maps" started to be discussed as part of a newly emerging intellectual tradition: the history of cartography. In a 1960 article published in *Imago Mundi*, William Davenport, an anthropologist who had served as Deck Officer with the U.S. Navy in the Pacific during the Second World War, offered a technical analysis of the Marshallese stick charts. He wrote that they

> (…) are plastic models illustrating these wave phenomena, mainly refraction. (…) They [are not] mnemonic devices to be taken along on a voyage for consultation. The Marshallese navigator carries his information in his head and does not need to rely upon

[18] In the decades following Adler's publication, "primitive maps", and especially Marshall Islands stick charts, continued to be objects of interest. For example, they have featured in the displays of numerous European museums over the years, including at the Pitt Rivers Museum in Oxford. Even today, the presentation of these maps in museum contexts bears similarity this early work on stick charts. For example, the label accompanying a stick chart displayed in the recently re-modelled permanent galleries of the Weltmuseum Wien in Austria draws direct comparisons between the historic Marshallese navigational tools and modern European charts (Weltmuseum Wien label, June 2019).

> a reminder. He has a system of piloting based on empirical data (…) upon some higher order concepts not directly observable (Davenport, 1960: 22).

Using language more commonly associated with discussions about European navigation, Davenport's paper is illustrated with various diagrams representing ocean swells, currents, and wave patterns. The author largely refrained from making inferences about Marshallese culture, and while he discussed the use of the charts in the context of Pacific voyaging, he did not explore in detail the broader cultural context in which the charts were produced. In this aspect, Davenport's discussion of the charts differs significantly from that of Adler. Davenport's focus on the technical aspects of map making and map use situates him within a different intellectual tradition, one in which an article dedicated to a single type of map or chart is not unusual (although, as will be discussed below, the focus on non-Western cartography may be).

The emergence of the history of cartography as an academic field of study in the early decades of the twentieth century was connected to a confluence of interest in maps as historical sources by scholars, map librarians, and collectors. The foundation of the journal *Imago Mundi* in 1935 worked to consolidate the writings of this diverse group (Heffernan and Delano Smith, 2014). *Imago Mundi* was co-founded by Leo Bagrow, who remains, even half a century after his death, a central and often-cited figure in history of cartography scholarship. Born in Russia in 1881, he worked until the beginning of the First World War for the Hydrographic Department of the Russian Navy. As part of his employment, he travelled in and around Russia, including trips to Kamchatka and Japan. After holding positions as professor of navigational science and as the chair of history at the Institute of Geography at the Technical School of St. Petersburg, Bagrow and his wife emigrated in 1919 to Berlin. In the interwar years, he worked as a dealer and broker for various commercial firms, sometimes trading in Russian cultural artefacts, at other times as an advisor for German industrialists. Travelling in Europe for business, he continued to collect maps and gave occasional lectures on map history to learned societies. In the early 1930s, the idea for a Journal devoted to the history of cartography emerged through conversations Bagrow had with

his friend, Hans Wertheim, a Berlin-based bookseller seeking to establish a publishing company. The first volume of *Imago Mundi* was printed by Wertheim's publishing house, *Bibliographikon*, in the summer of 1935.[19]

The inaugural volume of *Imago Mundi* was richly illustrated, with four fold-out maps, eleven in-text illustrations, and one table. The group of contributors included academics from a range of disciplines, map curators, museum employees, librarians, members from learned societies, amateur map collectors, and commercial map dealers. Michael Heffernan and Catherine Delano Smith (2014: 47) have described this group as the "core membership of an emerging proto-discipline". Indeed, Bagrow confirmed this, stating that he intended "to make the way of the student of early cartography more easy and to provide a journal which might in time become an international centre of information" (quoted in Anon., 1959: 7). Fulfilling Bagrow's wish, *Imago Mundi* gained international readership early on (which was probably encouraged by Bagrow's decision to include articles written in English). The publication of *Imago Mundi* in England was picked up, after only two editions, by the London-based publisher Henry Stevens, Sons & Stiles; and Gerald Crone, the assistant librarian of the Royal Geographical Society at the time, proposed a subscription to the journal shortly after the publication of its first volume, which was promptly approved by the Society's Library Committee (Heffernan and Delano Smith, 2014).

A large majority of articles published in all volumes of *Imago Mundi* concern European maps. Indeed, the content analysis of the journal conducted by Matthew Edney has shown that over the course of the *Imago Mundi's* existence and up until 2014, only "fifty-five articles (…)—or 9.3 percent of its content—have dealt in some way with mapping activities among non-Western peoples, whether traditional Asian or indigenous societies" (Edney, 2014a: 113). However, this is perhaps more reflective of *Imago Mundi's* wider readership than of Bagrow's own interests. Biographers have described his fascination with non-Western maps, for example his searches for

[19] For a biography of Bagrow see Anon. (1959). See also Heffernan and Delano Smith (2014).

"native maps (…) in the bookshops of Seoul (Korea), of Canton and of Peking, as well as Siam and Burma" during his employment with the Russian Hydrographic Department (Anon., 1959: 7). Bagrow was also responsible for a significant percentage of the total number of articles about non-Western maps published in *Imago Mundi*, particularly in the journal's early years. He wrote, for example, an article on "Eskimo Maps" published in the fifth volume of *Imago Mundi* in 1948. The Swiss map scholar Franz Grenacher, who knew Bagrow well, said that his "interest tended towards material which was difficult to access, rare, primitive, or out-of-the-way; he would have preferred (…) to add some pages on Armenian, Abyssinian and Burmese maps, of which he had evidence, rather than deal with the dry, over-commercial or scientifically constructed maps of the 17th and 18th century" (quoted in Harley, 1987b: 27).

The general approach to maps in *Imago Mundi,* at least in the first fifty years of the journal's existence, has been described as "bibliographical" (Edney, 2014a: 114) and "antiquarian" (Harley, 1987b: 37), with most contributors having a background in librarianship, map collecting, and history. Notably, the authors whose disciplinary backgrounds and/or approaches diverge from the norm are also frequently the ones writing about non-Western maps. Consider, for instance, Bagrow's article about "Eskimo Maps", mentioned above. In this piece, Bagrow echoed Adler's ideas about the instinctive way in which "primitive peoples" mapped their worlds. By citing Boas' experience with the Inuit of the Cumberland Sound, Bagrow further positioned this article within an anthropological discourse (Bagrow, 1948: 92). The single most remarkable article about non-Western maps published in the journal before the 1980s was Eulalia Guzman's on Precolumbian Mexican maps (1939). Blaming the "general and systematic destruction of documents by the conquerors of Mexico" for the lack of Precolumbian records, Guzman argued that the few remaining Aztec maps attest to the sophistication of Aztec cartography. She stated that

> According to the evidence we possess of their daily life it may be inferred that maps and itineraries of land and water routes were an indispensable necessity to the merchants of

> all those nations. Both kinds of documents were required by the Aztec authorities, and as the merchants were considered to be official explorers, it was their duty to record the geographical features and economic conditions of the lands they visited. The Aztecs made itineraries of their long journeys, which often extended to both coasts and to Central America; and they also made maps of the lands they visited (Guzman, 1939: 1).

Citing excerpts from accounts by Spanish conquistadors in which they describe seeing or using Aztec maps, Guzman concluded that "the native painters of Mexico used to draw geographical maps, not only easily and rapidly, but so clearly and accurately that they could be used with entire confidence, even in their smallest detail" (Guzman, 1939: 2). Guzman's emphasis on the superiority of pre-conquest Aztec maps to post-conquest Spanish maps reverses the traditional evolutionary paradigm.

Leo Bagrow's lasting achievement with *Imago Mundi* was to establish a "forum" in which multi-disciplinary studies about historical maps could be consolidated, thus advancing the "proto-discipline" of the history of cartography (Heffernan and Delano Smith, 2014: 47). Limiting its field of enquiry to archival and bibliographical themes, the journal's discussions about non-Western maps differ from those of previous scholars. While earlier works conducted comparative studies about different "primitive" mapping traditions, *Imago Mundi* approached such maps largely from a collector's and connoisseur's point of view, paying particular attention to their aesthetics and functionality. With a few exceptions, among them Guzman's article, *Imago Mundi* generally represented more conservative attitudes. Perhaps more orthodox than progressive, *Imago Mundi* has been, and continues to be, as Brian Harley stated more than thirty years ago, a "barometer for the development of the field [of the history of cartography] in general" (Harley, 1987b: 27).

2.4 Towards a socio-cultural map history: the History of Cartography project

In the 1980s, the field of the history of cartography underwent a significant change, also reflected in new directions in the study of non-Western maps. At the centre of these innovations was Brian

Harley, who, in a series of influential essays written from the 1980s onwards and applying ideas from art history and literary criticism, demonstrated that maps are cultural artefacts, which embody the agendas and worldviews of their makers. Harley proposed that maps do not simply mirror the landscape but can become potent agents of governments and tools of propaganda (Harley, 2001a). In 1987, Harley and the map historian David Woodward edited the first volume of the *History of Cartography*, an ambitious multi-volume series discussing historical maps from a variety of places and eras. In the introductory chapter to the first volume, Harley explicitly stated that the *History of Cartography* series was designed to move the field away from the influence of specialist map libraries and the antiquarian map trade, which had so far dominated studies of historical maps (Harley, 1987b: 12).

Harley and Woodward asserted that

> As an independent subject, the history of cartography occupies a no-man's-land among several paths of scholarship. History, geography, and bibliography, for instance, are well represented in its literature, but the treatment of maps on their own terms is sketchy. (…) Even basic definitions have not been clearly formulated (Harley and Woodward, 1987: xv).

The *History of Cartography* project was designed to bring more theoretical and methodological cohesion to the study of maps. In the preface to the first volume, the co-editors laid out the structural and theoretical underpinnings of their project. Adopting both a chronological and a geographical framework, the *History's* first volume focuses on the *Cartography in Prehistoric, Ancient, and Medieval Europe and the Mediterranean* (1987). Later volumes moved away from Europe, to *Cartography in the Traditional Islamic and South Asian Societies* (1992), *Cartography in the Traditional East and Southeast Asia Societies* (1994), and *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies* (1998), the last an addition to the series as originally planned. The chronological parameters of three most recently published volumes—*Cartography in the European Renaissance* (2007), *Cartography in the Twentieth Century* (2015)

and *Cartography in the European Enlightenment* (2020)—have more or less followed the plan of the original editors, though the latter two have adopted an encyclopaedic rather than an essay format.

An influential innovation of this series was the adoption of a "catholic definition of 'map'" (Harley and Woodward, 1987: xiv). In the authors' opinion, the widely-accepted definition established by Leo Bagrow in his own *History of Cartography* (1964) and based on the words of the French mathematician J. L. Lagrange (1770) ("A geographical map is a plane figure representing the surface of the earth, or part of it": quoted in Bagrow, 1964: 22), "imposed an undue restriction on the scope of the history of cartography" (Harley and Woodward, 1987a: xv). The "new" definition of map introduced by Harley and Woodward was: "A graphic representation that facilitates a spatial understanding of things, concepts, conditions, processes, or events in the human world" (Harley and Woodward, 1987a: xvi). According to the authors, this definition "reflects the fundamental concern of the *History* both with maps as artefacts and with the way maps store, communicate, and promote spatial understanding" (Harley and Woodward, 1987a: xvi). Their aim was to include not only "all types of maps" in their studies but also to consider seriously the various different processes of map production (Harley and Woodward, 1987a: xvi).

Furthermore, Harley and Woodward confronted the issue of Eurocentricity, which had dominated the history of cartography to date. Acknowledging that non-Western maps had "received very uneven treatment and have been virtually ignored in the standard histories of cartography", they attempted to structure the *History of Cartography* series in a way that would "redress this imbalance" (Harley and Woodward, 1987a: xix). To achieve this, Harley and Woodward announced their intention to devote Volume Two to maps from Asia, stating that "we explicitly recognise that Asian cartographies, just as much as European, have been fundamental pillars of cartographic development when viewed on a world scale" (Harley and Woodward, 1987a: xix). In the event this volume was split into two parts, devoted to the cartography in

Islamic and South Asian societies and in East and Southeast Asian societies respectively. A third book in Volume Two (the fourth book in the series), titled *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies* appeared in 1998 with G. Malcolm Lewis as co-editor (Harley having died in 1991), which was specifically concerned with what the founding editors had originally described as "indigenous spheres of (…) mapping" (Harley and Woodward, 1987a: xix). This volume took an explicitly global perspective, which differentiates it from the earlier publications in the series, all of which focussed on specific cultural regions.

Concerning the genesis of the 1998 volume, Woodward acknowledged that the original editorial plan for the series envisaged the incorporation of Western and non-Western cartographies within the same chronological framework, reflecting the unfolding pattern of world history. The planning of the Asian volumes and now Volume Two Book Three reflected what he called a "desire to present each culture's cartography on its own terms: it seemed appropriate to treat them separately" (Woodward, 1998: xix). Harley is said to have adamantly resisted the idea of a separate volume for Indigenous cartography, arguing the case for including non-Western cartography in each of the chronologically-defined volumes, while highlighting the pivotal moment of colonial encounter. As Woodward explained:

> In volume 3, covering the period of first European contact with the Americas, for example, there would be sections for North America, Mesoamerica, and South America, each subdivided into "purely" indigenous cartographies, the period of encounter, and "purely" colonial mapping. The same general plan was to hold for volumes 4 and 5 (…) (Woodward, 1998: xix).

According to Woodward, the plan proved unworkable and the merits of treating Indigenous cartography on its own terms outweighed the disadvantages of separating the subject from the history of mapping in Europe. As a result, Harley's wish to foreground colonial encounter—he believed that Indigenous maps "could be satisfactorily explained only in the context of European contact" (Woodward, 1998: xix)—has been unevenly implemented throughout the series. For the

purposes of this thesis, the most notable contributions appear in Volume Two Book Three, several of which are explicitly concerned with themes of encounter, exchange, and the hybridity of maps produced in colonial contexts. For example, Thomas J. Bassett's chapter on "Indigenous Mapmaking in Intertropical Africa" emphasised the importance of analysing different mapping traditions in their own right, refraining from comparing them to a European "standard" because of the "cultural relativity of sign systems, geographical orientation, and intention" (Bassett, 1998: 48). [20] Rather than attributing the ubiquity of European cartographic methods to that tradition's inherent superiority, Bassett pointed out that in the colonial context the process of mapping depended for its success on the contribution of and collaboration with Indigenous people, who supplied geographical information and human labour, as well as maps (Bassett, 1998). Bassett cites the example of a map given to Hugh Clapperton in 1824 by Mohammed Bello, the Sultan of the Sokoto caliphate, which both served Clapperton as an illustration of local political geography, while also protecting Bello and his people from European entry into the region (Bello purposefully concealed some of the topographical details) (Bassett, 1998: 34-5). The fact that this map was intelligible to both parties meant, according to Bassett, that the map "fulfilled a basic discourse function" (Bassett, 1998: 37).

Notwithstanding the significant contributions to the understanding of Indigenous maps and mapping made by various chapters within the *History of Cartography* volumes, the structure of the series as a whole (as well as that of some of the individual volumes) serves inadvertently to deepen the division between modern/Western and traditional/non-Western maps in some respects. For example, *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies* unites the very same mapping traditions, which, almost a century before, had been called "primitive" by Adler and his contemporaries. Nonetheless there are, as I have suggested with the discussion of Bassett's chapter, important contributions within these books

[20] See also Barton's (1998) chapter in the same volume, which looks at Maori mapping in the context of European colonisation.

that point towards alternative approaches to Indigenous mapping, including a strong focus on colonial encounter that Harley himself had originally advocated. Harley and Woodward's catholic definition of what a map is and their explicit acknowledgement of the Eurocentrism within the field required different kinds of expertise to be embraced within the history of cartography: for example, the contributors to the 1998 volume included anthropologists, archaeologists and area studies experts as well as map librarians and geographers. Ben Finney's (1998) chapter on "Nautical Cartography" in the Pacific was thus based in part on his anthropological fieldwork, bringing a new perspective to the study of stick charts, one which involved not only engagement with the descendants of the mapmakers, but also active participation by the researcher himself.[21]

2.5 The imperial map: postcolonial perspectives on the history of cartography

The publication of the first volumes of the *History of Cartography* coincided with the emergence of postcolonial studies, notably Edward Said's work on the Western construction of the Orient. Brian Harley successfully extended this postcolonial perspective to the study of maps, emphasising their historical entanglement with ideologies of imperialism. In his celebrated article entitled "Maps, Knowledge, and Power" (1988), Harley explicitly discussed the connection between maps and empire. He asserted that maps were "weapons of imperialism" (Harley, 2001b: 57), which both "anticipated empire" (lands were claimed on paper before being effectively occupied), as well as, in a later stage, "legitimated the reality of conquest and empire" (Harley, 2001b: 57). Harley claimed that mapping allowed the encroaching European powers to conceive of the new territories as "socially empty space" (Harley, 2001b: 81), which made it easier for them to evade "social responsibilities and consequences" (Harley, 2001b: 58-9)

[21] With many chapters containing information on the holdings of various map collections, these volumes also provide an important resource for the study of non-Western maps. Schwartzberg's research on Southeast Asian geographical maps (1994), for example, unites Burmese maps in collections in Europe, Yangon, and Delhi. Likewise, Finney's chapter on stick charts provides a comprehensive list of various European, Australian, and North American collections that hold such items.

associated with their occupation of these territories.[22] In the last two decades, an increasing number of studies exploring the connection between maps and empire were published, with Harley's work remaining influential. [23] In his book *Mapping an Empire: The Geographical Construction of British India, 1765-1843* (1997), Matthew Edney took up Harley's call to deconstruct maps in order to reveal layers of persuasion and misrepresentation. Edney argued that the cartographic image of the subcontinent created by the British Survey of India was much more flawed than the British intended. By 1843, the East India Company had accepted trigonometrical surveying as a solution to the inaccuracies in earlier maps. However, disregard for the proper surveying sequence, financial constraints, lack of staff, and resistance from the Indigenous population resulted in what Edney dramatically terms "cartographic anarchy" (Edney, 1997: xiii).[24]

Work on the imperial map has been critiqued both for homogenising and simplifying the relationship between maps and empire and for understating the involvement of Indigenous people and knowledges in the creation of maps produced during the colonial era. As Kapil Raj asserted in a review of *Mapping an Empire,* Edney's lack of engagement with Asian cartographic practices led him "to portray Indians, after a fashion, either as subaltern automata in the service of the British or else as riotous peasants disrupting surveying activities" (Raj, 2000: 364). Even so, as Raj puts it,

> Indians and Indian sources keep springing up throughout the book in rather more significant roles than [Edney] would like to admit. On his own showing, many of his

[22] See also Clayton (2000) on anticipatory mapping and the creation of "imperial space" in the Pacific Northwest from the late eighteenth to the mid-nineteenth century.

[23] The literature on the relationship between mapping and imperialism has convincingly illustrated that they are "twin manifestations of unequal power relationships" (Akerman, 2009b: 5). There is a large body of literature on cartography and empire, which will be referred to throughout the thesis. For examples, see Wood, Fels & Krygier (2010), Turnbull (1994, 1996), Etherington (ed.) (2007a) Akerman (ed.) (2009a, 2017a).

[24] Moreover, "like all instruments of state power, the surveys were exercised in negotiation, mediation, and contestation between the surveyors and their native contacts, so that the knowledge which they generated was a representation more of the power relations between the conquerors and the conquered than of some topographical reality" (Edney, 1997: 25).

> [British] protagonists were keen on understanding Indian mathematics and surveying and astronomical techniques (Raj, 2000: 364)

Raj thus concludes that Edney had produced "not an historical investigation but a 'demonstration' of an *a priori* belief" (Raj, 2000: 364). Against this perspective, he insists that surveying in India was not an exclusively British endeavour. Rather, the history of the Survey of India can only "be meaningfully told as a connected and circulatory story, simultaneously involving and constructing metropolis and colony" (Raj, 2003: 28).[25]

2.6 Encounters, co-production, and the "hybridity" of maps from colonial contexts

Responding to debates over the hegemonic power of the imperial map, scholars turned to the wider relationships on which the process of mapping depended, both in terms of map production and map circulation. This work has increasingly moved the focus away from the colonial institutions in the metropole, those imperial institutions which collected, consolidated, and distributed colonial knowledge, in order to consider wider circuits of knowledge within and across colonial territories. This shift in perspective is also reflected in the historiography of empire more generally, with scholars emphasising the processes of creolisation and hybridisation that defined cultural encounter and exchange in the age of European colonialism.[26] In her influential book *Imperial Eyes: Travel Writing and Transculturation* (1992), Mary Louise Pratt introduced the concept of the "contact zone" as a way to "foreground the interactive, improvisational dimensions of colonial encounters so easily ignored or suppressed by diffusionist accounts of

[25] See also Raj (2017).

[26] See for example Sivasundaram (2013), Raj (2007), Bravo (1996), Chakrabarti (2004), Arnold (2000). The new emphasis on co-production is especially visible in the literature on the history of exploration. Moving away from a focus on the figure of the Western explorer, Felix Driver and Lowri Jones have encouraged historians of exploration to consider the "local partners, guides, porters, fixers, interpreters, traders and officials who made journeys of exploration possible" (Driver and Jones, 2009: 5). Studying more closely the conditions "on the ground", scholars have demonstrated that colonial knowledge was frequently co-produced by the colonisers and the colonised or soon-to-be colonised (Jones, 2010; Bravo, 1996; Konishi Nugent and Shellam, 2015; Shellam 2020).

conquest and domination" (Pratt, 1992: 8).[27] Christopher Bayly, in his work on British India two decades ago drew attention to the relatively neglected sphere, in histories of empire, of "day-to-day information and its sources" (Bayly, 1996: 34). Bayly highlighted British reliance on pre-existing and emerging Indigenous networks of communication and information exchange in order to gather political intelligence, which was crucial to the establishment and expansion of imperial power. This meant that the colonial "information order" developed in dialogue with Indigenous systems of knowledge.[28] Subsequently, in the explicitly postcolonial work *Relocating Modern Science*, Kapil Raj also focussed on colonial contexts, specifically within India, as sites of knowledge production. In this work Raj sought to

> Contest the all-too-commonly accepted assumption that the history of science, or, more modestly, the history of modern surveying and mapping, can be told as an autarkic West European story with no mention of concomitant developments in other parts of the globe and their influence on the course of the shaping of this history (Raj, 2007: 11).

By establishing "contact zones" as "legitimate sites of scientific knowledge production", Raj hoped to demonstrate "that important parts of what has been passed off as European, or Western, science were actually made elsewhere" (Raj, 2007: 11).[29]

Influenced by such work, the focus of recent scholarship on Indigenous maps has also highlighted processes of mapmaking in colonial contexts and the role played by cross-cultural encounters. While Bagrow dismissed the cartographic outcomes of such encounters as "products of European influence" (Bagrow, 1964: 206), and the editors of the *History of Cartography* were conflicted over how to incorporate them into the series alongside studies of pre-colonial Indigenous cartography, recent work has embraced the significance of "hybrid" maps created in the contact zone for their ability to illuminate the collaborative production of geographical

[27] For a study of the relationships between British and American botanical collectors and their Indigenous collaborators in western China and Tibet, see Mueggler (2011).
[28] See also von Brescius (2019) on the dependence of the Schlagintweit brothers on the Himalayan information order during their expedition in the 1840s and 1850s; and Ramaswamy (2017) on the circulation of knowledge in British India.
[29] See also Raj (2013).

knowledge. Moving away from the binary of Western and non-Western cartography, this strand of scholarship is concerned with various kinds of mappings, not just topographical or geographical in the conventional sense.[30] Barbara Belyea (1992) and Adriana Craciun (2013), authors of two notable studies of "hybrid maps" produced in colonial contexts, both focus on the ways in which mapmaking facilitated communication between the colonisers and the Indigenous people they encountered: they conceptualise mapmaking as a type of "translation". In her work on cartographic encounters in North America in the eighteenth century, Belyea thus argues that European explorers learned to translate the spatial knowledge contained in maps drawn for them by Amerindian interlocuters into "European equivalents for the map structure and topographical details" in order to navigate effectively (Belyea, 1992: 270). This resulted in "hybrid" maps, in which, for example, "native 'Roads'" were "transformed into fur trade routes" (Belyea, 1992: 273). Craciun meanwhile takes the idea of translation further by tracing Indigenous knowledge from an initial knowledge exchange with European explorers, to a sketch map, and into print. She examines the moment when two Inuit "hydrographers", whose names have been recorded as Ikmalick and Apelagliu, drew a map for John Ross aboard his ship *Victory* in 1830. This moment was captured by Ross in a drawing, later engraved for the published version of his narrative (Ross, 1835: 260) (fig. 2.9). As this remarkable image shows, the encounter took place in Ross' cabin, its walls lined with books: "Ross incorporated the Inuit into the space that readers and geographic authorities recognised as the mobile centre of calculation" (Craciun, 2013: 183). By translating the Inuit's "spatial knowledge into British cartographic notions of space/time, both verbally and visually, Ross acknowledged British dependence on Inuit knowledge and technology, praising their generosity as he did so" (Craciun, 2013: 184).

[30] See for example de Rugy (2020, 2016), Lefebvre (2015), Mundy and Miller (2012), Mundy (1996), and Offen (2007).

2.6.1 Tupaia's chart

The increasing emphasis on the themes of co-production and encounter in studies of colonial cartography, and how this has influenced work on Indigenous maps can be further illustrated with the example of an Indigenous map that has received an exceptional amount of scholarly attention: Tupaia's chart (fig. 2.10). Although now lost, the original chart was brought back to London by James Cook from his first Pacific voyage (1769-1771) and depicted seventy-four islands in the South Pacific, including Tahiti, Raiatea, and Bora Bora. Its name stems from the chart's association with Tupaia, a high-priest and master navigator, who joined the *Endeavour* in Tahiti.[31] A prominent figure associated with Cook's first voyage, Tupaia appears in Western historical accounts, the journals of Cook and Joseph Banks, and in oral histories from the Maori. Johann Reinhold Forster, the naturalist on Cook's second Pacific voyage (1772-1775) who had a version of Tupaia's chart engraved for his narrative *Observations Made During a Voyage Round the World* (1778), related that

> When on board the Endeavour, [Tupaia] gave an account of his navigations and mentioned the names of more than eighty isles which he knew, together with the size and situation, the greater part of which he had visited, and having soon perceived the meaning and use of charts, he gave directions for making one according to his account (Forster, 1778: 31).

Although Foster's version of Tupaia's chart was reproduced in Adler's book in 1910 (fig. 2.11), it was the discovery of another copy of the chart (possibly made by Cook himself) at the British Library in the 1950s by Cook's biographer John C. Beaglehole that instigated the increased scholarly interest in this document that we have seen in the last fifty years.[32] For instance, the chart was used in the 1950s and 1960s to illustrate debates about the capability of Polynesians to

[31] Several accounts of Tupaia's life have been published, including Salmond (2012) and Williams (2003).
[32] This copy of Tupaia's chart was published in 1955 in the portfolio of *Charts and Views Drawn by Cook and His Officers*, edited by R. A. Skelton (di Piazza and Pearthree,, 2007: 324).

navigate across the Pacific (Sharp, 1965); and it played a significant role in the political and cultural renaissance in Oceania from the early 1960s (Dening, 1962).

Earlier analyses of Tupaia's chart concentrated on comparing the geographical information it contains with European charts of the same region. Comparison was a common method for analysing maps, especially before the advent of critical cartography (Edney, 2020); and it was a method regularly employed throughout the twentieth century in studies of non-Western maps.[33] Concluding that Tupaia's chart was less accurate than European examples from the same period, such studies attributed this to Tupaia's lack of experience in mapmaking (Sharp, 1965; Lewthwaite, 1966). Since the 1990s, scholars have attempted to analyse Tupaia's chart without making judgements about its accuracy. For example, Paul Turnbull (1998) has suggested that it was not possible to "decipher" Tupaia's chart in the same manner as European charts because the former was not a finished image but in fact the outcome of an act of translation. Turnbull (1998: 131) argued that the chart embodied the misunderstandings caused by language barriers and cultural differences between Tupaia and the British seamen, whose respective navigational knowledge could not be reconciled.

The most recent interpretations of Tupaia's chart, including those by Anna Di Piazza and Eric Pearthree (2007), Harriet Parsons (2015), and Lars Eckstein and Anja Schwarz (2019), take Turnbull's focus on the context of the chart's production further. These scholars see the process of the chart's creation as equally, if not more, important than the finished product because it can shed light on the colonial mapping process. Di Piazza and Pearthree proposed that Tupaia's chart could be understood as a "local navigator's attempt to teach Cook and his officers the directions to surrounding islands" (Di Piazza and Pearthree, 2007: 324). They suggested that "this document is not a map, nor a representation of Cartesian space, but a mosaic of subject-centred sailing

[33] See Belyea (1992) for a critique of scholarship that analyses Amerindian map in direct comparison with those of Europe.

directions or bearings to distant islands" (Di Piazza and Pearthree, 2007: 324). Harriet Parsons suggests that the creation of the chart played an integral part in conversations taking place between Tupaia and the British crew, whose interactions were constrained by language barriers. Parson argues that the practice of drawing facilitated communication between the two parties: in a series of remarkable sketches (now held at the British Library) depicting scenes from Tahitian daily life, Tupaia educated the British men about Polynesian culture;[34] and by using a European style of mapping, he communicated navigational information to the *Endeavour's* crew. Finally, Eckstein and Schwarz's lengthy study analyses the chart alongside previously overlooked archival material and highlights in greater detail the production process of the chart, which, as they suggest, consisted of "two distinct moments of mapmaking" and "three distinct draft stages" (Eckstein and Schwarz, 2019: 91).

Di Piazza and Pearthree, Parsons, and Eckstein and Schwarz characterise Tupaia's chart as a hybrid product, incorporating both European and Pacific knowledge.[35] The chart was neither fully a representation of Tupaia's navigational knowledge, nor did it conform completely to European cartographic templates. On the one hand, it relied on Indigenous knowledge usually contained in oral narratives and presented it in a form that Europeans could understand. On the other hand, it was an Indigenous appropriation of a European form. According to this view, Tupaia presents his own version of the Pacific, a sea of familiar islands with his homes, Raiatea and Tahiti, at the centre. By examining the chart in the context of its production, these scholars emphasise the significance of Tupaia's experience as a navigator whose geographical knowledge

[34] Five of these watercolour paintings are held at the British Library (Add MS 15508, f. 14; Add MS 15508, f. 12; Add MS 15508 f. 10; Add MS 15508, f. 9; Add MS 15508, f. 11). They were recently exhibited at the British Library exhibition *James Cook: the Voyages* (2018) and at the Royal Academy as part of the exhibition *Oceania* (2018). Both exhibition were put on to commemorate the 250-year anniversary of Cook's first Pacific voyage.

[35]Di Piazza and Pearthree suggest that the chart is a collection of sailing instructions, which were used by Polynesian navigators, but presented in a European-style chart. Eckstein and Schwarz (2019: 2) state: "[Tupaia's chart] documents the vast geographical knowledge held by master navigators of the Society Islands at the time: the result of centuries of purposeful navigation in the region. The map is also testament to the extent to which this highly specialised knowledge could be shared across cultural politics and epistemological boundaries, despite all difficulties of communication".

encompassed the entire Polynesian triangle. At the same time, they stress that Tupaia was an extremely skilled cultural intermediary, who developed original and creative methods for translating between very different ways of seeing the world.[36] As Eckstein and Schwarz put it:

> Our reading (…) foregrounds [Tupaia] as a unique cultural intermediary whose ability to translate one highly complex system of wayfinding, of representational world-making and ultimately of cosmology into a very different order of knowledge far exceeded the abilities of any of his European interlocuters (Eckstein and Schwarz, 2019: 90-91).[37]

This recent strand of scholarship has demonstrated that historical studies of Indigenous maps including Tupaia's chart can illuminate the collaborative process of knowledge production in colonial contexts. By highlighting the agency of Indigenous people, this work has revised previous assumptions about its erasure in colonial cartography, suggesting more nuanced approaches to the contexts in which Indigenous knowledge is and is not valued, and indeed questioning the uses to which the categories such as "Indigenous" and "native" could be put in the colonial era. Sujit Sivasundaram has thus described Tupaia's chart as a "a middle ground in the process of the creation of the 'native'" (Sivasundaram, 2013: 157). According to this argument, the making of the chart "indicates the detachment of islander skills from their historic material forms into new traces on paper, and the errors that are caused in that movement of knowledge into the European corpus" (Sivasundaram, 2013: 157). The production and circulation of Tupaia's chart was part of a longer-term process involving a European re-casting of the category of "native": what once referred to nobility and skill would eventually become a demeaning term that implied inherent inferiority (Sivasundaram, 2013: 150). However, as an analysis of the production and circulation of Tupaia's chart shows, the very creation of the category "native" happened within the context of hybridity and creolisation that defined the colonial era (Sivasundaram, 2013).

[36] See also Smith (2010).

[37] It is worth noting that although recent studies increasingly highlight the chart's hybridity, scholars continue to refer to it as "Tupaia's chart".

2.7 Conclusion

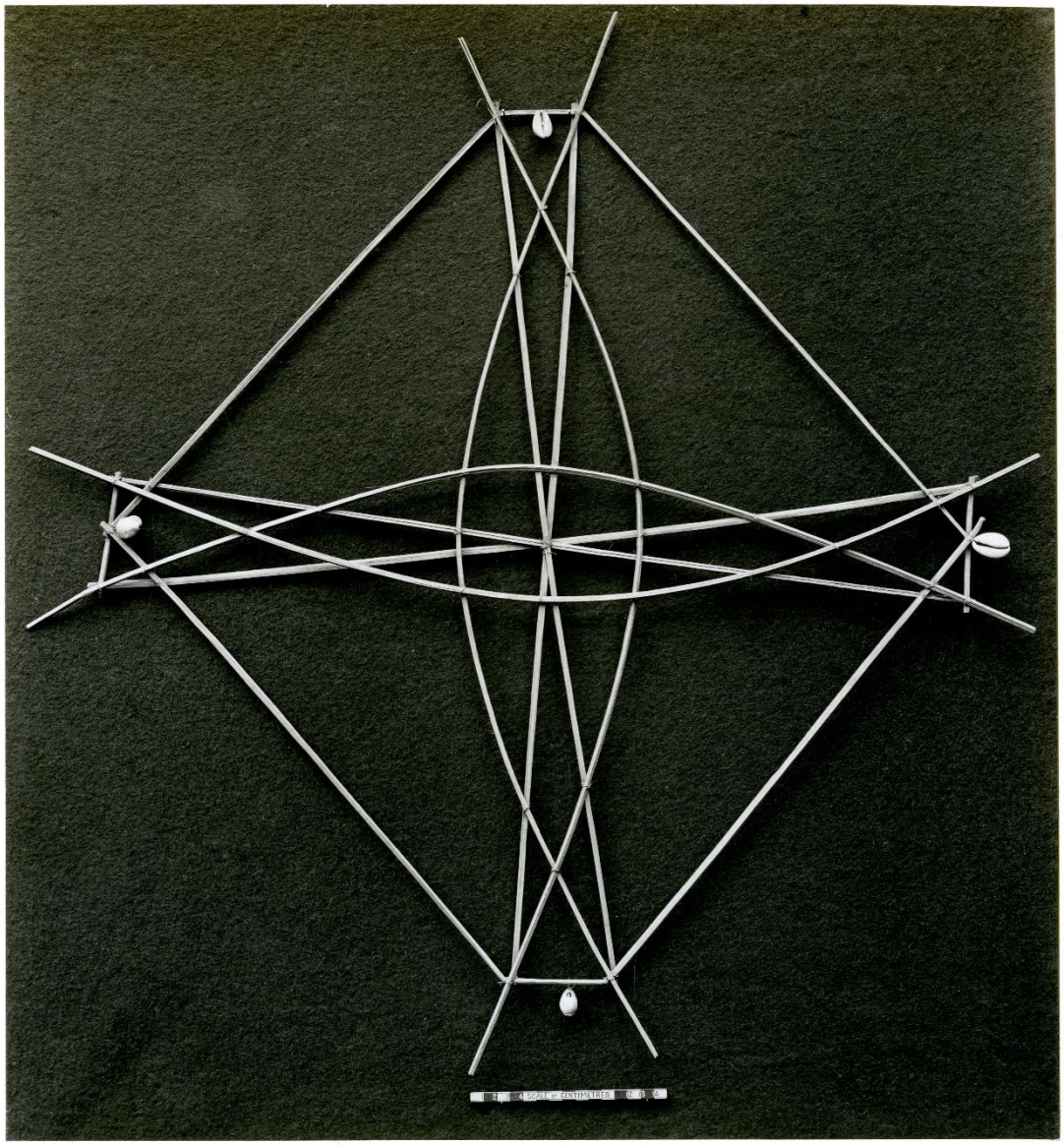
As noted above, the Director of the Science Museum, Henry Lyons, wrote in 1928 that the Museum's exhibition about "maps of primitive races [had] aroused a great deal of interest" among scholars and the museum-going public.[38] As this Chapter has demonstrated, this interest in non-Western maps in fact long preceded Lyons' account and indeed has persisted to the present day. However, the ways in which such artefacts are understood has changed quite profoundly. Discussed in academic literature over the last century as, in turn, accessories to European mapmaking, colonial curiosities, ethnographic objects, and artefacts of colonial encounters, such maps have attracted the interest of researchers in a variety of disciplines from ethnoscience to English literature, with scholarly approaches to and theories about them continuously changing and evolving. Examining the discourses around the cartographic products of non-Western peoples, which this Chapter has attempted to do, has also involved wider engagements with the history of geography and anthropology, notably in the context of the development of evolutionary theories of culture and assumptions about civilisational difference. Such assumptions, which underpinned early work within the history of cartography, have had an enduring influence in the field, even within otherwise progressive initiatives up to and including the *History of Cartography* project.

It has been argued in this Chapter that terms such as "primitive maps", "native maps", "traditional maps", "non-Western maps", and "Indigenous maps" were created in the context of a colonial or neo-colonial discourse about the comparative value of Western versus non-Western cultural products. While these terms are central to the study of the development of Western scholarship about non-Western maps, their value in the interpretation of the cartographic archive has been brought into question. This thesis examines how ideas about "native maps", as they were usually called at the RGS, had an effect on the collection and study of maps by geographers

[38] Science Museum archives, File 2439. Correspondence between Henry Lyons and G. M. Boughey, 25 January 1928.

and others associated with the Society. Within South Asia, the world region in which the case studies examined in this thesis originated (as explained in Chapter 3), a variety of mapping traditions can be identified in the pre-colonial period and many of these survived in some form within the age of empire. Some of these traditions, over time, mixed with and borrowed from each other, with colonialism simultaneously intensifying and obscuring these processes.[39] In this context, the assumption of a fundamental divide between Western and "native" maps is not only reductive, it also minimises the potential of such maps to become potent sources in the historical study of empire and encounter. Every individual map created in colonial contexts and held in colonial-era collections has its own story to tell. It is the responsibility of the researcher to devise appropriate methodologies best suited to the telling of these stories.

[39] Ramaswamy (2017) makes a similar point in her discussion of the globe in British India.



Figures 2.1-2.5 Photographs of five “stick charts” from the Marshall Islands used to illustrate Henry Lyons’ talk held at the Royal Geographical Society in May 1928. This one is of the “Mattang” type.

Source: RGS-IBG PR/026212 © RGS-IBG

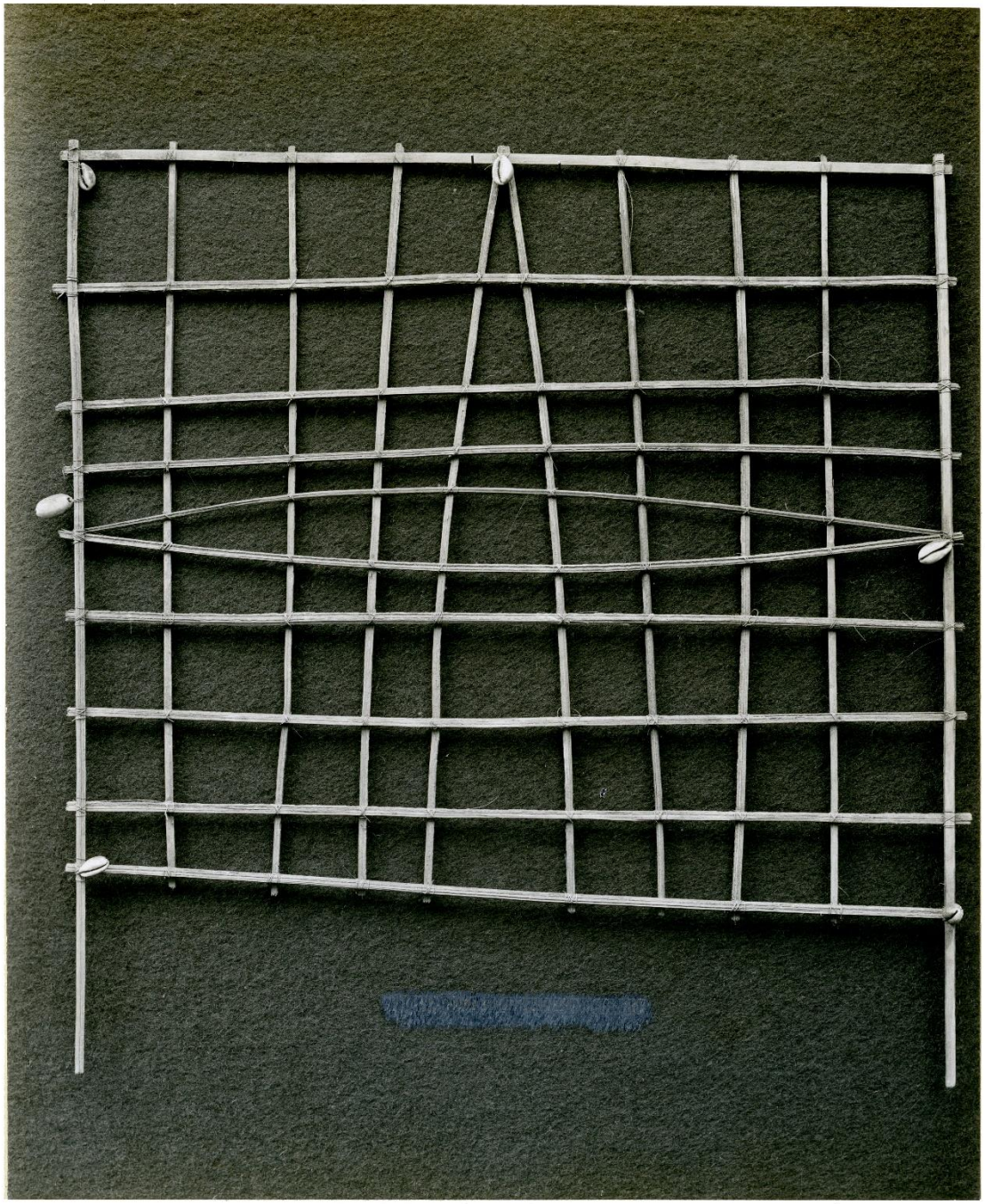


Figure 2.2 “Mattang” stick chart.

Source: RGS-IBG PR/026215 © RGS-IBG

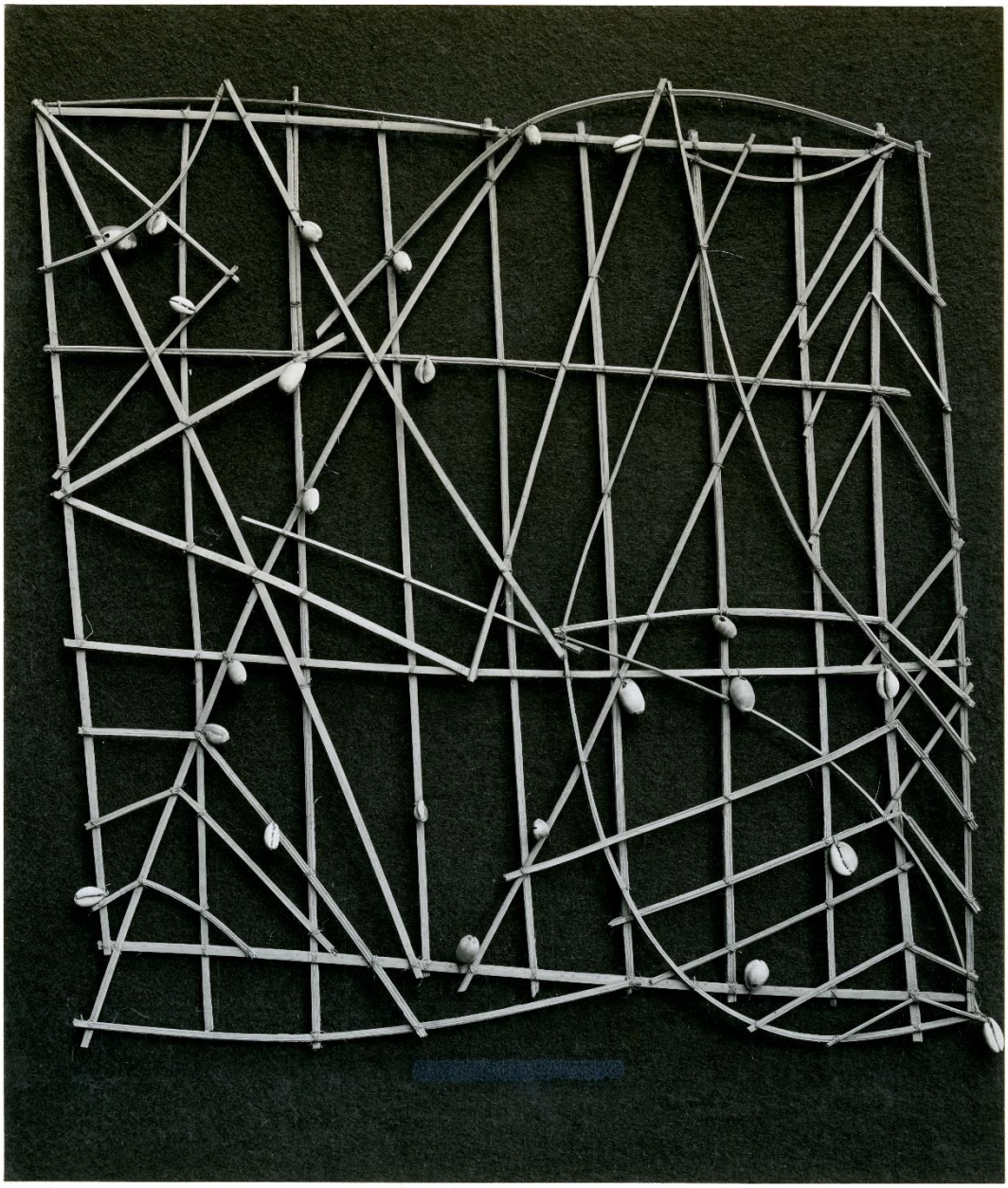


Figure 2.3 “Rebbelib” stick chart.

Source: RGS-IBG PR/026214 © RGS-IBG

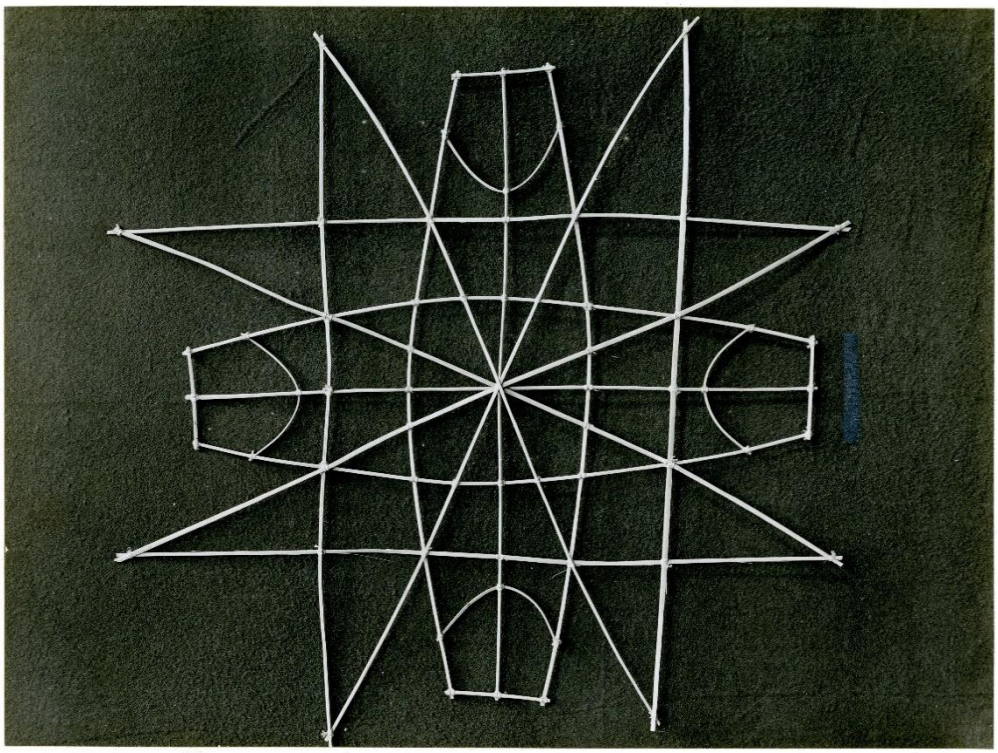


Figure 2.4 “Mattang” stick chart.

Source: RGS-IBG PR/026212 © RGS-IBG

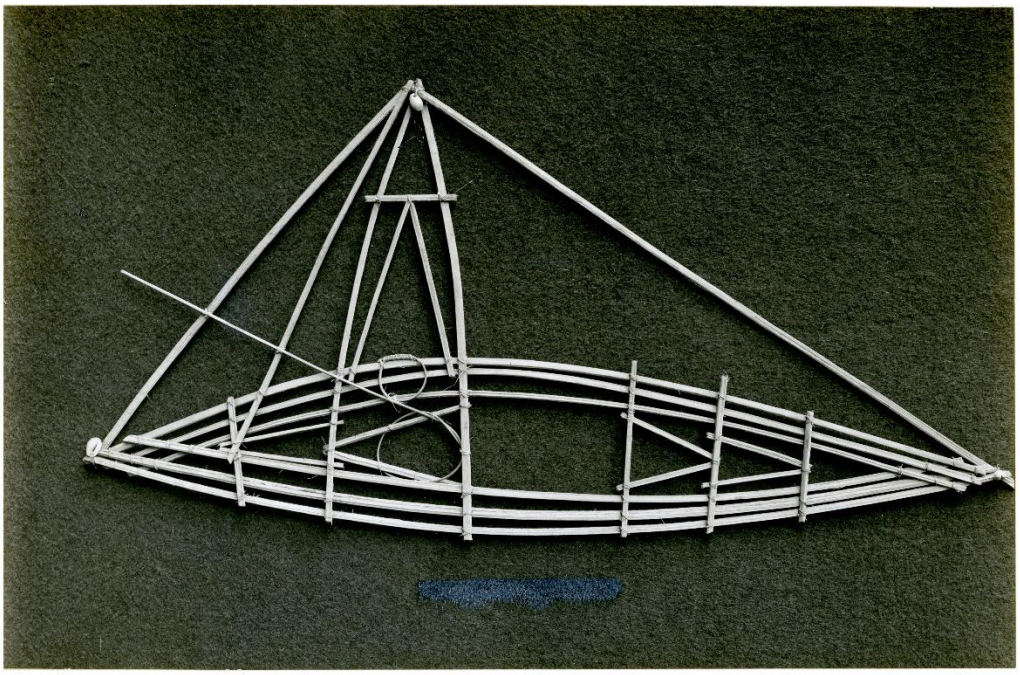
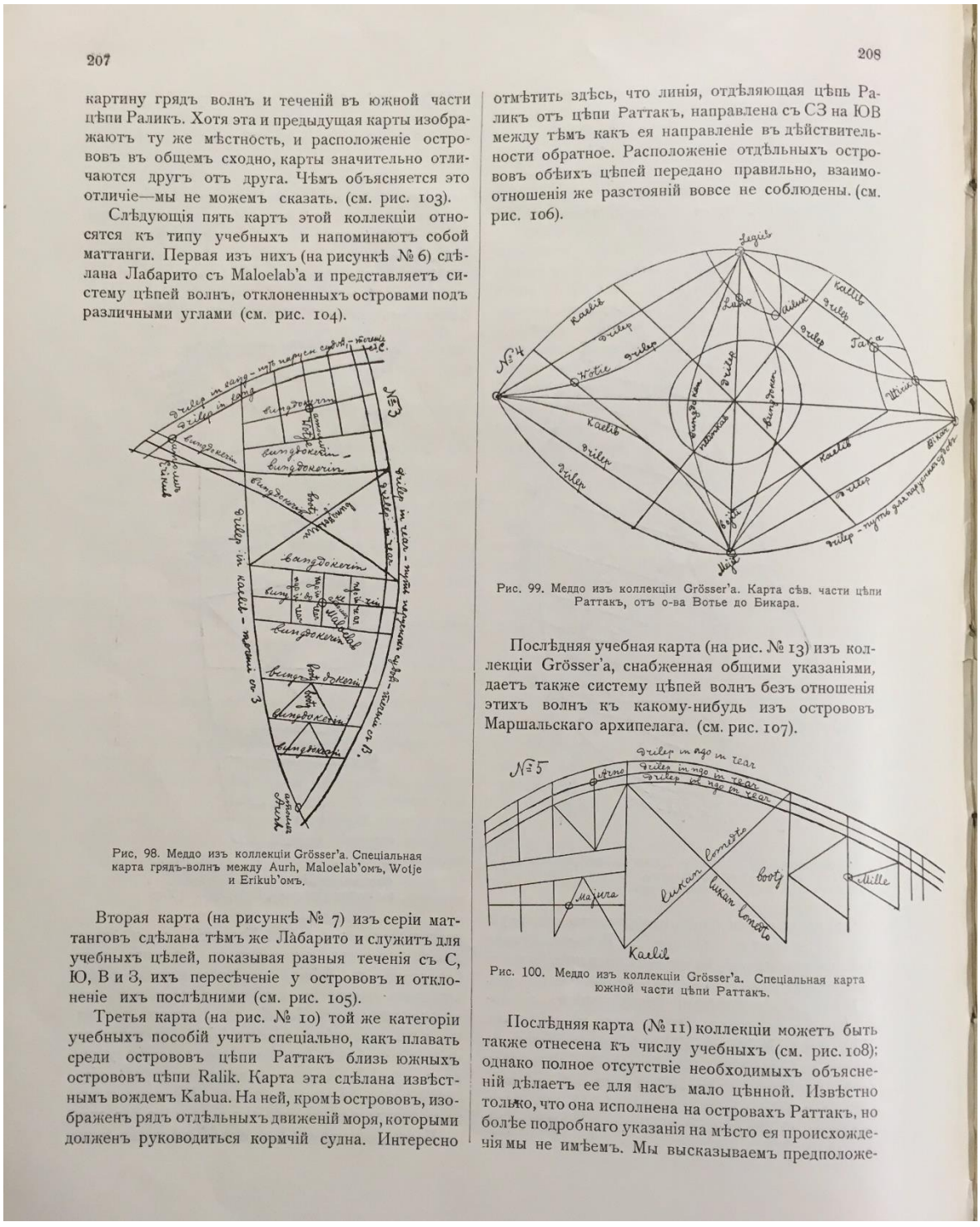


Figure 2.5 “Medo” stick chart.

Source: RGS-IBG PR/026213 © RGS-IBG



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картину грядъ волнъ и теченій въ южной части цѣпи Раликъ. Хотя эта и предыдущая карты изображаютъ ту же мѣстность, и расположеніе острововъ въ общемъ сходно, карты значительно отличаются другъ отъ друга. Чѣмъ объясняется это отличіе—мы не можемъ сказать. (см. рис. 103).

Слѣдующія пять картъ этой коллекціи относятся къ типу учебныхъ и напоминаютъ собой маттанги. Первая изъ нихъ (на рисункѣ № 6) сдѣлана Лабарито съ Maloelab'а и представляетъ систему цѣпей волнъ, отклоненныхъ островами подъ различными углами (см. рис. 104).

Рис. 98. Меддо изъ коллекціи Grösser'а. Спеціальная карта грядъ-волнъ между Aurh, Maloelab'омъ, Wotje и Erikub'омъ.

Вторая карта (на рисункѣ № 7) изъ серіи маттанговъ сдѣлана тѣмъ же Лабарито и служитъ для учебныхъ цѣлей, показывая разныя теченія съ С, Ю, В и З, ихъ пересѣченіе у острововъ и отклоненіе ихъ послѣдними (см. рис. 105).

Третья карта (на рис. № 10) той же категоріи учебныхъ пособій учитъ спеціально, какъ плавать среди острововъ цѣпи Раттакъ близъ южныхъ острововъ цѣпи Ralik. Карта эта сдѣлана извѣстнымъ вождемъ Kabua. На ней, кромѣ острововъ, изображенъ рядъ отдѣльныхъ движеній моря, которыми долженъ руководиться кормчій судна. Интересно

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отмѣтить здѣсь, что линія, отдѣляющая цѣпь Раликъ отъ цѣпи Раттакъ, направлена съ СЗ на ЮВ между тѣмъ какъ ея направленіе въ дѣйствительности обратное. Расположеніе отдѣльныхъ острововъ обѣихъ цѣпей передано правильно, взаимоотношенія же разстояній вовсе не соблюдены. (см. рис. 106).

Рис. 99. Меддо изъ коллекціи Grösser'а. Карта сѣв. части цѣпи Раттакъ, отъ о-ва Вотье до Бикара.

Послѣдняя учебная карта (на рис. № 13) изъ коллекціи Grösser'а, снабженная общими указаніями, даетъ также систему цѣпей волнъ безъ отношенія этихъ волнъ къ какому-нибудь изъ острововъ Маршальскаго архипелага. (см. рис. 107).

Рис. 100. Меддо изъ коллекціи Grösser'а. Спеціальная карта южной части цѣпи Раттакъ.

Послѣдняя карта (№ 11) коллекціи можетъ быть также отнесена къ числу учебныхъ (см. рис. 108); однако полное отсутствіе необходимыхъ объясненій дѣлаетъ ее для насъ мало цѣнной. Извѣстно только, что она исполнена на островахъ Раттакъ, но болѣе подробнаго указанія на мѣсто ея происхожденія мы не имѣемъ. Мы высказываемъ предположе-

Figures 2.6 Illustrations of various "Medo" stick charts from the Marshall Islands included in Bruno Adler's *Maps of Primitive Peoples* (1910).

Source: Adler, B. F. (1910) *Karty pervobytnykh narodov*, Izvestiya Imperatorskago Obshchestva Lyubiteley Yestestvoznanya, Antropologii i Etnografii: Trudy Geograficheskago Otdeliniya, 119 (2), pp. 207-208.

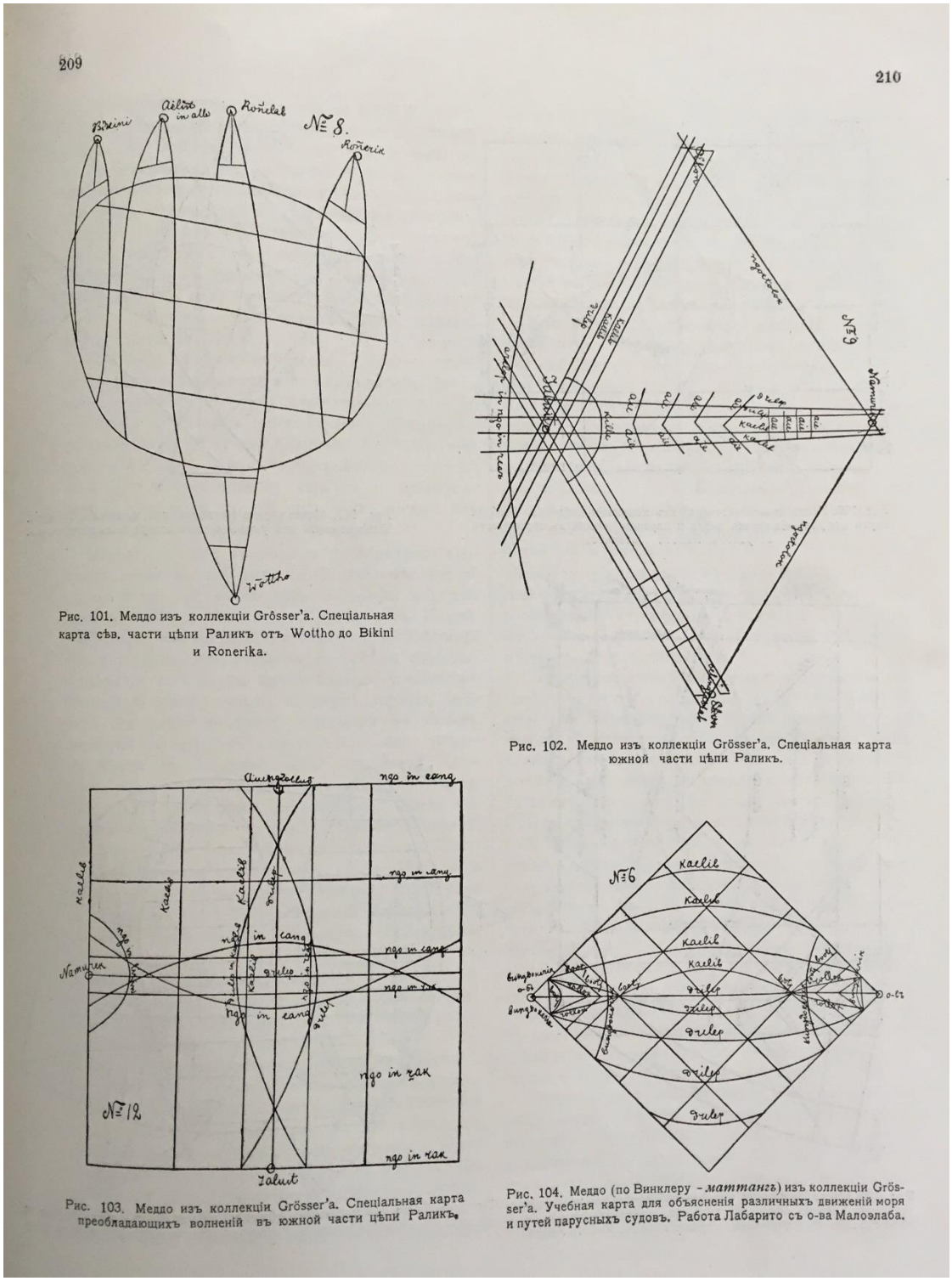

Figure 2.7 Illustrations of further "Medo" stick charts included in Bruno Adler's *Maps of Primitive Peoples* (1910).

Source: Adler, B. F. (1910) *Karty pervobytnykh narodov*, Izvestiya Imperatorskago Obshchestva Lyubiteley Yestestvoznanya, Antropologii i Etnografii: Trudy Geograficheskago Otdeliniya, 119 (2), pp. 209-210.

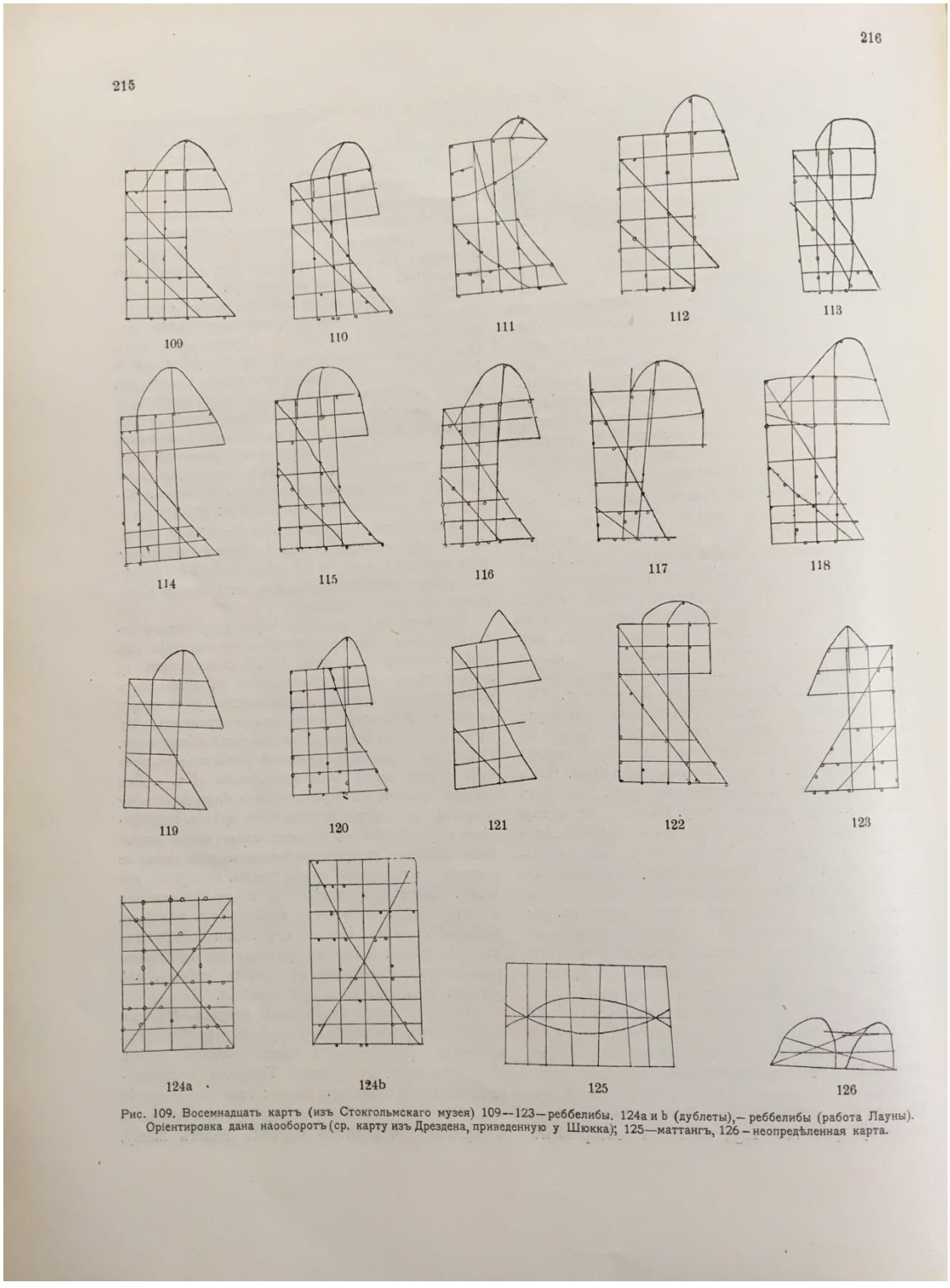

Рис. 109. Восемнадцать картъ (изъ Стокгольмскаго музея) 109—123—реббелибы. 124a и b (дублеты),— реббелибы (работа Лауны). Оріентировка дана наоборотъ (ср. карту изъ Дрездена, приведенную у Шюкка); 125—маттангъ, 126 – неопредѣленная карта.

Figure 2.8 Illustrations of “Rebbelib” and “Mattang” stick charts included in Bruno Adler’s *Maps of Primitive Peoples* (1910).

Source: Adler, B. F. (1910) *Karty pervobytnykh narodov,* Izvestiya Imperatorskago Obshchestva Lyubiteley Yestestvoznanya, Antropologii i Etnografii: Trudy Geograficheskago Otdeliniya, 119 (2), pp. 215-216.

Figure 2.9 The Inuit hydrographers "Ikmalick and Apelagliu" in the Captain's cabin of the *Victory* in January 1830. J. Brandard, after a drawing by John Ross.

Source: Lithograph, in Ross, J. (1835) *Narrative of a Second Voyage in Search of a North-West Passage*. London: A. W. Webster.

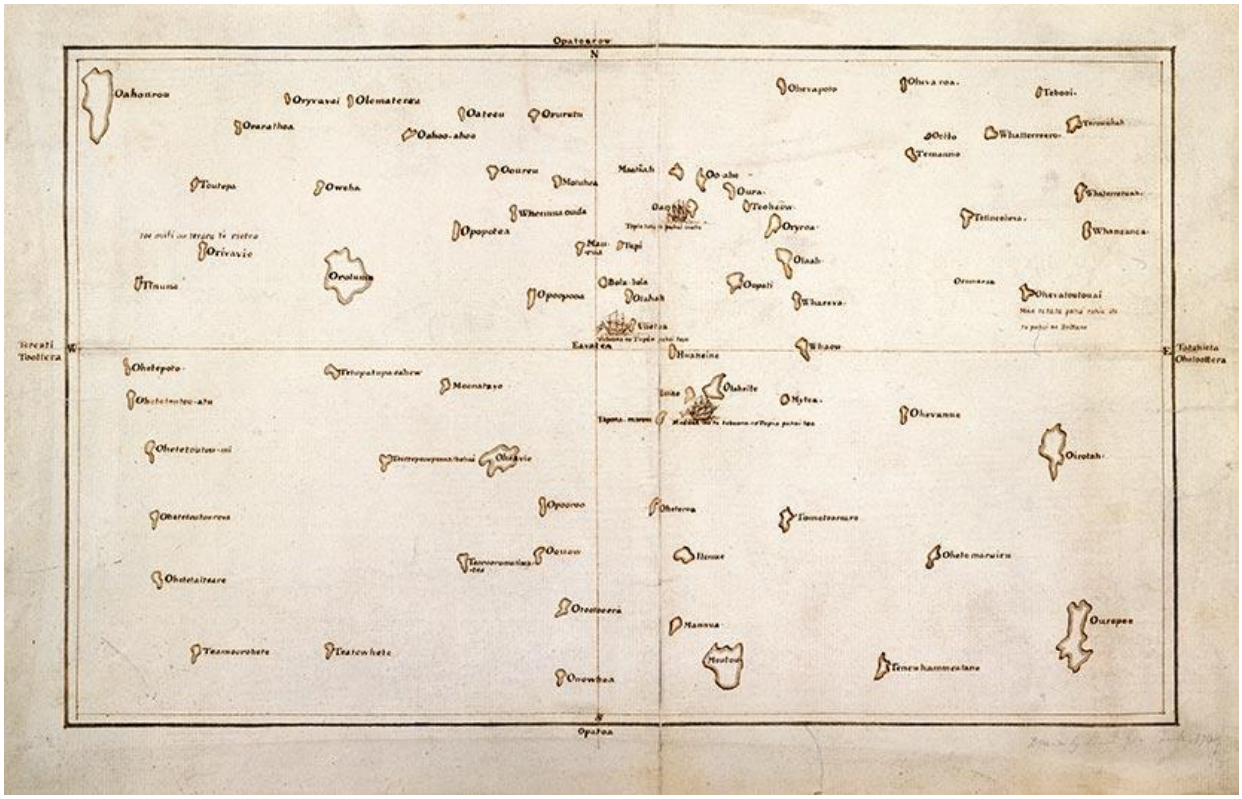

Figure 2.10 "Tupaia's Chart".

Source: British Library, Add MS 21593c. © The British Library Board

рева, и безъ большой посуды для прѣсной воды. Громадныя путешествія, совершаемыя вообще туземцами по океану съ ранняго дѣтства, дали значительные запасы географическихъ знаній островитянамъ Поли- и Микронезіи: они, по словамъ Форстера, прекрасно ориентируются; напр., тотъ же Тупаи, сопровождавшій Кука въ его первое путешествіе въ теченіе цѣлаго года, могъ въ любой моментъ вѣрно обозначить направленіе, въ которомъ находится его родина, о-въ Таити. Такія способности выработались подъ вліяніемъ тѣхъ же условій постояннаго передвиженія по океану. При этомъ

необходимо, конечно, знаніе своего неба. Оно и наблюдается въ дѣйствительности: у таитянъ годъ дѣлится на мѣсяцы, дни на опредѣленныя части (Форстеръ). Главныя планеты: Венера, Юпитеръ, Сатурнъ и созвѣздія, Сиріусъ, Поясъ Ріона, млечный путь и т. д. имѣютъ свои названія. Форстеръ думаетъ, что знанія по географіи и начатки астрономіи у островитянъ туземнаго, а не азіатскаго происхожденія, какъ принималось въ его время многими [1]). Интересны названія нѣкоторыхъ созвѣздій у полинезійцевъ, напр., Плеядъ называютъ частями судна, Ріона и Ю. Крестъ называютъ лодкой Tamarereti и т. п.: эти названія

[1]) I. R. Forster. op. cit. 460.

указываютъ на связь между астрономическими знаніями туземцевъ и ихъ мореплаваніемъ.

Уже первыя извѣстія, напр., объ островитянахъ Каролинскаго архипелага гласятъ, что они отважные моряки, и что имъ въ этомъ много помогаетъ знаніе звѣзднаго неба [1]).

Кантова [2]) (1721 г.) говоритъ даже, что въ каждомъ селеніи на Каролинскихъ островахъ существуютъ школы, мужскія и женскія, въ которыхъ обучаютъ начаткамъ астрономіи, необходимымъ для всякаго морехода. У учителей имѣется нѣчто въ родѣ небеснаго глобуса, на кото-

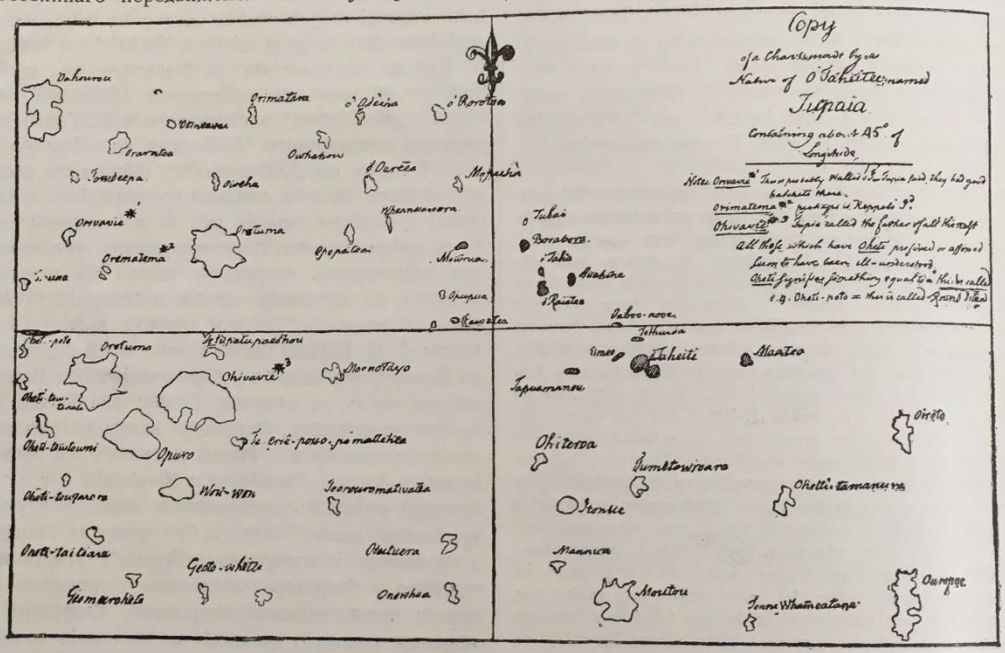

Рис. 95. Карта Тупаи (по копіи G. Forster'a).

ромъ нанесены главныя звѣзды [3]). Учитель показываетъ ученикамъ, въ какую сторону необходимо ѣхать, въ то или другое мѣсто. Араго говоритъ также, что одинъ изъ начальниковъ племени изобразилъ извѣстныя ему звѣзды кукурузными зернами, которыя онъ разложилъ на столѣ (ср. выше подобный же способъ для изображенія острововъ) [4]). Чтобы объяснить полученную такимъ

[1]) Chamisso, op. cit, стр. 128, а также Cantova, Lettres edifientes etc.

[2]) Adelung. Vollständige Geschichte der Schiffahrten nach den Südländern. Halle, 1767, стр. 472.

[3]) „Le maitre a une sphère où sont tracés les principaux astres".

[4]) Arago. Voyage autour du monde 1817—20, также изъ Aus allen Welttheilen, Nov. 1881, стр. 54.

Figure 2.11 Illustration of Tupaia's chart included in Bruno Adler's *Maps of Primitive Peoples* (1910).

Source: Adler, B. F. (1910) *Karty pervobytnykh narodov,* Izvestiya Imperatorskago Obshchestva Lyubiteley Yestestvoznanya, Antropologii i Etnografii: Trudy Geograficheskago Otdeliniya, 119 (2), pp. 195-196.

CHAPTER 3

Locating the Indigenous map: the collection of the Royal Geographical Society

3.1 Introduction

This thesis aims to examine the extent and significance of Indigenous maps in a colonial-era map collection, that of the Royal Geographical Society, in order to explore wider questions these maps raise for the histories of empire, mapping, and Indigenous agency. As discussed in Chapter 2, the definition of what constitutes an "Indigenous map" is far from straightforward. During the long nineteenth century, "native maps" (as they were described at the RGS) were typically acquired, commissioned, or co-produced in the process of European geographical exploration and territorial expansion, preceding or accompanying the imposition of colonial rule. Once accessioned into Western collections, the uses and meanings of these maps changed, transforming them into potential sources of knowledge, exhibition pieces, ethnographic artefacts, exotic curiosities, or simply miscellaneous adjuncts to larger collections. Having established the intellectual and theoretical history of the Indigenous map as a concept in Chapter 2, I move on in this Chapter to discuss the methodological challenges of working with Indigenous maps within a colonial-era map collection, including questions of research design, methods and sources, and the rationale for my selection of the case studies to follow in Chapters 4-6.

The choice of the map collection of the Royal Geographical Society as the primary focus for this project reflects its size and significance within the wider context of colonial-era map collections. The Society holds one of the world's largest private collections, currently comprising

over one million items, including printed sheet maps and charts, manuscript maps and drawings, atlases, globes, and gazetteers, mostly dating from 1830 (the founding year of the Society) onwards, but some originating in much earlier periods. These diverse materials entered the collection in a variety of ways, including as donations from departments of state, from foreign geographical societies and overseas governments, as well as gifts from Fellows, explorers, travellers, or speakers at Society meetings. While the geographical coverage of the collection extends well beyond the territorial extent of the British empire (reflecting the Society's global interests and its relationships with other institutions worldwide), it undoubtedly reflects the pattern of British commercial and political interests over the course of global history of the last two centuries. Imperial processes of reconnaissance, occupation, settlement, and colonial administration (and, in some cases, decolonisation) in various parts of the empire can all be traced through the collection. Moreover, at certain moments of its history, especially at the height of the age of empire and also during the First World War, the map collection was represented in the popular press and by the Society itself as a strategic information hub of considerable value to empire-makers and military strategists. The scale and significance of the collection in the context of the Society's role in British colonial expansion thus provided the basis for its selection as the prime focus of this project in the context of a Collaborative Doctoral Award. In this respect, my work builds on that of a series of doctoral projects using the Society's collection to reframe aspects of the history of geography and exploration, notably that of Lowri Jones (2010). However, this thesis is the first such project to focus principally on the map collection itself.

The first part of this Chapter provides an overview of the RGS map collection as a field of study. This includes an examination of both official and critical histories of the Society and its collections, and a brief review of approaches to the study of colonial era maps and map collections from a methodological perspective (section 3.2). I then turn to questions of research strategy and design, providing an account of my approach to the maps in the RGS collection,

including the rationale for selecting the case studies, all of which originated in South Asia, together with a brief sketch of the wider context of RGS interest and engagement with British India (section 3.3).[1] Finally, I elaborate on my research methods and sources used in the case studies, which focus on the biographies or trajectories of individual Indigenous maps in the RGS collection (section 3.4).

3.2 The RGS map collection as a field of study

In his 1899 presidential address to the Royal Geographical Society, Sir Clements Markham (1830-1916) described the Society's Map Room and Library as "agents for disseminating geographical knowledge" (Markham, 1899: 3). Markham's ambitious vision of the potential of geographical archives was shaped by his own experience at the India Office, where he had submitted, twenty-five years earlier, a proposal for the re-arrangement of the records of its Geographical Department. Expressing his hope that a reorganisation of these records would better serve the imperial state, Markham had suggested four functions for an improved India Office geographical archive: firstly, the more effective collection of data; secondly, the classification of this data; thirdly, its "investigation and comparison," so that conclusive knowledge could be extracted; and, lastly, the supply of this knowledge to the "Parliament and the people of this country" (Mitchell, Lester and Boehme, 2019: 16).[2] Such aspirations combined a broadly utilitarian rationale for the concentration of geographical knowledge in centres of calculation with the administrative reach of a powerful department of state. As Honorary Secretary (1863-1888) and President (1893-1905)

[1] See fig. 3.1 for a general location map of British India, ca. 1900.

[2] Markham, 1874: 3 (IOR/L/R/4/29). Markham's process of re-organising this archive has been evocatively described by Donovan Williams (1968: 343): "It was a poignant story of achievement laced with frustrated ambition, impatience and lack of restraint, played against the background of change and tension in the newly created India Office. It provides the measure both of [Markham's] ability as an organiser and idealist dedicated to the dissemination of geographical knowledge, and of his weakness in the form of undisciplined impulse which brought to a premature close a promising career in Whitehall." The 1988 *Guide to the India Office* Records by Martin Moir, which is still recommended for readers on the British Library website (as of December 2020), states that Markham's arrangement of the India Office maps "largely remains in use" (p. 269).

of the RGS, Markham was well aware of the original vision which had inspired the Society's formation. At the Society's very first meeting on 24 May 1830, the formation of a centralized repository of geographical information was identified as one of the new institution's core functions. The prospectus of the RGS set out an ambitious vision of the Society as a body responsible for the collation and diffusion of authoritative geographical knowledge. One of its key objects was

> To accumulate gradually a library of the best books on geography—a selection of the best Voyages and Travels—a complete collection of Maps and Charts, from the earlier period of rude geographical delineations to the most improved of the present time; as well as all such documents and materials as may convey the best information to persons intending to visit foreign countries; it being of the greatest utility to a traveller to be aware, previously to his setting out, of what has been already done, and what is still wanting, in the countries he may intend to visit.[3]

This ambition depended on resources, and until the 1850s these were relatively meagre. From 1854, the Society received an annual government grant for the management of its books and libraries. According to H. R. Mill (the Society's librarian in the 1890s), it was from this date that the RGS can be considered "a national institution" (Mill, 1930: 68). However, whether its Library and Map Room ever lived up to Markham's imperial fantasy is another question.

Markham and Mill authored the Society's major official histories, published in 1880 and 1930 respectively, marking in turn the RGS's first fifty years and its centenary. While both offered detailed descriptions of the inner workings of the Society, their efforts to contextualise its history are somewhat limited, seen from the perspective of later historiography. Both present a narrative that essentially depicts the RGS as becoming increasingly more successful, more scientific, and more modern in the lifetimes of the authors (though of the two Mill's is much more prepared to acknowledge the importance of difference and debate within the Fellowship). Mill shared key

[3] RGS-IBG, Additional Papers no. 115, AR28; quoted in Driver (2001: 27-8). See fig. 3.2 for a photograph of the Society's Map Room in 1912.

aspects of Markham's vision of the scientific importance of the Society's Library and Map Room, and expressed them using nostalgic language:

> For more than forty years 1 Savile Row as the Mecca of all true geographers, the home port of every traveller. Here the men who were to wipe out 'Unexplored' from the maps of the continents were trained for their labours; and here on their return their records were tested and used to confirm or correct the map of the region they had traversed; here hundreds of foreign geographers who had studied to discover and to comprehend the Earth resorted as to a shrine (Mill, 1930: 94-5).

For both Markham and Mill, the RGS map collection and library were crucial to the Society's ambitions to become not just a centre for geographical knowledge, but also a useful servant of British imperial interests. Their narratives present the development of its map collection in a similar way to the evolution of the institution more generally: after its uncertain early decades, as reflected in the slow acquisition and cataloguing of its maps (Crone and Day, 1960: 11), the collection became increasingly bigger, more organised, and more frequently used by members of the public as well as government departments.

In the last three decades, the history of the RGS and its collections has been approached more critically, as more scholarly attention has been devoted to the wider intellectual, social, and political contexts in which the RGS operated, notably in relation to empire. In the course of this critical turn, the entanglement of British geography with the imaginaries and projects of empire has been much discussed. There is a risk, however, that in this context, the claims made for the role of the Society in centralising and organising the geographical archive of empire in its official histories may be read literally rather than rhetorically. In practice, as Max Jones (2005) has argued, the Society struggled before the 1870s to reconcile its grander objectives with the actual resources at its disposal. And thereafter, while the management of its library and map collection was placed on a new footing, their role in relation to empire needs to be put into a wider context. Rather than being a centre of calculation for late-Victorian imperial government, Felix Driver argues, the Society is best understood as "an arena, a site where competing visions of

geographical knowledge were debated and institutionalised" (Driver, 2001: 65). In a study of the role of the Society's Map Room during the First World War, Michael Heffernan broadly agrees with this characterisation, concluding that the RGS did not "[adopt] a coherent institutional response to any aspect of the war" (Heffernan, 1996: 522). Heffernan's study suggests that historical questions about the use and significance of the Society's collections are best approached through detailed study of particular episodes, enabling a more critical and contextual perspective than provided in official histories such as those of Markham and Mill. Similarly, work on the history of other libraries, such as the Royal Empire Library, has shown the importance of acknowledging the incomplete, unstable, and fragmentary nature of even the most imperial of archives (Craggs, 2008: 66).

Research in the history of cartography over the last two decades has suggested a number of new possible approaches to colonial-era maps and map collections such as that of the RGS. While an important strand of scholarship, inspired by the work of Brian Harley, has developed critical ways of reading the cartographic archive through an imperial lens, historians have become more aware of the diverse forms and contexts of map production and circulation. As discussed in Chapter 2, many maps in colonial-era collections can be considered inherently hybrid, either because they were co-produced by colonisers and Indigenous people, and/or drew on the latter's knowledge; or because they depended in various ways on Indigenous labour for their creation. This argument poses a number of challenges to their interpretation. For the present purpose, we should distinguish between the challenges posed in the critical reading of individual maps and those connected with the interpretation of map collections. In relation to the first, critical readings of maps as imperial texts in which Indigenous presence is silenced have given way to more nuanced studies showing the ways in which the trace of Indigenous presence and knowledge may be detected.[4] For example, in his study of eighteenth-century Portuguese maps

[4] See the volumes *The Imperial Map* (2009a) and *Decolonising the Map* (2017a), both edited by John Akerman; *Mapping Colonial Conquest* (2007), edited by Norman Etherington (especially Lindy Stiebel's

of Amazonia, Neil Safier demonstrates that cartographic silences concerning Indigenous people are the product of more than simply a gesture of erasure: "while Harley asserted that entire populations of Amerindians were removed with the single stroke of a pen, it is more plausible to see this cartographic evacuation as a process whereby information was ingested and reincorporated into other forms" (Safier 2006: 156-7). By combining his reading of colonial maps with other historical evidence including graphic, literary, and statistical sources, Safier demonstrates that the colonial rulers engaged with the Indigenous population in a way that neither completely erased them nor fully incorporated them in their own society.

In relation to the second challenge, the critical interpretation of colonial-era map collections, much work remains to be done; there has been remarkably little scholarly attention devoted to the ways in which libraries and map collections organise, define, and limit the ways in which maps are interpreted and used. [5] In this context, the critique of cartobibliography made by Harley in the 1980s needs to be extended to the critical study of the working, organisation, and cataloguing of map collections (Harley, 1987a). In this respect, Matthew Edney's study of the Survey of India in the East India Company era made an important methodological contribution by focussing as much on the compilation and organisation of maps in the archive as on the making of maps in the field. In *Mapping an Empire* (1997), as discussed in Chapter 2, Edney argues that there was a fundamental difference between the image of the perfect panoptic survey, as constructed by the Survey of India through its promotion of trigonometrical survey, and the actual survey practices in the field (given the messy realities of the survey conditions) and in the office (given the pragmatic logic of compilation). However, Edney's book pays much more attention to the management and politics of the Survey as reflected in the voluminous

chapter). Another example is Karl Offen's article "Creating Mosquitia" (2007), in which he argues that colonial maps reflect the spatial practices of colonised peoples.

[5] This topic was addressed in the session "Colonial Map Collections: New Methodologies and Approaches", which I organised at the RAI-RGS conference *Anthropology and Geography: Dialogues Past, Present and Future*. The session included speakers from a variety of professional backgrounds including archivists, curators, educators, and academics, who spoke about their work with colonial-era map collections.

administrative archives of the Company than to the study of actual maps or to their organisation in the Company's map collection. The latter was one of Clements Markham's main concerns in his proposals for the reorganisation of the Geographical Department at the India Office in the 1870s into an effectively functioning information archive. In contrast to Edney's emphasis on administration and Markham's on function, reflecting the imperial fantasy that has long dominated thinking and writing about Western map collections, the focus of the case studies in this thesis is on the material form of maps themselves.

3.3 Locating the Indigenous map: case studies from South Asia

My focus in this thesis is on Indigenous maps in an historically significant map collection formed during the colonial era. Rather than focusing on questions of Indigenous presence in or contribution to colonial maps and mapping projects, as much of the literature on cartography and empire has done, I decided at an early stage to concentrate my attention on those maps that the RGS itself categorised as "native" in origin. This relatively small number of maps (approximately fifty depending on the search term) constitute a heterogenous but distinct part of the collection. At first sight, such "native" maps seem to be anomalies in the collection, sitting uncomfortably alongside the much larger body of cartographic materials in manuscript, print, or atlas form, based on conventional Western survey and mapping methods. This group of "native maps" did not appear to have been particularly valued by the RGS when they entered the collection in the nineteenth century, nor was there much evidence of their use in updating Western charts and maps, even though some of them contained geographical information not yet known to Europeans. They are also a remarkably diverse set, including for example printed Chinese and Japanese maps acquired by British traders in the 1870s (see fig. 3.3 for such an example);[6] a

[6] For example "Map of China in native characters", RGS-IBG mr China G. 58; "Native map of the valleys of the Min-to and Hehshui rivers in west Szechuan, China", RGS-IBG Mr China S/S. 195; and "Japanese Map of Korea based on native Korean maps", RGS-IBG mr Korea G.6.

collection of manuscript route maps across the Sahara Desert, which were created by Arab slaves and traders for the British explorer Hugh Clapperton in the 1820s (fig. 3.4);[7] and the tracing of a Japanese wood-cut map executed in 1860 by the diplomat Sir Rutherford Alcock on an Indigenous oil-paper rain coat (fig. 3.5).[8]

Faced with this range of material, I opted to select a small number of maps for further analysis, relying on a variant of the methodology of "object biography" developed within the study of material culture (as discussed in section 3.4). This eventually resulted in three case studies from the RGS collection—not three maps, as one of the case studies is a collection of maps—sharing two common features: all originated from South Asia and all were collected in the context of British imperial expansion on the subcontinent. This shared context reflected the Society's strong historical connections with the British imperial presence in India, an aspect of the RGS's history which has perhaps been under researched (discussed below). While sharing a common geopolitical context, however, the maps in the case studies are very different in their form: indeed, they were chosen to highlight the significance of questions of materiality and context in the study of Indigenous maps in the colonial era. The first case study thus focusses on a manuscript and a lithograph, the second on a collection of manuscripts and tracings, and the third traces the story of a "native map" in print. Furthermore, the interpretation of these maps and the process of their acquisition (and in one case study their production) requires that they be set in the context of distinctive histories of colonial encounter, reflecting the diverse aspects of empire-making through trade, boundary making, and war.

The first case study, the subject of Chapter 4, is a Gujarati chart of the Red Sea, which was acquired by the East India Company officer Alexander Burnes in 1835. When Burnes donated this chart to the RGS a year later, it was received in a way which seems at first sight to be readily

[7] "A collection of route maps of the Niger River, together with a few original letters (in the Library) from Clapperton and others", RGS-IBG mr Portfolio 338. See also Lefebvre (2015).
[8] "Tracing from a Japanese Map, shewing the route from Yeddo to the summit of Fusi-yama taken by Rutherford Alcock in 1860", RGS-IBG mr Japan S. 117.

comparable to how other British institutions accepted artefacts from Company employees: as a unique visual curiosity, with the potential to provide insights into the Indigenous cultures of the British colonies. As this Chapter will explore, however, the chart spoke in fact to a much more complex history. Probably more than two centuries old by the time Burnes acquired it, the chart illuminates the thriving trade relationships between the Indian and Arabic maritime worlds, as well as the wider context of British trade and imperial policy in the region.

The second case study (in Chapter 5) is a collection of thirty-three maps assembled by a colonial judge, John Coryton, resident in Moulmein (Mawlamyine) in the late 1860s and early 1870s. These maps, originally produced by Burmese and Shan traders on the veranda of Coryton's house, were copied by hand at the Survey of India premises in Calcutta (Kolkata) before being accessioned into the collection of the RGS in 1875, the same year in which Coryton delivered a paper to the Society on the subject of trade routes between British Burma and China. While Coryton's intention was to use the geographical information contained in these maps to validate claims he made about the significance of a potential trade route linking Moulmein with Yunnan, they reveal much more about the process of geographical knowledge creation in the British colonies. The maps in this collection can be considered witnesses to colonial collaborations, with the negotiations that took place as Indigenous people and Europeans were trying to communicate inscribed in the form of the maps themselves.

The final case study (in Chapter 6) examines a printed copy of a Tibetan map of Sikkim. Originally acquired on the field of battle between British and Tibetan forces in 1888, the map was lithographed in the following year at the Survey of India premises in Calcutta. This printed map was later included as a "Specimen of Lithography" in a map exhibition at the Imperial Institute in London held in connection with the Sixth International Geographical Congress in 1895, where it was described (in the catalogue) as a "Native map of Sikkim". Thereafter, it was acquired by the RGS for its own collection. This Chapter traces the map's transformation from a unique painting

on cloth to a photolithographed copy on paper, overprinted with both British and Tibetan script, situating the production and reproduction of Indigenous maps alongside the work of contemporary institutions including the Survey of India, the Asiatic Society of Bengal, and the RGS.

The selection of these case studies, based on their common imperial setting as well as their contrasting material form, raises wider questions about the significance of South Asia for the histories of colonial cartography and geographical knowledge. The significance of British India for the history of empire in general and colonial mapping in particular needs no further explanation here. However, some further comment on the importance of British empire-making in South Asia for the history of the RGS and its collections is required, not least because this subject has received relatively little scholarly attention. In the literature on the founding and subsequent development of the RGS, India plays a surprisingly marginal role, at least prior to the 1880s. By way of context for the case studies to follow, it is useful to set out here the ways in which colonial engagement with South Asia in the nineteenth shaped the concerns and collections of the RGS during the nineteenth century.

From its foundation in 1830, many of the leading figures at the Royal Geographical Society had close familial and political links to British India. The majority of the six members of the "provisional committee" (the founders of the RGS) devoted significant parts of their careers to the subcontinent. For example, Sir John Cam Hobhouse (1786-1869), a leading Whig politician, was appointed President of the Board of Control for India in 1835 and in that capacity played a significant role in the British occupation of Afghanistan in 1838 (Cochran, 2009). Sir Roderick Murchison's (1792-1871) interests in India were familial as well as scientific: his father had made a fortune as a surgeon in the service of the East India Company, and his brother was Company Resident at Penang and Governor of the Straits Settlements.[9] For their parts, Sir Mountstuart

[9] See also Stafford (1990), especially Chapter 5 "The Indian Empire and Central Asia".

Elphinstone (1779-1859) and Sir Henry Bartle Frere (1815-1884) both spent the majority of their careers in colonial administration on the subcontinent. In Elphinstone's case, this started with an appointment to the East India Company service (an uncle of his was a member of the Court of Directors) before being selected as assistant to the Governor General's political agent at the court of the Maratha peshwa in Poona. In 1819 he was appointed Lieutenant-Governor of Bombay, a post he held until 1827 when he returned to Britain (Bayly, 2008). Meanwhile, Bartle Frere, who spent a total of thirty-three years in India, started his career there as assistant in the revenue department at Poona before being appointed, in 1850, chief commissioner of Sindh. In 1862 he followed in Elphinstone's footsteps and was appointed Governor of Bombay (Benyon, 2004).[10]

Moving on from personnel to the shared commitment to projects of colonial mapping and survey, the intertwining of British imperial interests in India and RGS concerns becomes still more apparent. As discussed in Chapter 4, the RGS was closely interested in the hydrographic surveys of the East India Company and the British Admiralty. For example, James Horsburgh (1762-1836), hydrographer to the British Admiralty (appointed in 1810), sat on the Society's first Council; and the RGS actively reported on the East India Company's charting of the Red Sea in the 1830s. The practice of terrestrial mapping provided a further shared concern. Several of India's leading surveyors were active within the Royal Geographical Society, including Colonel Sir George Everest (1790-1866), Superintendent of the Great Trigonometrical Survey and Surveyor-General of India (1830-1842), who was a member of the Council and later on Vice-President of the Society (Phillimore, 1958). Preoccupations with boundaries and the margins of empire in India, a recurrent theme throughout the colonial era, were mirrored in the Society's proceedings and its collections. For example, in the 1830s and 1840s, the period of the First Anglo-Afghan War, the

[10] See also Emery (1984). These connections with India extend from the Society's founding members to other figures who subsequently played prominent roles in the Society as Presidents or Vice-Presidents. These included, for example, Sir Henry Creswicke Rawlinson (1810-1895), Sir Henry Yule (1820-1889), Sir Richard Strachey (1817-1908), Sir Mountstuart Elphinstone Grant Duff (1829-1906), Sir Thomas Hungerford Holdich (1843-1929), and Lord George Nathaniel Curzon (1859-1925).

Journal of the RGS published numerous accounts about mapping and survey work in Central Asia; and towards the end of the nineteenth century, when attention was focussed on the extension of British imperial reach into the Himalayas, the region featured prominently in the maps accessioned into the Society's collections (see Chapter 6).

As this brief discussion has shown, connections between the Royal Geographical Society and British India were ubiquitous, permeating all aspects of the Society's operations from its very first decade. While India was not the only focus of geographical interest, it was certainly special, if only because of the extent and intensity of Britain's colonial engagements in South Asia. As we have seen, these interests long predated the era of the Great Game and the new phase of imperial boundary-making associated with the days of the late-Victorian Raj. South Asia provided a field of opportunity for military adventure, geographical science, and colonial careers, and the institutions the British created to secure their colonial rule – from the East India Company to the Survey of India – had a major impact within Britain as well as within the subcontinent. These impacts were felt at the RGS and on its collections, as well as on many other aspects of the Society's activities and concerns including those well beyond India itself.[11]

3.4 Tracing map trajectories: methods and sources

Having introduced the focus and context of the research and the rationale for selecting the three case studies to follow, it is necessary to say something about methodology and the range of sources used. As mentioned above, I made an early decision to concentrate on in-depth case studies of maps from the RGS collection primarily because I wanted to keep the focus firmly on the maps themselves. This gave me the opportunity to look closely into the contexts of their

[11] For example, the military expedition to Abyssinia in 1867-8 underscored the importance of India for military policy and geographical knowledge-making well beyond the subcontinent itself: the military force which burned the fortress at Magdala in April 1868 was organised by the Bombay Army and commanded by Robert Napier, with Clements Markham taking on the role of geographer to the expedition. In these and many other ways, the careers and concerns of geographers working in many regions of the globe were profoundly shaped by the British colonial project in India.

creation, interpretation, and re-interpretation, with the intention of providing new insights into knowledge production in colonial South Asia while also revealing something about the Society's treatment of some of the most distinctive maps in its collection. In order to tell the stories of these maps, I decided to proceed by tracing the contexts in which they were collected (or made, in one case) and the routes they travelled before arriving at the RGS. In taking this approach, I adapted the method of "object biography", long used in museum studies and the study of material culture more generally.

The writings of Arjun Appadurai laid the basis for applying a "biographical" perspective to the study of objects, encouraging scholars working on processes of commodification to "follow the things themselves, for their meanings are inscribed in their forms, their uses, their trajectories" (Appadurai, 1986: 5). Building on these arguments, Igor Kopytoff put forward the methodological idea that the biographies of objects can be written similarly to the biographies of people, following an object's trajectory from "birth" to "death". As he put it,

> Where does the thing come from and who made it? What has been its career so far, and what do people consider to be an ideal career for such things? What are the recognised 'ages' or periods in the thing's 'life', and what are the cultural markers for them? How does the thing's use change with its age, and what happens to it when it reaches the end of its usefulness? (Kopytoff, 1986: 66).

Such arguments were subsequently applied in a variety of contexts, often tied less closely to the study of commodities and consumption. A particularly influential contribution to the literature on object biographies was made by archaeologists Chris Gosden and Yvonne Marshall, who highlighted the value of "cultural biographies" of artefacts in their moments of production, exchange, and consumption, setting each of these moments within their social contexts (Gosden

and Marshall, 1999: 169).[12] In what follows, I take inspiration from the object biography approach in general terms, while adapting it to research on maps in a colonial-era collection.

The idea of approaching map history in biographical terms is not new or original in itself. For example, the entanglement of the life history of individuals with the story of particular maps provided the rationale for a poignant autobiographical essay on "The Map as Biography" (2011) by Brian Harley published in 1987. Furthermore, in the context of the wider renaissance of map history in the last thirty years, a focus on the lives of maps has lent itself to much popular and imaginative writing.[13] Conceptually, my own focus on the lives of maps as objects has its roots in scholarship about the materiality of cartographic artefacts which developed as a response to the "material turn" in the 1990s. In his book *The Sovereign Map* (2006), originally published in 1992 in French as *L'Empire des Cartes*, Christian Jacob conceptualised the map not "as a static object, but rather as a dynamic process whose effects, power and meanings are to be found at the crossroads of production and reception, of encoding and decoding, of intentions and expectation" (Jacob, 2006: xv). Jacob considers materiality to be an essential feature of the map, describing it as "a projection of a material schema on a medium, the materialisation of an abstract intellectual order extracted from the empirical universe" (Jacob, 2006: 33). More recently, Matthew Edney has argued that a map's materiality and the way it circulates should be at the core of a new approach to map studies (Edney, 2018). As he argues,

[12] Some caution is necessary when using this approach: it has been pointed out quite rightly that the very notion that objects have social lives comparable to those of humans is a conceit (Cornish, 2013: 98). Chris Gosden and Chantal Knowles describe the careful balance they had to strike when writing object biographies in the following way: "On the one hand we are weary of making things too active: things are not agents in their own right, and the material world is only given force and significance through human activity. On the other hand, things are not a passive stage setting to human action. We are all socialised within particular material settings, which are in some sense internal to us and our sense of physical possibility. The deep mutual involvement of people and things means that much social life is achieved through objects and is influenced by the qualities and properties of those objects" (Gosden and Knowles, 2001: 22-23).

[13] See for example Brotton (2012) and Koot (2017).

> [Maps'] material nature provides crucial information about how maps *circulated*, binding certain producers and certain consumers together, and so establishes their discursive context and the potential for their interpretation.[14]

This focus on circulation brings together a variety of concerns, from the commercial history of map publishing to the role of mapping in the history of science. In the latter context, maps have often been deemed to be Latourian "immutable mobiles", stabilising geographical information in material form and enabling it to be communicated across space. However, advocates of a more consciously biographical approach to map objects have emphasised the possibility that they may acquire new meanings and even new material forms in the process of their circulation (being altered and added to by their users), suggesting that they might better be described as "mutable mobiles" (Della Dora, 2009: 251). In this vein, Veronica Della Dora has argued that "cartographic representations are transitory and fleeting products of specific physical encounters in space and in time. Every encounter with the map implies particular sets of gestures. It also implies different types and degrees of participation and co-authorship between the map-maker and the map user, as well as different types of appropriation and degrees of intentionality" (Della Dora, 2009: 252).

Given the importance of the circulation of maps between different spaces in the studies which follow, it may in fact be more useful to think in terms of "object itineraries" or "object trajectories" than object biographies.[15] While the idea of "biography" implies a certain linearity, the spatial focus of the term "trajectory" lends itself to the study of the mobilities of maps. As Elizabeth Rodini (2018) has argued in a recent study of Levantine objects in early modern Venice, the idea of an object's trajectory focusses less on a singular origin (its

[14] Edney, M. (2018) *The Materiality of Maps* [Online]. Available at: https://www.mappingasprocess.net/blog/2018/8/16/the-materiality-of-maps (Accessed: 07 December 2020).

[15] The terms "object itineraries" and "object trajectories" are used in two recently published edited collections, firstly in Joyce and Gillespie (2015); and secondly in Driver, Nesbitt and Cornish (2021).

provenience in archaeological terms) than on its passage through different hands and places over the course of its circulation. In the analysis of maps presented in Chapters 4-6, I likewise focus on moments in a map's "trajectory" when there was active exchange between the map and a person, or a group of people: in the course of its creation, alteration, mobilisation, circulation, accession, and display. Significantly, this focus also helped to highlight the presence of Indigenous people at key moments of production and exchange.[16]

The tracing of the trajectories of maps involves working with a variety of sources as well as close readings of the maps themselves. Attention to the detail in the form of maps, as well as their original inscriptions and notes or stamps added after their accession to the RGS, is an essential part of telling their story, as it is of any museum object. This will become clear in the specific case studies to follow, where details of language, iconography, caption, and materials provide vital clues to the origins and subsequent lives of these objects. While such maps were rarely the subject of detailed description at the time of their accession, there are exceptions, including the Red Sea chart which is the subject of Chapter 4. In this case, the map was presented in the RGS's *Journal* in the form of a coloured lithograph, accompanied by an article written by its donor. More commonly, maps accessioned to the Society may be included in lists of recent acquisitions to the Map Room and the Library published in the *Journal* (these lists appeared regularly from the 1870s to c.1960), providing important information on the exact date a map first entered the collection.

Accessions registers also offer potentially useful information about items added to the Society's map collection. From the middle to the end of the nineteenth century, the register for the RGS Map Room comprised a series of large, handwritten volumes—each of them spanning

[16] However, it also emerged that these were the moments usually least documented in the colonial archive. For example, there is very little information about the Gujarati pilot who created and used the Red Sea chart before its acquisition by the East India Company officer Alexander Burnes in 1835. Similarly, the movements of the Tibetan map of Sikkim can be relatively easily traced from the moment it was seized by the British Indian army onwards, but not beforehand.

roughly a decade—that record every item chronologically as it entered the Society's collection.[17] The evidence available in the register differs significantly from the catalogue (discussed below) as it describes maps at the moment of their accession: for example, it may group together maps that were donated by the same individual.[18] This contrasts with the presentation of information in the catalogue, which itemises individual maps separately and gives priority to map creators and publishers. For example, the Tibetan Map of Sikkim discussed in Chapter 6 is listed in the accessions register but not the catalogue as being donated by the Geological Department of the Survey of India.[19] Similarly, in the case of the collection of Burmese and Shan maps discussed in Chapter 5, it is only in the accessions register that they are all listed as being part of one collection, having been donated on the same date (25 March 1875) and by the same person (John Coryton).[20]

The RGS catalogue is a further source of information, listing a map's given title, its date of publication (where appropriate), its creator (if known), its publisher (if printed), its dimensions, its material, and the geographical region it depicts. While contemporary researchers at the RGS rely heavily on the electronic catalogue, available online, it is important to understand the history of the catalogue prior to its digitisation. The first printed catalogue of the RGS map collection was published in 1882 and its contents were arranged hierarchically by scale, which worked well for Western printed maps but not for maps without a consistent scale, including most "native" maps in the collection.[21] In the late nineteenth century, due to the challenges of cataloguing and

[17] No such accessions registers have survived for the first few decades of the Society's existence; it is possible that they were never created in the first place, or that they were destroyed (along with other collections materials) in the Second World War (Eugene Rae, pers. comm., 2019).
[18] The pages of the accessions register are divided into three columns, headed, respectively, "Title of Maps &c.", "When Received" and "Donors".
[19] RGS-IBG *Accessions Register to the Map Room* (1890s), p. 278.
[20] RGS-IBG *Accessions Register to the Map Room* (1870s), p. 241-243.
[21] In 1877 the RGS established its own Drawing Office, principally to produce maps to illustrate the Society's publications and papers given at evening meetings (before then, the RGS had to rely on external mapmakers to create the required materials) (Holland, 1980; Herbert, 2018). The staff in the Drawing Office had clear ideas about what constituted a map, and, moreover, what constituted a useful map. For example, maps that did not conform to Western conventions were not regarded as particularly worthy of reproduction (see Chapter 4).

managing a large collection, the catalogue was recreated in the form of card indexes, managed by the Society's map curator and arranged, like the printed catalogue, by region and scale.[22] These cards, still available in the Society's Reading Room in their original from (some handwritten, others typed), were microfiched in the late 1990s and early 2000s (Millea, 2002). In 2001-2, as part of the RGS's *Unlocking the Archives* project,[23] the same cards provided the basis for "retroconversion" of the catalogue into digital form.[24] Today, the online catalogue is continuously updated by the Society's staff.[25]

In addition to the records described above and other materials held at the RGS, my research for the case studies drew on unpublished and published archival materials in a variety of other locations. Particularly important to this project, because of its focus on colonial South Asia, were the India Office Records held at the British Library. These records included the archives of the Survey of India, which was responsible for reproducing (in the form of tracings and lithographs) several of the maps discussed in this thesis, as well as the official records of the military expedition of 1888 during which the Tibetan map discussed in Chapter 6 was seized. Consulting archives beyond the imperial metropole was also a part of the process of research. For example, the manuscript originals of the Burmese and Shan tracings held at the RGS and discussed in Chapter 5 are located in the National Archives of India in Delhi: indeed, this project is the first to reconnect the disparate parts of this map collection, after nearly 150 years.[26] Finally, the case studies also draw substantially on print and digital sources, especially in the form of

[22] The series mentioned in the current card index (for post 1940 accessions) are General; Division; District; and Special.
[23] The *Unlocking the Archives* project was funded by the Heritage Lottery Fund. Preceded by various cataloguing and conservation projects, the major strands of this project were the new buildings including the Foyle Reading Room, collections store, and the exhibition pavilion; and the public outreach programme that became *Crossing Continents*.
[24] For an account of the development of card catalogues and their retroconversion into digital form, see Driver (2020), "Notes on the Catalogues, Microfiches, Lists and Registers of the RGS Collections" (unpublished).
[25] In 2019, the RGS combined with Wiley, a commercial publisher, embarked on a major programme of digitisation, including many of its most important collections.
[26] For a list of this collection including the holdings at both the RGS and the National Archives of India, see Appendix 1.

books, periodicals, and newspapers. Print sources included a wide range of materials, including sailing directions, expedition narratives, scholarly works, colonial gazetteers, and the publications of learned societies, including those of the RGS and others, from the Ethnological Society to the Asiatic Society of Bengal.

3.5 Conclusion

The three case study chapters in this thesis present Indigenous maps as troublesome objects in the RGS collection. These maps are troublesome in a double sense. Firstly, they were difficult to accommodate within the collections of the Society. They stand out by their definition in the Society's records as "native" and also by the way in which the RGS treated them in comparison to Western printed maps. Occasionally attracting the interests of Fellows, these maps were pushed to the margins of the collection. This treatment of the maps reflects the wider ambivalence over Indigenous knowledge within colonial-era map collections, a topic which I explore further in all of the case study chapters to follow. Secondly, these maps might be described as "troublesome" because my studies of them seek to trouble existing interpretation of the RGS map collection. This Chapter has discussed how some of the critical histories of the RGS risk overemphasising the power of the Society as an imperial centre. Other work on colonial-era map collections has primarily concentrated on the theme of Indigenous erasure. The case studies in this thesis show that Indigenous contribution to the RGS map collection has neither been fully erased nor is it particularly well hidden (the maps I analyse are easily discovered using the online catalogue, for example). Rather, I show that by considering these maps in their material form and analysing the contexts of their trajectories, which included a dialogic research process especially in regards to

language and translation,[27] a more nuanced picture of the process of geographic knowledge creation during the European colonial era and the RGS's role in this process can be revealed.

[27] I made it a priority to consult experts whose background overlapped with that of the maps I was investigating, i.e. I wanted to work with translators who were native speakers. I saw in this one way of acknowledging non-Western perspectives in my research. Many thanks to Tsering Drongschar, Rupi Shah, May Kyi Han, and Christian Gilberti for translating map inscriptions for me.

Figure 3.1 British India, c. 1900.

Figure 3.2 The Map Room of the Royal Geographical Society at 1 Savile Row. Photograph taken by Bedford Lemere, 1912.

Source: RGS-IBG PR/025941 © RGS-IBG

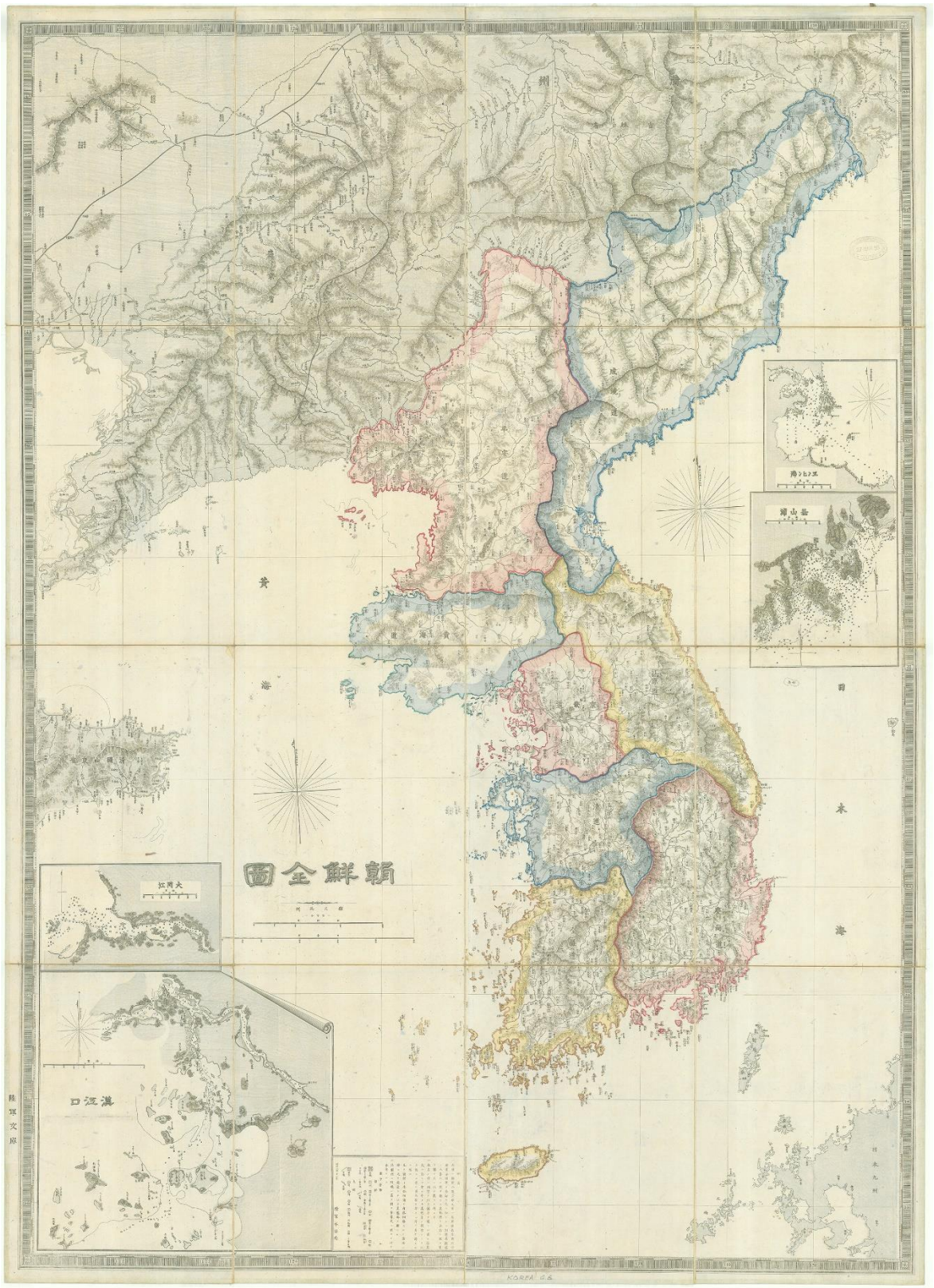

Figure 3.3 "Japanese Map of Korea based on native Korean maps". Printed map accessioned into the RGS collection in 1875.

Source: RGS-IBG mr Korea G.6. © RGS-IBG

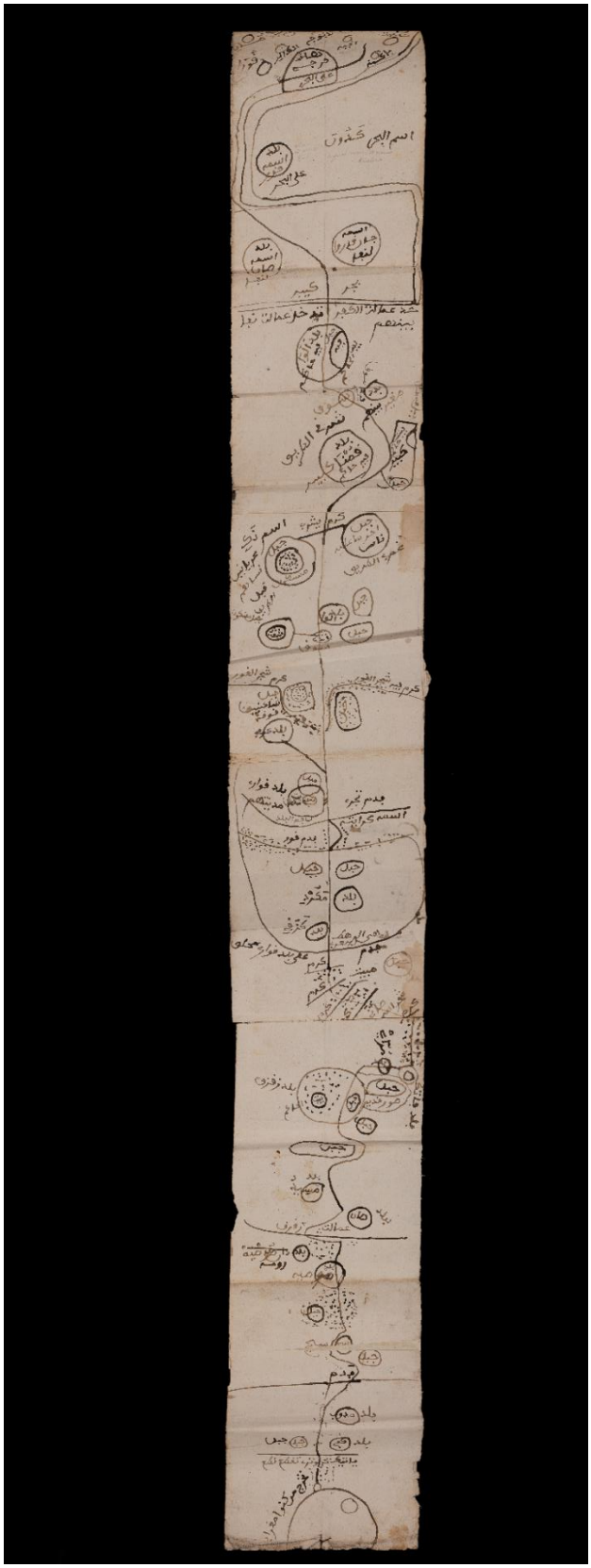

Figure 3.4 Manuscript route maps across the Sahara Desert created by Arab slaves and traders for the British explorer Hugh Clapperton in the 1820s.

Source: RGS-IBG mr Portfolio 338. © RGS-IBG

Figure 3.5 Tracing of a Japanese wood-cut map executed in 1860 by the diplomat Sir Rutherford Alcock on an Indigenous oil-paper rain coat.

RGS-IBG mr Japan S. 117. © RGS-IBG.

CHAPTER 4

A Gujarati chart of the Red Sea: Indigenous knowledge, Orientalist discourses, and Company collecting

4.1 Introduction

The sixth volume of the *Journal of the Royal Geographical Society*, published in 1836, contains a coloured lithograph of a "Native Indian Chart" (fig. 4.1).[1] The engraved image depicts a long, narrow body of water: the Red Sea conjoined with the Gulf of Aden. The coast is sketched without much topographical detail as a uniformly curvy, red line; the only stand-out features are the indentation into the water made by the "Straits of Bab el Mandeb" (Bab al-Mandab Strait), marking the transition from the Red Sea into the Gulf of Aden; and the right-angled Cape Guardafui, the geographical apex of the Horn of Africa. Five settlements are represented by the symbols of large flags; two of them are also marked by depictions of built structures. Of those marked with flags, only one (Mocha, in Yemen) is named. The town of Jiddah (Jeddah) is also named, though it lacks any of the other visual identifiers. Four ships are visible on the water, rendered in profile and with enough detail to distinguish them as different kinds of vessels (at least three of them appear to be European sailing ships). Numerous long arrows signify the ships' sailing routes across the water. The caption given to the lithograph doubles as an explanation for its inclusion in the *Journal*: it was meant to "illustrate the Paper by Lieut. A. Burnes, E.I.C.S.".[2] Originally read to the Geographical Society of Bombay in January 1835, this paper, written by the East India Company officer Alexander Burnes, discussed the manuscript original on which the

[1] *JRGS*, 6, 1836: 113. The dimensions of the inset image are 5 cm x 18.5 cm.
[2] *Ibid.*

lithograph was based. This "Native Indian chart", as it is titled in the RGS's online catalogue (hereafter it will be referred to as Red Sea chart), was donated by Burnes to the Society in 1836 and provides the focus of this chapter (fig. 4.2). [3]

Burnes explains that he had acquired the original chart from the Gujarati "'moalum' (pilot) of a boat which had just finished the voyage [from Arabia to Gujarat], and in which I myself sailed from Bombay to Kutch, in May 1835" (Burnes, 1836: 26).[4] The image printed in the RGS's *Journal* resembles the original chart only in the most basic way: the rough shapes of the Red Sea and the Gulf of Aden are recognisable, both images depict ships sailing along directional lines, and there is a similar use of colour.[5] However, the dimensions of the original chart (195 cm x 24.5 cm) have been drastically changed: the shape of the manuscript has been converted into a less elongated form suitable for reproduction onto a page of the *Journal*.[6] In part due to the significant reduction in size, the reproduction contains much less detail than the original. For example, in the depiction of the coastline, the representations of little islands and shoals in the water, and the way in which the ships (twenty-five in total) are rendered. The printed image also contains much fewer inscriptions than the manuscript.[7] On the front of the original chart, place names are inscribed in Gujarati and English; and the chart's reverse is covered tightly in Gujarati script (fig. 4.5).[8] Overall, the original chart appears to have much less in common, in stylistic terms

[3] "A Native Indian chart of the coast of Arabia and the Red Sea", RGS-IBG mr Asia S. 4. See fig. 4.3 for another image of the chart.
[4] For a map showing the general location of the Red Sea, the Arabian Sea, and Gujarat, see fig. 4.4.
[5] Red and yellow are the dominant colours on both the manuscript and the lithograph. While the manuscript uses colour sparingly, it is more conspicuous on the lithograph (for example, the whole coastline is traced with a thick, red line. On the manuscript, the coastline is represented with black ink only).
[6] The aspect ratio of the manuscript is 130:17, while for the lithograph it is 37:10.
[7] There are four inscriptions on the printed image (all of them place names), while the manuscript has more than fifty.
[8] This text, which does not have any direct relation in its content with the chart, is discussed in greater detail at the beginning of the next section.

at least, with Western charts than its reproduction: the Gujarati inscriptions written in Devanagari script situate the chart firmly in a South Asian context.[9]

In the article accompanying the lithograph of the Red Sea chart published in the RGS's *Journal*, Burnes argues that the original document proves that "the natives of India themselves *and not the Arabs*, conducted the trade between India and Egypt" (Burnes, 1836: 28, italics in the original). The topic of trade in the Red Sea region and its history was discussed in no less than four other papers published in the same volume of the *Journal*,[10] including one written as a direct response to that of Burnes by Lieutenant J. R. Dickinson, an officer in the 14th regiment of the Bengal Native Infantry.[11] Dickinson contradicts Burnes' argument, maintaining instead that the Indian Ocean trade originated not in India but in the Arabic world: "when we view the vast extent of the Arab settlements, and the diffusion of their language and religion to the eastward; (…) we are bound to subscribe to the opinion (…) that the Arabs, and not the Indians, were in ancient times the great carriers of the Indian trade, and the first navigators of the Indian seas" (Dickinson, 1836: 119). This debate, conducted using historical source material as evidence (including the Red Sea chart itself), had a wider contemporary significance: by the 1830s (well before the opening of the Suez Canal some thirty-nine years later), the Red Sea had become an important link between the commercial zones of the Mediterranean and the Indian Ocean and was crucial for the transport of goods and people between Britain and her Asian empire. Famously challenging to navigate—the coral reefs in the Red Sea are "more numerous and more extensive than in any other body of water"[12]— no comprehensive European survey of this ocean was conducted until

[9] Devanagari is a left-to-right, alphasyllabary script used for over 120 languages in South Asia.
[10] Wood (1836), "Extract From Lieutenant Wood's Private Journal Regarding the Lakeradeevh Archipelago"; Wellsted, (1836) "Observations on the Coast of Arabia Between Ras Mohammed and Jiddah" and by the same author, "Notice on the Ruins of Berenice"; Dickinson (1836) "Observations on the Ancient Intercourse With India, Suggested by Some Remarks Contained in a Paper Communicated by Lieutenant A. Burnes to the Geographical Society of Bombay, on 'The Maritime Communication of India, As Carried on by the Natives'".
[11] The regiments of the Bengal Native Infantry (alongside the regiments of the Bengal European Infantry) formed the infantry components of the East India Company's Bengal Army.
[12] *The Red Sea and the Gulf of Aden Pilot* (1892: 2); cited in Searight (2003: 40).

1829, when the East India Company launched an expedition carried out by the naval commanders Robert Moresby and Thomas Elwon.

This Chapter will examine the role played by Indigenous maps and charts, specifically the Red Sea chart, in the creation of Western hydrographic knowledge about the Red Sea; a process which itself was situated within a wider context of Orientalist research about the Indian and Arabic maritime worlds. By analysing the multiple contexts of discourses around the acquisition of the Red Sea chart by officers of the East India Company, this Chapter will examine the connections between Company collecting, intelligence gathering for the purposes of military conquest and trade, and the creation of geographical knowledge. Firstly, the Red Sea chart is placed within the historical contexts in which it circulated in the Indian Ocean (4.2). The next section of the Chapter looks at the way in which modern scholars have interpreted the Red Sea chart: their arguments have stayed remarkably similar to those presented by Burnes in his *JRGS* paper in 1836 (4.3). The discussion then moves on to the reception of the chart once it came into Burnes' possession; firstly in the context of East India Company collecting practices (4.4); and then in relation to the Company's hydrographic survey of the Red Sea (4.5).

4.2 The Red Sea chart in context

While the lithograph of the Red Sea chart printed in the *Journal of the Royal Geographical Society* conveys the impression that the chart was complete and its physical condition pristine, the manuscript which Burnes donated to the RGS tells a different story. Firstly, the original appears to be unfinished: on its left-hand side, which depicts the northern end of the Red Sea including the city of Jiddah, the coastline has been left as a sketch without the addition of the black and red scalloped border that makes up the sea's coasts on the rest of the chart. Moreover, islands,

shoals, and inscriptions are completely absent.[13] Secondly, the original chart sustained significant damage. Its right-hand side is missing a sizeable piece in the top corner, which presumably would have depicted further details of the Gulf of Aden. Although the reproduction of the chart is also missing this corner, there is nothing to suggest from the image that this was not simply the original shape of the chart. The ragged edges and the abruptly ending coastlines of the original, however, leave no doubt.[14]

Another striking difference between the original and the copy is the missing Gujarati text, written in tight script on different scraps of paper, which comprise the reverse of the manuscript.[15] The text (which is undated) is not concerned with navigational themes and therefore appears to be unrelated to the chart itself: it includes lists of prices of household goods, noted in a typically Gujarati style;[16] a list of goods from a grocer; and a letter referring to family matters in an Ahmedabad household (concerned parents urging their daughter to return home following the death of her husband).[17] While there is no direct evidence regarding when or why these papers were affixed to the chart, this was presumably done to reinforce its deteriorating physical form. Unremarked upon by Burnes, these scraps add to the interest of the chart as a material object, making its physical form more layered. Moreover, they transform it from a document used in a maritime context to one connected to land: the text situates the chart firmly within a Gujarati setting, adding weight to Burnes' recounting of its provenance.

[13] While it might indicate an unfinished mapmaking process, it could also represent the uneven geographical knowledge of the mapmaker. B. Arunachalam (1987: 218), a pre-eminent scholar on Gujarati cartography, has remarked how precise the chart is for the coasts around the Gulf of Aden, while the shores of the Red Sea are depicted somewhat less accurately.

[14] None of the modern scholars who have written about the Red Sea chart, including Arunachalam (1987), Joseph Schwartzberg (1992) and Samira Sheikh (2009) refer either to its unfinished state or to its damaged condition.

[15] In his article, Burnes neither refers to the damage sustained by the original chart nor to the text on its reverse. Modern scholars only refer the text fleetingly without incorporating it into their analyses.

[16] With a vertical line after a number denoting a quarter; two vertical lines meaning half; and three vertical lines meaning three quarters (Rupi Shah, pers. comm., January 2020).

[17] Thanks to Rupi Shah for her help with these translations.

In his article, Burnes does not dwell on the chart's inscriptions nor does he explain what it depicts, opting, instead, to cite other scholarly publications dealing with the history of Indian seafaring and shipbuilding. For example, rather than classifying the different types of vessels shown on the chart, Burnes refers to a paper written by the maritime surveyor John Edye, for "a minute account of all the craft used in the Indian seas" (Burnes, 1836: 25). In this paper, published two years prior to Burnes' in the *Journal of the Royal Asiatic Society*, Edye describes a typical ship built in Cutch (Kutch) on the Indian West Coast called "Baggala or Budgerow" (Edye, 1834: 12), which, according to Norbert Weisman (2012) corresponds to craft pictured on the Red Sea chart.[18] Not all of the vessels on the chart are of Indian origin: there is also an "Arab Dow" (sic.).[19] Both types of craft were, so Edye says, used as trading vessels, carrying "dates, fruit, preserves, *Shiraz*-wine, and horses; and take back rice, *coir*, canvas, coconuts, oil, timber, *damar,* &c., the various articles of cloth of the country manufacture, and from Bombay, European articles of every description" (Edye, 1834: 12).

Burnes' principal interest in the Red Sea chart lay in the evidence it provided concerning the extent of Indian trade networks in the 1830s. He recounts the voyage the Gujarati pilot, from whom Burnes acquired the chart, had just completed:

> In the beginning of this year [1835], the boat named Veerasil sailed from Mandavee [in Cutch]: she (…) was commanded by a Mohammedan, and had, besides the master, a crew of five Moslems, three Rajpoots and a young negro boy. The cargo consisted of the coarsest cotton cloth, the sale of which was managed by a Hindoo. From Mandavee they stretched out at once to sea, made the coast of Arabia, and touched at Sere, Maculla and Aden, disposing of their goods as they proceeded, till they reached 'Barbar', in the sea of Babool-Mandeb, and outside the Straits of that name. [20] (…) Barbar is annually frequented

[18] Edye describes these vessels as "very broad in proportion to their length, with a sharp rising floor: the stern is straight" (Edye, 1834: 12); and adds that "this singular and rude vessel (…) is peculiarly adapted to the coasts of Arabia and the Red Sea, which are subject to periodical winds, during which these vessels are navigated at ease" (Edye, 1834: 13).

[19] According to Edye, this type of vessel as "about eighty-five feet long, from stern to stern", with "a great rise of floor" (Edye, 1834: 11). On the outside "there is a coat of white-wash"; and these vessels generally have "one mast, and a latteen-sail", with the "mast raking forward, for the purpose of keeping this ponderous weight clear, in raising and lowering" (Edye, 1834: 11).

[20] The towns of Sere (present-day Shihr in Yemen), Maculla (present-day Mukalla, also in Yemen), Aden and "Barbar" (present-day Berbera in Somaliland; "Barbara" on the Red Sea chart) are clearly marked on the

> by about 100 vessels from different parts of India, during which time a regular fair is held on the sea-beach (Burnes, 1836: 27).[21]

Although, elsewhere in his article, Burnes refers to an earlier history of trade in the Red Sea and the Indian Ocean, which predates the arrival of Europeans, he does not make a direct connection between the chart and this history, focussing instead on the chart's contemporary use. Modern scholars have dated the chart back to the early seventeenth century, however, connecting it to a much longer history of trade between the Indian and Arabic worlds.

By the beginning of the eighteenth century, the Red Sea had become one of India's principal trading markets overseas (Das Gupta, 1979).[22] Indian merchants set out from the port cities of Surat and Diu, selling their wares (primarily rough cotton cloth) along the Red Sea coast (Das Gupta, 1979: 124). The annual patterns of trade were determined to a significant extent by the religious event of the Hajj.[23] The great influx of pilgrims arriving at the ports of the Red Sea during their journey to Mecca meant that the market for coffee and textiles increased considerably (Das Gupta, 1979: 123). Moreover, the transport of pilgrims provided another important source of income for ship-owning merchants (Agius, 2013: 84).[24] Over time, Indian traders settled in Arabic and African coastal towns including Aden, Mocha, Jiddah, and Massawa

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Red Sea chart in Burnes' own handwriting. All of these towns were prominent trading posts in the nineteenth century (Agius, 2013).

[21] Berbera (and its annual fair) was described by Freeman Hunt in 1856 in the following way: "The only seaports of importance on this coast are Feyla and Berbera; the former is an Arabian colony, dependent on Mocha, but Berbera is independent of any foreign power. It is, without having the name, the freest port in the world, and the most important trading place on the whole Arabian Gulf. From the beginning of November to the end of April, a large fair assembles in Berbera, and caravans of 6,000 camels at a time come from the interior loaded with coffee (considered superior to Mocha in Bombay), gum, ivory, hides, skins, grain, cattle, and sour milk, the substitute of fermented drinks in these regions; also much cattle is brought there for the Aden market" (Hunt, 1856: 694).

[22] See also Das Gupta (1982, 1985) and Chaudhuri (2014).

[23] The Hajj occurs from the 8th to the 12th (or sometimes the 13th) of Dhu al-Hijjah, the last month of the Islamic calendar. The Islamic calendar is lunar, which means that the Islamic year is about eleven days shorter than the Gregorian year; therefore, the Gregorian date of Hajj changes each year.

[24] Seeing as most Red Sea pilots would transport both pilgrims and trade goods at different times of the year, modern scholars have suggested that the pilots who sailed on the Red Sea when the Red Sea chart was produced were most likely engaged in both of these activities something which Burnes does not mention at all in his study of the chart (Schwartzberg, 1992; Sheikh, 2009; Arunachalam, 1987).

(Mitsiwa). In the 1830s, when Burnes travelled along this route, merchant families from Gujarat were still living in these coastal cities. The British surveyor and traveller James Raymond Wellsted commented in 1838, that "between Basrah in the Persian Gulf and Hodeidha in the Red Sea, almost every town on the coast of Arabia contains several families of this wily race [Gujarati merchants], who confine themselves exclusively to commercial pursuits" (Wellsted, 1938: 368). Similarly, in the African port of Massawa, Indian merchants had lived "for centuries", the French traveller Guillaume Lejean wrote in 1865 (quoted in Pankhurst, 1974: 199). Meanwhile, Arab traders had settled in the cities on the Indian west coast, and their influence was seen as being so dominant, especially in Bombay (Mumbai), that the British felt compelled to take economic measures against them such as imposing tariffs for Arabic trading vessels (Benjamin, 1976).

In his discussion of the Red Sea chart, Burnes questioned the predominant British view at the time that Arab merchants were controlling the Indian Ocean trade. In the twentieth century, historians such as Richard Pankhurst (1974) have provided evidence in support of this view regarding the influence of Indian traders in the Gulf of Aden and the Red Sea, though others such as Naseeb Benjamin (1976) have argued that the Arabs had the upper hand. Whatever view of the evidence on the relative influence of Indian and Arab merchants is taken, it is undeniably the case that there were long-term connections, both cultural, religious, and in relation to trade between Gujarat and the Arabic world via the Red Sea. The Red Sea chart demonstrates this history in its depictions of both Arabic and Indian vessels in the same space, and in incorporating elements from various cartographic traditions (more about this in the next section). While the chart certainly points to the expanse of Gujarati trading networks, which Burnes was so keen to emphasise, it also shows that these trading networks were far more cross-cultural for much longer than Burnes suggested.

4.3 Continuity and change in the interpretation of the Red Sea chart

Burnes was mystified by how exactly Gujarati pilots might have used the Red Sea chart for navigation. He commented on the chart's lack of apparent topographical accuracy, stating that it represented the eastern coastline of the Red Sea and the Gulf of Aden as a "direct line, without any reference to longitude or latitude", when in reality it curves in an almost ninety-degree angle at the Bab-el-Mandeb Strait (Burnes, 1836: 25). For Burnes, the fact that the chart "however rude (…) served the purpose of the voyage" added to its interest; even though modern European charts were readily available in India at the time, Gujarati pilots evidently saw no advantage in using them or in including information from them in their own charts (Burnes, 1836: 26). Burnes further believed that this unique Gujarati document would thus "form a specimen of naval surveying which is unequalled in any of the cabinets of Europe" (Burnes, 1836: 25).

As far as can be measured by the extent of scholarly attention it has received, Burnes' prediction was not wide off the mark: the chart has been a frequent object of study for scholars, librarians, and curators, who concur with his judgement that it is unique.[25] In 2009, Samira Sheikh wrote that "most modern writing about early Indian maritime maps has been based on the analysis of manuscripts in the National Museum, New Delhi, and on a single map in the Royal Geographical Society, London, all of which are Gujarati in origin" (Sheikh, 2009: 75).[26] It is perhaps

[25] The earliest published reference I have found to the Red Sea chart after the 1836 article in the *Journal of the Royal Geographical Society,* is in Albert Kammerer's, *La Mer Rouge: L'Abyssinie et l'Arabie aux XVIe et XVIIe siècles et la cartographie des portulans du monde oriental : Etude d'histoire et de géographie historique, 3 vols*., *Mémoires de la Société Royale de Géographie d'Egypte, 17* . Cairo : Institute Français d'Archéologie Orientale pour la Société Royal de Géographie d'Egypte, 1947-52. This publication contains a facsimile of the Red Sea chart (now in the collection of the Bilbiothèque National de France in Paris) in vol. 1., pls. LXXII-LXIII; and p. 132 provides a description of the chart. Edgar Blochet provided transliterations of the Gujarati text into French (Schwartzberg, 1994: 499).

[26] The manuscripts in the National Museum, New Delhi (MS. 82.263) consist of a set of Indigenous maritime manuals, one of which contains five maps of part of the coastline India and Sri Lanka, accompanied by sailing directions dating from 1664 (Sheikh, 2009: 75). Sheikh describes the maps as follows: "the maps are line drawings, in ink and watercolour, of sections of the western part of the South Indian coast. They include shoreline features such as elevation, vegetation and buildings visible from the sea (…). Islands are shown, and shallows and sandbanks are indicated by stippling. Port names are written in the land area and are accompanied by Pole Star-derived latitudes. Distances between ports or between the land and the observer's vantage point are indicated in *ja¯ms* (Arabic *za¯ms)*, a unit used by both Arab and Indian sailors to indicate the distance sailed during a watch of three hours" (Sheikh, 2009: 75). For further discussion of these manuscripts, see Arunachalam (1987: 203-217).

due to this relative dearth of manuscript sources that modern scholars engaged in the study of early modern Gujarati cartography continue to rely on Burnes' 1836 article to interpret the Red Sea chart. For example, Sheikh, Joseph Schwartzberg, and B. Arunachalam all reproduce Burnes' belief in the lack of European influence on the Gujarati mapping tradition.

In the first landmark study of Gujarati charts, published in 1987, Arunachalam concludes that neither the collection of Gujarati maps held in the National Museum in Delhi nor the Red Sea chart at the RGS show any evidence of European influence. With none of the maps drawn to scale or including latitude and longitude, and with relative distances indicated by sailing times, Arunachalam believes that these maps exhibit the characteristics of an independent Gujarati cartographic tradition. Schwartzberg, who includes an image of the Red Sea chart in his chapter on "Nautical Maps of South Asia" in the *History of Cartography* series (1992), concurs. He states that the fact that "Gujarati pilots, even after seeing and copying European charts, continued to rely on charts of their own device suggests their ongoing faith in the reliability of the latter as an aid to navigation" (Schwartzberg, 1992: 501). Schwartzberg argues that this "does not, of course, imply that one type of chart was inherently superior to the other, since there is normally a cultural predisposition in favour of what is familiar"; yet, directly echoing Burnes, he is led "to believe that Gujarati navigators saw no great advantage in converting to charts of Western origin" (Schwartzberg, 1992: 501). Sheikh broadly agrees with Schwartzberg and Arunachalam (and indeed Burnes) on this point (Sheikh, 2009: 75). At the same time, however, she concedes that there are other contemporary examples of Indian charts (including the seventeenth-century Gujarati charts which form the principal focus of her study) that were influenced by contact with European navigators. Sheikh concludes that these charts contradict the traditional belief that Indian sailors relied on oral testimony rather than physical charts to navigate, "being resistant to outside influences and to 'modern' techniques" (Sheikh, 2009: 76).

Without providing an account of its iconography, Burnes asserted that the Red Sea chart was used by Gujarati pilots for navigation on the Red Sea and that it was free from Western influence. The gist of this argument has endured in recent scholarship. Just as persistent has been Burnes' characterisation of the Red Sea chart as a unique document, worthy of presentation precisely because of its rarity. The same rationale led to its display at the 2012 exhibition *Hajj: Journey to the Heart of Islam* at the British Museum in London. The exhibition catalogue included a large colour reproduction of the Red Sea chart (p. 183), its caption describing the use of the chart as solely for "transporting pilgrims to Mecca on Hajj", giving little sense of the complexity of its history.[27] The chart was thus displayed in this exhibition as a visually intriguing yet little understood exhibition piece.[28] In order to gain a better understanding of the chart's reception in the West, the next section of the Chapter will look in greater detail at the circumstances of its acquisition by Burnes in 1835.

4.4 A "Company curiosity"?

Alexander Burnes collected a variety of objects during his employment in Asia, which lasted a total of eighteen years between 1821 and 1841 (he returned to London for two years, from 1833 to 1835). He donated some of these artefacts to other institutions in Britain; for example, a Persian manuscript and an Indigenous camel coat were gifted to the Royal Asiatic Society.[29] Burnes was one of many East India Company officers who collected artefacts when living and working in India and Central Asia. Well before 1801, when the Company established its own

[27] In preparation for the British Museum exhibition, no further research was conducted on the origins of the chart, nor were its various inscriptions translated (Venetia Porter, pers. comm., September 2019).
[28] The image of the Red Sea chart has also been utilised to illustrate numerous other events and articles. For example, it was used as the promotional image for the 2020 international conference *Anthropology and Geography: Dialogues Past, Present and Future*, organised by the Royal Anthropological Institute and the Royal Geographical Society; and it illustrated the title page of an article in *History Today* by Gagan Sood (2018) titled "Islamic Heartlands and India in the 18th century: the chance survival of a 'postbag' of letters reveals a lost world of merchants, pilgrims, bankers and scholars".
[29] Royal Asiatic Society accessions register.

museum in London (fig. 4.6), collecting had become a matter of official policy for the East India Company. In a Despatch to Bengal from 1777, the Court of Directors declared

> It is, at all times our wish to consider the merits of such an act, in any capacity, under our service or protection, not only in the immediate branch of their shared duties or employments, but in every application that may enlarge the minds of our Servants in general to liberal and useful enquiries (quoted in Desmond, 1982: 4).

The establishment of the India Museum, designed to house natural history specimens and ethnographic objects, was justified in the language of enlightened science. However, it would be wrong to assume that the Museum's collection was assembled in a particularly systematic or scientific way: as Jessica Ratcliff has demonstrated, the majority of the collection was "gathered in the wake of military campaigns, trade missions, or administrative surveys" (Ratcliff, 2016: 465). Only once these colonial trophies had been accessioned into the Museum's collection, were they transformed into "the stuff of science, going on to feed the growth of disciplines, societies, and projects in Britain and beyond" (Ratcliff, 2016: 465).[30] Described by Ray Desmond (1982: 1) as "a bewildering confusion of curious and colourful objects", the Museum's collection comprised plant and animal specimens and botanical drawings; commodities brought to London by Company ships, including ivory, tea, and spices; and a great variety of other artefacts and specimens, ranging from manuscripts, paintings, and religious paraphernalia, to a ball of hair found in the stomach of a goat (Desmond, 1982: 17, 26). Thanks to its colourful collection, the Museum soon became associated with a metropolitan desire to see the exotic curiosities of Britain's colonies. *The Times* summarised the popular appeal of the Museum in the following way:

> In the old Museum, which has so long been one of the sights of London, trophies of war were the most conspicuous objects, and the specimens of natural history and rare literary treasures were secondary attractions compared with the silver-elephant-howdah and the tiger organ of Tipoo Sultan (quoted in Desmond, 1982: 42).

[30] See also Ratcliff (2019).

The motivations for collecting amongst individual Company officers were as diverse as the artefacts they obtained. Besides collecting on the Company's orders, individual officers also acquired objects as personal mementoes, and these objects frequently stayed within families for generations (Ratcliff, 2016: 502; Finn and Smith, 2018).[31] Maya Jasanoff has argued that the collecting practices of Company servants were a "form of self-fashioning":

> You are what you own. Possessions are critical indicators not only of personal taste, but also of social milieu, wealth, education and status. By acquiring them one can craft and advertise a particular persona (Jasanoff, 2004: 111).

Jasanoff continues that for Company men—particularly those who travelled to India not in a governing capacity but as civil servants, surveyors, and army officers—collecting presented an opportunity to elevate their social status upon their return to Britain, by projecting the new self-image of a "cosmopolitan gentleman-connoisseur" (Jasanoff, 2004: 110). In the edited collection *The East India Company at Home*, Margot Finn and Kate Smith have demonstrated that the act of "self-fashioning" through acquiring objects (as well as acquiring "wealth, tastes and identities") in India extended from individual officers to their families and social networks (Finn and Smith, 2018: 3).[32] Objects obtained by Company employees thus had a wide-ranging influence in British society, shaping tastes, helping families gain affluence, and forming the image of the Indian colonies at home (Finn and Smith, 2018).

It is not difficult to imagine that an artefact such as the Red Sea chart could in principle have found a place in the collections of the India Museum. Not only was the chart unusual and evidently antique, but it also contained Indigenous script which made it an object of interest in the context of Orientalist research. Although it was donated by Burnes to the Royal Geographical

[31] Maya Jasanoff has demonstrated that some Indian objects were sold on the London art market by auction houses such as Christies, although many more stayed within families (Jasanoff, 2004: 111).
[32] See also Margot Finn's Presidential Addresses about the "Material Turns in British History" for the Royal Historical Society, published in the Society's *Transactions* (2018, 2019, 2020).

Society and not the India Museum, it is still useful to consider the chart in the context of the East India Company's collecting practices: its association with one of the Company's best-known officers influenced the chart's reception in Britain. While Burnes had a rather unusual career later on in his life, his biography shares many characteristics with other East India Company collectors, as identified by Jasanoff. His middle-class and rural background was typical; and his early career in India, too, is somewhat representative (if a little accelerated) of other young Company recruits. In 1821, at the age of sixteen, he took up a cadetship in the Bombay army, and, one year later, was promoted to regimental interpreter to the 1st Bombay Native Infantry in Surat. Gifted with languages—he had learned Persian and Hindi within a year of arriving in India—he was appointed, in 1825, as Persian interpreter, and thereafter quartermaster, to the Cutch field force, before becoming, in 1829, assistant to the British resident in Cutch (Prior, 2008).

After nearly ten years spent rising up the ranks of the East India Company, Burnes was dispatched, in 1831, on a mission on the river Indus to Lahore. This would have been an unusual opportunity, and the fact that Burnes took it up with much élan is an indication that he felt he had outgrown his previous roles. The official purpose of the Indus mission was to present five horses, a diplomatic gift from William IV, to Ranjit Singh, the leader of the Sikh Empire (Burnes, 1834). Another task Burnes was given was to conduct a survey of the Indus and the lands bordering it—this was part of the British ambition to extend the frontier of the colony into Central Asia (the competition that ensued with the Russian empire about the control of Central Asia would later become known as the "Great Game"). After Burnes successfully completed this expedition, he proposed to undertake another journey, this time to Bokhara (Bukhara). Sandwiched between the British and the Russian empires, Bokhara was located in a region of strategic interest for Britain (Bayly, 2016). In January 1832, Burnes received permission to travel, and set off on his new expedition, accompanied by his Kashmiri secretary Mohan Lal;[33] the Indian

[33] Mohan Lal (1812-1877) was born in Delhi to a family of Kashmiri Brahmins. His father, Rai Brahm Nath, worked as a secretary to Mountstuart Elphinstone (Johnstone, 1846: 308). After studying English at Delhi

surveyor Muhammad Ali; and Dr James Gerard of the Bengal army (Burnes, 1834). After his return from Bokhara, Burnes travelled to England, where he published a narrative of his journeys—an instant bestseller. He received the Gold Medal of the Royal Geographical Society and was elected both as a Fellow of the Royal Society and an honorary member of the Royal Asiatic Society (Prior, 2008). In 1835, Burnes returned to India, where he was re-assigned to his post as political assistant in Cutch. Disappointed by the lack of promotion and dissatisfied with this stationary life, he lobbied to be dispatched on a third expedition, this time to Kabul, for which he left at the end of 1836. Burnes remained in Kabul until his assassination in 1841 during an insurrection against Shah Shuja, the British puppet emir.[34] Over the course of his life, Burnes took unusual risks for an East India Company employee. While this resulted in recognition and even fame, it also brought about his untimely death.

Reflecting a more widespread attitude amongst Britain's learned societies towards the products of non-Western cultures, Burnes explained that he collected objects in Asia in the hope that they might assist in "inquiries into (…) geography and history" (Burnes, 1834: xv). For example, in describing "a valuable native work on Geography, the 'Masalik wo Moomalik', with twenty-one maps" (which he acquired in 1838 in Bokhara), he said that it would be a useful addition to the "department of Oriental Geography":

> We are indebted to Arabic works for much of our chemical knowledge, and though in a progressive science like geography our research into the literature of that many people may not prove equally profitable, it can never be devoid of interest to know the opinions

College, he was hired, in 1832, by Alexander Burnes as interpreter (Mohan Lal spoke Persian at home) for his journey to Bukhara (Burnes, 1834); and he also served as Political Assistant to Burnes in Kabul during the First Anglo-Afghan War. Mohan Lal was a prolific author, publishing an account of his travels and the First Anglo-Afghan War (1846a); and a biography of Dost Mohammad Khan, the Emir of Afghanistan (1846b); and he wrote numerous articles for the *Journal of the Asiatic Society in Bengal* in the 1830s. In a biography published in 1943 by Hari Ram Gupta, Mohan Lal is described as a "great traveller, brilliant diplomat, reputed author, the first Kashmiri to learn English and probably the first Indian to educate his daughter in England" (Ram Gupta, 1943: ix).

[34] A narrative of Burnes' journey to Kabul and his residence there was published posthumously, in 1842 (it became another bestseller) (Prior, 2008). For a discussion of Burnes' narratives see also Keighren, Withers and Bell (2015).

> of a race whose emulation diffused the taste and the rewards of science, from Samarkand and Bokhara to Fez and Cordova.[35]

Burnes collected the Red Sea chart at a time when the East India Company's Orientalist interest in Indigenous cultures of the subcontinent was giving way to the study of ethnology of the mid-Victorian period. This transition was marked by an increasing conviction that ethnological knowledge could be valuable for the imperial state, specifically in places where there was resistance to colonial rule.[36] Those later involved in the founding of the Ethnological Society, including men such as James Prichard and Thomas Hodgkin, were developing systematic research methods that would allow for the direct comparison of knowledge collected in different parts of the empire (a topic also discussed in Chapter 2). This included the study of languages; as Michael Bravo has argued, "successes such as the discovery of Sanskrit and the decoding of the hieroglyphics of the Rosetta stone reaffirmed [the ethnologists'] belief that language held the key to unravelling the story of humanity" (Bravo, 1996: 399). Numerous papers published in the journals of various learned societies including the RGS and the Royal Asiatic Society in the mid-nineteenth century attest to the focus on language in studies of non-Western cultures.[37]

Prior to the foundation of the Ethnological Society in 1843, learned institutions such as the Royal Geographical Society and the Royal Asiatic Society provided important venues for the discussion of ethnological topics, as in fact these Societies continued to do throughout the nineteenth century. The composition of the RGS Council during the 1830s suggests that Orientalist and ethnological interests were well represented when Burnes donated the Red Sea chart to the Society. The Honorary Foreign Secretary at the time of the donation, George Cecil

[35] *Transactions of the Bombay Geographical Society* (1838: 372)
[36] Sera-Shriar (2015) and Stocking (1987).
[37] See for examples from the *Journal of the Royal Asiatic Society* Bird (1834) "Analysis of the Mirat-i-Ahmadi, a Political and Statistical History of the Province of Gujarat" and Gräberg, Renouard and Gräberg De Hemsö's (1836) "Remarks on the Language of the Amazirghs, Commonly Called Beerebbers". The Royal Asiatic Society was also responsible in funding published translations of Asian manuscripts through their "Oriental Translation Fund".

Renouard (1780-1867), was an Orientalist scholar, who had an interest in the ancient history of the Middle East and had been professor of Arabic at the University of Cambridge since 1815. He was a member of the Royal Asiatic Society's translation committee, and published, in the Royal Asiatic Society's *Journal* (1836), a paper on the language of the Berbers (Boase and Matthew, 2006).[38] Also on the RGS Council sat Colonel William Martin Leake (1777-1860), James Justinian Morier (1782-1849), and Sir Woodbine Parish (1796-1882). The former was a topographer and the latter two were diplomats; all three were engaged in researching and writing about non-Western cultures (of the Middle East in Morier and Leake's case; and of South America in the case of Parish).[39] Another prominent Council member was George Bellas Greenough (1778-1855), past President of the Geological Society and a future President of the Royal Geographical Society (1839-41), who would become the Vice-President of the Ethnological Society in the early 1850s.[40]

Not sitting on the council of the RGS but a Fellow since 1831 and another future President of the Ethnological Society was John Crawfurd (1783-1868). In some ways, Crawfurd can be regarded as a representative figure of the ethnologists active at the RGS in the 1830s. The son of a Scottish physician, Crawfurd studied medicine at the University of Edinburgh and joined the East India Company as a surgeon in 1803, working in Delhi and Agra in this role until 1808. He was then sent to Penang, where he studied the Indigenous language and culture, eventually publishing a book about Malay grammar (1852). In 1811, he travelled to Java where he remained for six years, further "amassing ethnological and geographical materials" and writing another book, this time his celebrated work on the *History of the Indian Archipelago* (1820) (Markham, 1880: 53). He continued his imperial career in Siam (Thailand), Cochin China (Vietnam), Singapore, and Burma, before returning to London, where he became active within the RGS. The presence of

[38] Renouard's successor as RGS Secretary was Thomas Hodgkin (1798-1866), who, in 1843, became one of the founders of the Ethnological Society.
[39] Paris and Deas (2008), Lane-Poole and Baigent (2004), Wagstaff (2020).
[40] Over the course of his life, Greenough was a member of no less than thirty-seven learned societies (Wyatt, 2013).

men such as Crawfurd when Burnes presented the Red Sea chart to the RGS suggests that such an item would have been regarded as a potentially valuable source of information about the Indigenous cultures of the Indian subcontinent.

4.5 Red Sea chart surveys and the Indian and Arabic maritime worlds

By the mid-1830s, Alexander Burnes had a well-established relationship with the Royal Geographical Society. He was awarded the Society's royal premium in 1834 following the publication of his book *Travels into Bokhara* by John Murray and received the RGS's Gold Medal a year later. A portrait of Burnes painted in oil by William Brockedon in 1835 (fig. 4.7) and donated to the Society by the artist himself was hung on the walls of the RGS's building alongside the portraits of other celebrity members, including the Arctic explorer George Back and the Italian traveller Giovanni Belzoni.[41] Burnes published numerous articles in the Society's *Journal* between 1834 and 1839 including notes on his exploration of the river Indus and archaeological studies of the Indigenous population of Sind.[42] He was also associated with other learned societies in Britain and in India—for example the Royal Asiatic Society and the Bombay Geographical Society—but it was the RGS that became Burnes' "principal means of research dissemination" (Bayly, 2016: 92).

In many of his contributions to the RGS's *Journal*, Burnes addresses the significance of the Indus and the Red Sea as locations for a trade route between India and Europe. As mentioned in the introduction of this Chapter, Burnes' paper (as it appeared in the *JRGS*) was published alongside a critical response written by Lieutenant Dickinson, who contradicts Burnes' notion that

[41] "Report on the Royal Geographical Society Meeting, 19 Nov 1842", *Athenaeum* (1842: 994). William Brockedon was a founding member of the RGS, and as well as painting oil portraits, he also made sketches of notable contemporaries (now held at the National Portrait Gallery). His portrait of Burnes, which depicts him as a "Regency gentleman" (Keighren, Withers and Bell, 2015: 14), stands in contrast with the most famous portrait of Burnes by Daniel Maclise (1834), an engraving of which (by Edward Finden) was included as the frontispiece of the first edition of Burnes' *Travels into Bokhara* (1843) (fig. 4.8). In this image, Burnes is dressed in the traditional clothing of Bokhara, including a turban.

[42] Burnes' articles in the *JRGS* include: "Substance of a Geographical Memoir on the Indus" (1883); "Papers Descriptive of the Countries on the North-West Frontier of India: The Thurr, or Desert; Joodpoor and Jaysulmeer" (1834); and "On Sind"(1837).

historically trade routes across the Red Sea originated from India rather than from the Arabic world (Dickinson, 1836: 113).[43] In the discussion between Burnes and Dickinson, the "native Indian chart", as Burnes called it, was situated within two contexts: firstly the ongoing Orientalist discourse around the Indigenous cultures of India and the Middle East (introduced in section 4.4), and secondly the operations of the East India Company and its commercial and political interests in the Red Sea region. The publication of this discussion coincided with the coming to fruition of a major surveying project launched by the East India Company in the Red Sea, which was started in 1829. Improving hydrographic knowledge of this body of water was regarded as necessary for advancing the Company's economic goals in the region, for the reasons Wellsted sums up in the following way:

> Modern history furnishes abundant proof of the difficulty the mother country must experience in exercising a direct control, and rendering permanent and effectual aid to a distant colony. With India, situated as it is at present, we can never hope to do so; she must for long periods be left wholly to her own resources (Wellsted, 1838: 291).

Given the cost of transporting people and goods to India via the southern route around the coast of Africa, ensuring a safe route through the Red Sea was regarded as a matter of paramount significance: in the 1830s, as Markham later recalled, the Red Sea was regarded as "one of the most important and, at the same time, one of the most intricate routes in the world" (Markham, 1878: 15). Although advances in maritime technology had reduced the travel time between Britain and India significantly by the early 1800s**,** travel was still notoriously slow. The Marquis of Wellesley complained from India in 1800 that

> In the present year I was nearly *seven months* without receiving one line of communication from England (…) so that I suffered almost insupportable distress of mind.

[43] Dickinson says: "Hitherto we have seen, that although there is no doubt of the trade with India having subsisted for centuries, we cannot determine with any degree of certainty by whom it was carried on: we are told, however, that the Arabs were a trading and seafaring race, and that they had vessels in the Persian Gulf, and on the coast of Sabaea; and we cannot suppose that, had there been in the Red Sea, or in the harbours of Arabia, vessels navigated by foreigners from India, such a circumstance would have escaped the observation of the Greek geographers, of whom Timosthenes, Eratosthenes, Agatharchides, Strabo, and many others, were actually on that sea" (1836: 118).

> Speedy, authentic and regular intelligence from Europe is essential to the trade and government of this country.[44]

In the age of steam, the route via the Red Sea and Egypt was still regarded as preferable. As Wellsted put it, if "a line of steamers was established, opportunities would continually be afforded of conveying thither large bodies of troops, as well as of keeping up that reciprocal intelligence between either state, which must prove of incalculable benefit to both" (Wellsted, 1838: 291). Therefore, when the East India Company resolved to conduct a survey of the Red Sea, "no expense was spared in fitting out the expedition, and all the surveying appliances of the day were provided, besides ample supplies of well-found boats and tenders" (Markham, 1878: 15).

Responsibility for carrying out the survey was given to the naval commanders Robert Moresby and Thomas Elwon, both of the Bombay Marine (renamed the Indian Navy in 1832) and their vessels the *Palinurus* and the *Benares*. The main products of this survey were an updated chart of the Red Sea, which was drafted by Felix Jones, a midshipman and lieutenant on the *Palinurus* under Moresby (published in 1836);[45] and the *Sailing Directions for the Red Sea*, authored primarily by Moresby with assistance from Elwon (published in 1841). The *Sailing Directions* record in meticulous detail the reefs, harbours, and anchorages of the Red Sea and also provide information about locations where provisions, water, and fuel can be obtained.[46]

The work of Arab pilots and crew members was essential to the survey. The tenders (supply boats) of the *Palinurus* and *Benares,* which were responsible for doing the actual surveying work on the dangerous reefs, were Indigenous vessels sailed by local crews. The British seafarers trusted the Arab pilots with their lives: Moresby stated that "no vessel ought to venture inside the line, which runs close to the reefs, unless she may require to anchor, which few

[44] Wellesley, *Despatches*, 1936; letter from 6th October 1800; quoted in Searight (1997: 229).
[45] In his later life, Jones was elected a Fellow of the Royal Geographical Society (in 1864), having been elected as Fellow in 1864 (Laughton and Lambert, 2004).
[46] A colourful narrative of the northern half of the survey is contained in Lieutenant J.R. Wellsted's account, in the second volume of his *Travels in Arabia* (1838).

navigators, not accustomed to anchor among reefs and sunken rocks, would be bold enough to do, unless they had a native pilot on board" (Morebsy and Elwon, 1841: 104). Wellsted, who sailed on the *Palinurus*, attributes the success of the expedition fully to the skill of these pilots. For example, he stated that one of the expedition's principal pilots, Serur, was "the most skilful as well as undaunted seaman that ever sailed upon [the Red Sea's] waters" (Wellsted, 1838: 116). Wellsted recounts being caught in a fierce storm in the Gulf of 'Akabah (Gulf of Aqaba), when Serur "with the keenest and fullest sense of [the] perilous situation (…) watched (…) carefully over the pilotage of the vessel" and thus ensured the crew's and the ship's safety (Wellsted, 1838: 131-2). Wellsted described that during the storm,

> The sturdy old helmsman stood with his head bared, his few grey locks streaming in the breeze, and his face completely drenched with the spray that incessantly dashed over the boat. In this manner, he directed our course with admirable skill and coolness over seas and through violent gusts that menaced us with destruction. To the spectator, who contemplated our progress from a place of safety, this scene could not fail of presenting a striking and admirable picture of human skill successfully contending against the fury of the raging elements (Wellsted, 1838: 116).

The reliance of Europeans on Indigenous people went beyond the need of manpower to work the ships, and knowledge of the Red Sea to assist with surveying tasks and in weather-related emergencies: they also depended on local navigational techniques. In the *Sailing Directions for the Red Sea,* Moresby stated:

> I think that they [native pilots] may be implicitly trusted in the navigation of the Gulf of Suez; and that a commander of a ship has little else to do than see his ship properly worked. The Arab pilots have so long and often been accustomed to work up and down the sea, that they may be expected to have a thorough knowledge of its localities (Moresby and Elwon, 1841: 120).[47]

[47] See also Moresby and Elwon (1841: 219): "the native pilots being acquainted with the reefs and anchorages from eye-sight, are always able to take a vessel among them with safety; a stranger, not acquainted with the localities, would feel alarmed in navigating among the reefs; they are all safe to approach, taking the precaution to be on the fore-topsail-yard with the native pilot, and keeping a good look-out for sunken rocks, the eye and not the lead being the only guide".

While the Europeans relied on scientific instruments and charts, the Arab pilots navigated by sight and depended on oral knowledge, according to Wellsted, Elwon, and Moresby. On the one hand, this inspired scepticism in the British seafarers. Wellsted, for instance wrote that "although every vessel carries a pilot, few have instruments, or are capable of making observations (…) Some obtain the latitude with tolerable precision, but others, like the mariners of old, ascertain their approach to the Indian coast by the discoloration of the water, and the appearance of snakes" (Wellsted, 1838: 437). Moresby believed that due to this reliance on visual cues, Indigenous navigators were helpless once out in the open ocean: "they know nothing when in the middle of the sea and out of sight of land" (Moresby and Elwon, 1841: 219). On the other hand, the European surveyors recognised the Indigenous pilots' knowledge as a different kind of navigational expertise: "the native pilots are excellent in judging their distance from shore, and when to tack of a dark night" (Moresby and Elwon, 1841: 120).[48]

The RGS took a close interest in the East India Company's survey of the Red Sea, reflecting its well-established connections to the hydrographic work of the Company (see also Chapter 3). For example, as noted in the foreword of the *Sailing Directions,* the English place names on Moresby and Elwon's chart were supplied by none other than George Renouard, who at the time was the Honorary Foreign Secretary to the Society (Moresby and Elwon, 1841: a). The continuing interest in the topic of surveying India and the Middle East is also reflected in a list of "maps recently published" which was printed in the *JRGS* (1839).[49] By far the longest section of

[48] In fact, the reliance of European seafarers on Indigenous pilots had a much longer history: as early as the sixteenth century, Portuguese explorers depended on Arab navigators, including the well-known pilot Ibn Majid, who wrote a detailed mariner's guide of the southern Red Sea (Tibbetts, 1961). The reputation of these Arab navigators might have influenced the recognition of their expertise by nineteenth-century surveyors. Moresby and Elwon also received assistance from other Indigenous people. For example, Moresby noted that the Arabic names on their chart of the Red Sea were written by Mr. Rassam; and the expedition hired an interpreter, who travelled with them (Moresby and Elwon, 1841: iv; Wellsted, 1838: 355).

[49] This is the first such list published in the RGS's *Journal.* These lists continued to appear regularly until the 1870s.

this list is devoted to maps of Asia, including many surveys made by employees of the East India Company, specifically the Indian Navy.[50]

The cross-over in terms of political and Orientalist interest in the material geographies of the Red Sea can also be discerned in a brief article published in the ninth volume of the RGS's *Journal*, titled "Note on Some Names of Places on the Shores of the Red Sea" (1839). This article was written by Antoine Thomson d'Abbadie, an Irish-born French explorer, geographer, and linguist, who became well-known for his travels in Abyssinia between 1837 and 1848 (Keltie, 1911). With this article, d'Abbadie hoped to "correct" Western charts, which are still "partial and incomplete" (d'Abbadie, 1839: 317). Having travelled on the Red Sea himself, d'Abbadie recounts how he relied on the "pilots of the Red Sea" to teach him about place names, and he refers specifically to "an intelligent pilot from Hadramaut, who, being accustomed to consult maps, could better explain, in sea-terms, the relative position and distances" as well as to a "Dahlak pilot", who travelled with him for some of the journey on the Red Sea (d'Abbadie, 1839: 318).[51] In the remainder of the article, d'Abbadie lists the names of places through which he travelled across the Red Sea. He includes in this list details on pronunciation and general notes on locations, all based on the information he received from the Indigenous pilots. This paper indicates that there was a wider discourse at the time about language and the history of the Red Sea and its relation to the wider Arabic world.

[50] The maps and charts, listed as being of the region of "Arabia" accessioned to the RGS Map Room, include: a chart of the "South coast, from Ras Bab el Mandeb to Misenat, in 50° 43' E., by Capt. S. B. Haines, I.N."; a map of "Aden and the adjacent Bays, by Captain Haines, I.N. (…)"; a chart of "Kuria Muria Bay, by Capt. Haines, I.N."; "Red Sea, Sailing Directions for the, by Captains Moresby and Elwon, I.N."; a map of "Bokhara and Cabul, by the Diff. Use. Know. Soc."; a chart of "Cambay, Gulf of, by Lietu. Ethersey, I.N." and another one of "Cambay, Malacca Banks, by Lieut. Ethersey, I.N."; a survey of the "Chagos Archipelago, by Capt. R. Moresby and Lieut. Powell, I.N."; a survey, also by Moresby, of the "Maldive Islands"; and the accompanying "Sailing Directions for Chagos Archipelago and Maldives"; a chart of the Pambam Passage, in the Gulf of Manar, by Lieuts. Powell and Ethersey, I.N."; a survey of the Hooghly River, from Calcutta to Sauger, by Capt. Lloyd, I.N." (Anon., 1839: 532-534).

[51] Hadhramaut is a region in South Arabia, located mostly in present-day eastern Yemen. The Dahlak Archipelago is a group of islands located in the Red Sea, near Massawa. Today it is part of Eritrea.

At the end of d'Abaddie's paper, there is a note added by the editor of the RGS's *Journal*. It mentions that the information d'Abaddie had gathered had indeed been used to correct the place names on the Society's charts of the Red Sea. Although Moresby and Elwon had listed all the place names in their *Sailing Directions*, this information was lost in the process of printing the chart: "it is much to be regretted that before publishing such valuable Charts, the orthography of the Arabic words was not corrected and reduced to some standard" (d'Abbadie, 1839: 324). This speaks to the wider issue of standardisation and scientific practice in geography, which had become a concern of the RGS specifically in relation the kind of geography they hoped to disseminate through the *Journal*.[52]

Many of the discussions about the Red Sea survey and indeed the Arabic world more generally that were published in the *Journal* were communicated to the RGS from its sister society in India, the Bombay Geographical Society.[53] Concerning the relationship between the two institutions, Markham wrote:

> The Bombay Society, in a letter from the Secretary dated the 6th of June, 1832, desired to form a junction with that of London, and to be considered a branch of it, not only that it might ensure its own stability, but that it might acquire additional usefulness and efficiency from the patronage and counsels of the European institution. The Bombay branch expressed a wish to receive instructions from the London Society in reference to the general plan of operations which it should adopt. This application met with a cordial response, and the two Societies continued to co-operate and to work together harmoniously (Markham, 1880: 32).

Although Markham emphasises how beneficial a direct association with the RGS—as its "branch"—would be for the Bombay Geographical Society, the dynamics between the two institutions were not that simple, with the RGS relying on the Bombay Geographical Society for a

[52] With the Society keen to take an active role in the dissemination of knowledge about the Red Sea and the Arabic world, standardisation of this information was seen as crucial. Just a few years before the publication of d'Abbadie's article, in 1834, Colonel Julian Jackson (secretary of the RGS between 1841 and 1847), called for greater standardisation of place names and orthography on maps in an article published in the *Journal* (Jackson, 1834). Jackson was also the author of *What to Observe* (1841), a manual for travellers and thus a forerunner of the Royal Geographical Society's *Hints to Travellers*, first published in 1854. See Driver (2001) and Withers (2012).

[53] See Chapter 6 for a discussion of the relationship between Calcutta and its institutions including the Survey of India and the Asiatic Society of Bengal and London.

supply of the most recent geographical and hydrographic information. As previously stated, it was the Bombay Marines that took on the survey of the Red Sea; and both Moresby and Elwon directly reported back to Bombay rather than to London.[54] The debate over the Red Sea chart exemplifies the relationship between the so-called "centre" and "periphery" of the British Empire, illuminating the "transnational 'webs of empire'" (Bayly, 2016: 92) made up of institutions responsible for creating colonial knowledge.[55] The Red Sea chart thus demonstrates how the commercial, political, and intellectual interests of the Company converged over Indigenous material culture: neither fully representing hydrographic knowledge in the Western sense, nor simply being regarded as an Indigenous artefact, this chart was located at the intersection of these various interests.

4.6 Conclusion: An Indian Ocean chart?

As I have noted, most of the modern scholars who have commented on the Red Sea chart have insisted - primarily based, it seems, on Burnes' comments—that it was essentially free from Western influence. However, direct comparison with European charts produced in the same period indicates that the Red Sea chart is perhaps more hybrid than has previously been suggested. For example, its scroll-like shape is well-known in European charts from the seventeenth century.[56] Comparing the Red Sea chart directly with contemporaneous European charts of the west coast of India, further similarities emerge. Firstly, the coastline on both European charts as well as the Red Sea chart have similarly abstracted shapes. Secondly, the way in which the Red Sea chart depicts towns using flags and the symbol of buildings is replicated on

[54] RGS-IBG JMS 9/44 "Robert Moresby, Survey of the Red Sea (1839)" [unpublished]; Wellsted (1835: 286).
[55] See also Lester (2001, 2006).
[56] I am grateful to Sarah Tyacke for this point.

European charts as well, for example on a chart made in 1741 by John Corner, which depicts the coast of Surat (fig. 4.9).[57]

Although there is no direct evidence for the sources of the Red Sea chart other than the form of the chart itself, Burnes himself states in his article that "the navigators of Kutch possess other and better charts [than the Red Sea chart]; they have made transcripts of many of our early surveys; but it is quite apparent that they are copies" (Burnes, 1836: 26). He continues to describe occasions when he had seen these documents, saying that "various charts and books were brought to me" (*ibid.*). As to the way in which the Gujarati draughtsmen came into the possession of these European cartographic materials, Burnes recounts the well-known story of Ram Singh, a Gujarati pilot who travelled to Europe in the seventeenth century:

> The natives state that their communication with foreign nations has existed for many years; but they assert that an inhabitant of Cutch, a young Rajpoot, named Ram Sing, now familiarly known as 'Ram Sing Moalum', or the Pilot, was carried to Holland about a century since, and returned after many years residence there, with a knowledge of astronomy, navigation, ship-building, and other arts, which have been ever since preserved (Burnes, 1836: 26).[58]

Burnes provides intriguing details about these cartographic exchanges in his 1836 article. He states that on one of the Gujarati copies of European charts he had himself seen in India, there was an inscription detailing the process that had led to the chart's creation. This inscription stated that the chart was prepared

> From the practice and experience of divers able and expert navigators of our own and foreign nations, containing necessary instructions for sailing between England and the East Indies in the spring and fall, being very much corrected and augmented with several additions (Burnes, 1836: 26).

[57] "The Coast of Mallabar by John Corner, 1741". Oxford, Bodleian Library Filmstrip Roll 235.5, frame 12: https://digital.bodleian.ox.ac.uk/objects/a527d35d-3179-4e1c-8a0b-218ac4c65f6f/ and frame 11: https://digital.bodleian.ox.ac.uk/objects/51d0bc57-284d-466c-881b-fe087c20ea28/ (Accessed 01 March 2021)

[58] Ram Singh remains a well-known figure in Gujarati history. He was apparently rescued at sea on a voyage to Africa from Cutch in 1732 by a Dutch boat and brought back to Holland, where he stayed for close to eighteen years and learned skills such as glass-blowing, clock-making, gun-casting, and tilework. When he returned to Cutch, he entered the patronage of the king, Rao Lakhaji, and designed several monuments including the Aina Mahal, which was influenced by European architecture (Das Gupta, 1979).

Burnes claimed to have seen other maps and charts which contained further evidence of these types of collaborations. For example, he stated that he had come across an Indian map of Bengal copied from a European original, on which the city of Calcutta did not appear, suggesting that this particular map was older than 1690 (the year the East India Company made Calcutta its capital in Bengal) (Burnes, 1836: 26). Burnes emphasised the hybridity of these maps by stating that "throughout all these charts the names of places are marked in the manuscript native character, which shows that they have not been preserved as curiosities, but are actually used by the people of this country" (Burnes, 1836: 27).

While Burnes insisted that the Red Sea chart was free from Western influence, such claims are thus brought into question by the information he himself provided elsewhere. Moreover, there is ample historical evidence, as we have seen in this Chapter, that the Indian Ocean was a region of frequent and long-lasting interactions, collaborations, and exchanges between the Indian, Arabic, African, and European maritime cultures.[59] Concerning the cartographic evidence for these interconnected histories, map historian Leo Bagrow made this observation in 1964:

> We do know that Indian seamen had maps and pilot books; the Turkish cartographer Seidi Ali used some, for example, and so did the Portuguese on their voyages in Indian waters, as shown by the fact that the earliest Portuguese maps contain information about the countries of the East that they could not obtain otherwise (Bagrow, 1964: 207).

The inter-relationships between these different maritime communities and their navigational knowledge systems remains a lively source of debate among scholars. In this context, as I have argued in this Chapter, the Red Sea chart evades simple classification. Although it has been

[59] On the mutual influence of European and Indian mapping traditions see Gole (1989), Das Gupta (1982); and on the interrelationship between Arabic and Indian cartography, see Sheikh (2009), Schwartzberg (1992), Tibbetts (1961), Arunachalam (1988). More generally on cultural exchanges, see Chaudhuri (2014) and Sivasundaram (2017); and specifically about the connections between Gujarat and the Red Sea see Das Gupta (1979, 1985) and Alpers and Goswami (2019).

characterised as a Muslim chart, used for transporting pilgrims to Mecca during Hajj, it is clear that the chart also had a secular origin in the centuries-old trade between India, the African east coast, and the Arabic world. Similarly, its iconography is made up of elements from various mapping traditions. [60] In the end, the Red Sea chart may best be described as an Indian Ocean chart, its iconography and uses representing the many exchanges of goods, people, and knowledge that were taking place there at the time the chart was produced and in circulation (Sivasundaram, 2017). The Red Sea chart simultaneously provides a historical snapshot of traffic in the Red Sea before European colonisation, while also offering insights into how nineteenth-century Orientalists such as Burnes framed their thinking on the history of Indian navigation and used their knowledge to contribute to modern projects of trans-regional integration.

[60] Schwartzberg thus identifies characteristics on the Red Sea chart shared with contemporaneous Arabic mapping traditions, such as the rhumb lines with constellation symbols at each end (they resemble Arabic star compasses) (Schwartzberg, 1992: 495). Arunachalam, meanwhile, has convincingly attributed the chart to a distinctive Gujarati mapping style due to its orientation with east at the top, a tradition well-preserved in Western India, and its Gujarati inscriptions (Arunachalam, 1988: 100).

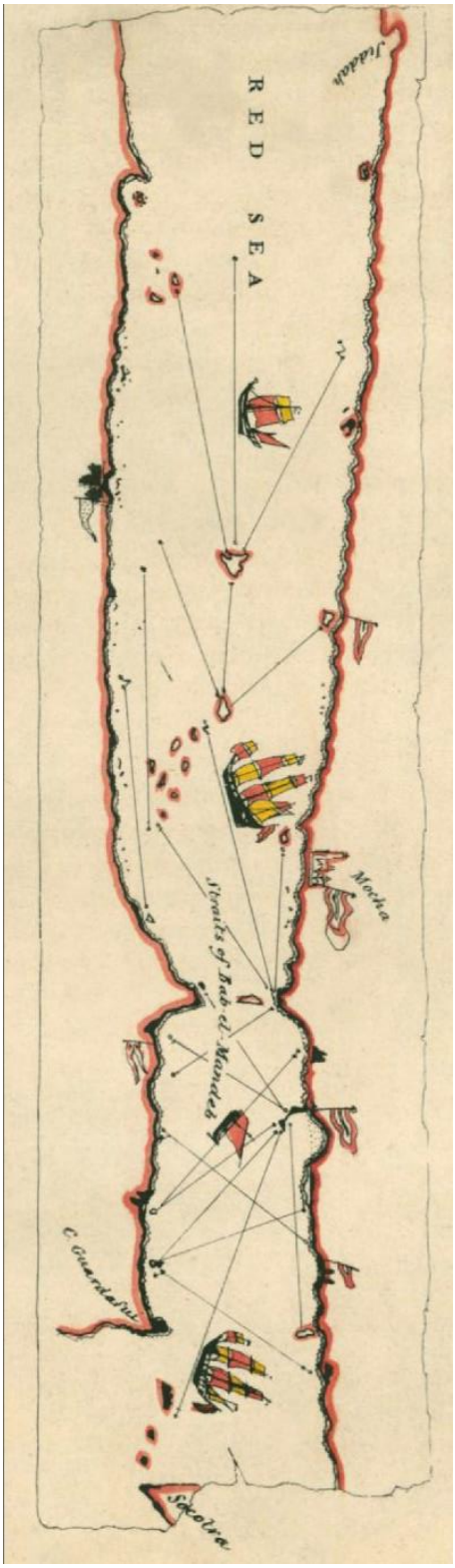
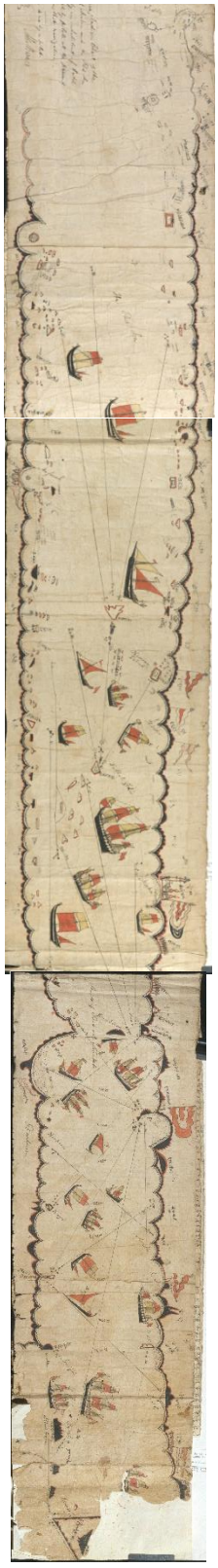


Figure 4.1 "Native Indian Chart". Hand-coloured lithograph published in Vol. 6 of the *Journal of the Royal Geographical Society of London.*

Source: *JRGS*, Vol. 6., 1836, p. 113

Figure 4.2 “A Native Indian chart of the coast of Arabia and the Red Sea”.

Source: RGS-IBG mr Asia S.4. © RGS-IBG



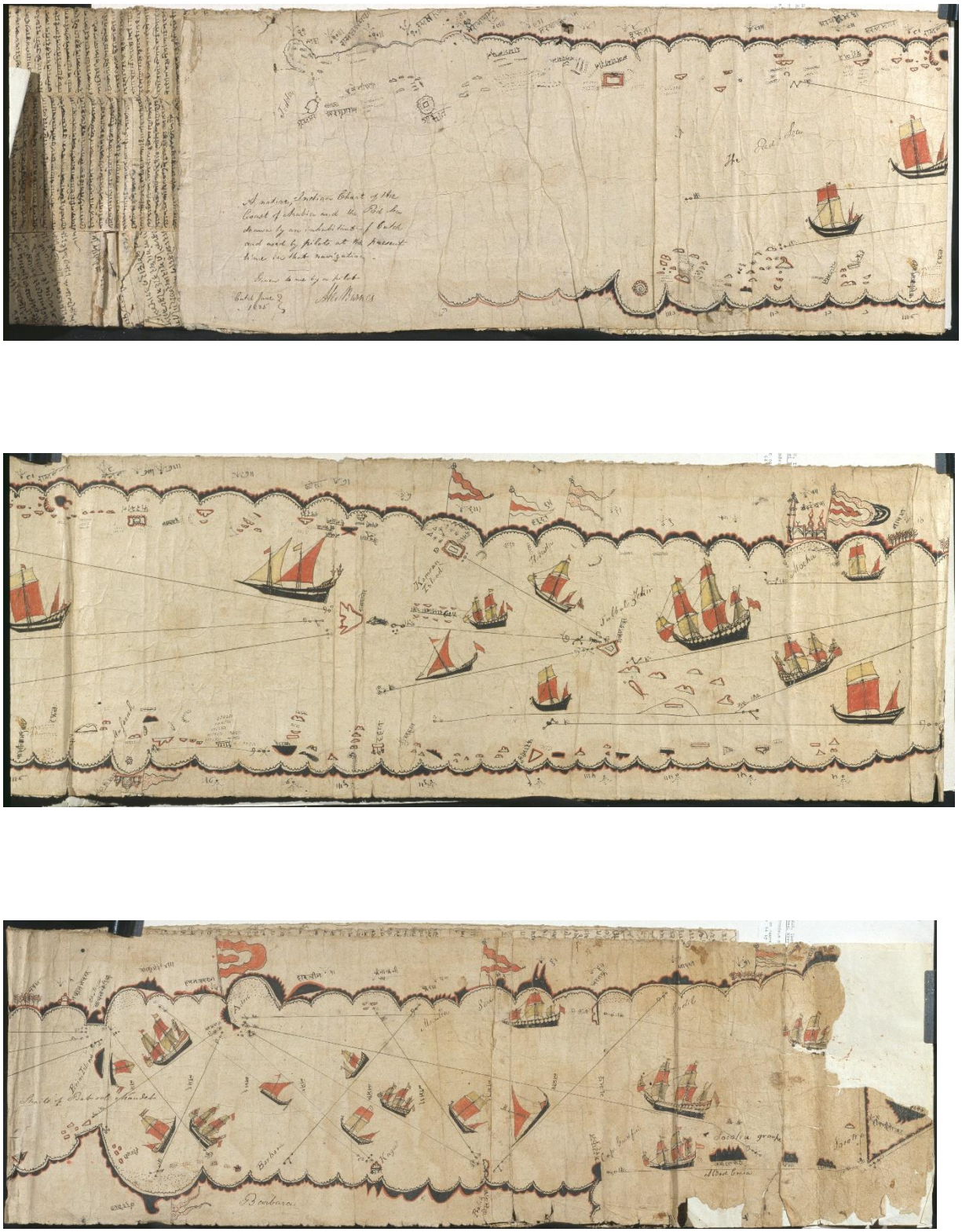


Figure 4.3 "A Native Indian chart of the coast of Arabia and the Red Sea." Detailed views.

Source: RGS-IBG mr Asia S.4. © RGS-IBG

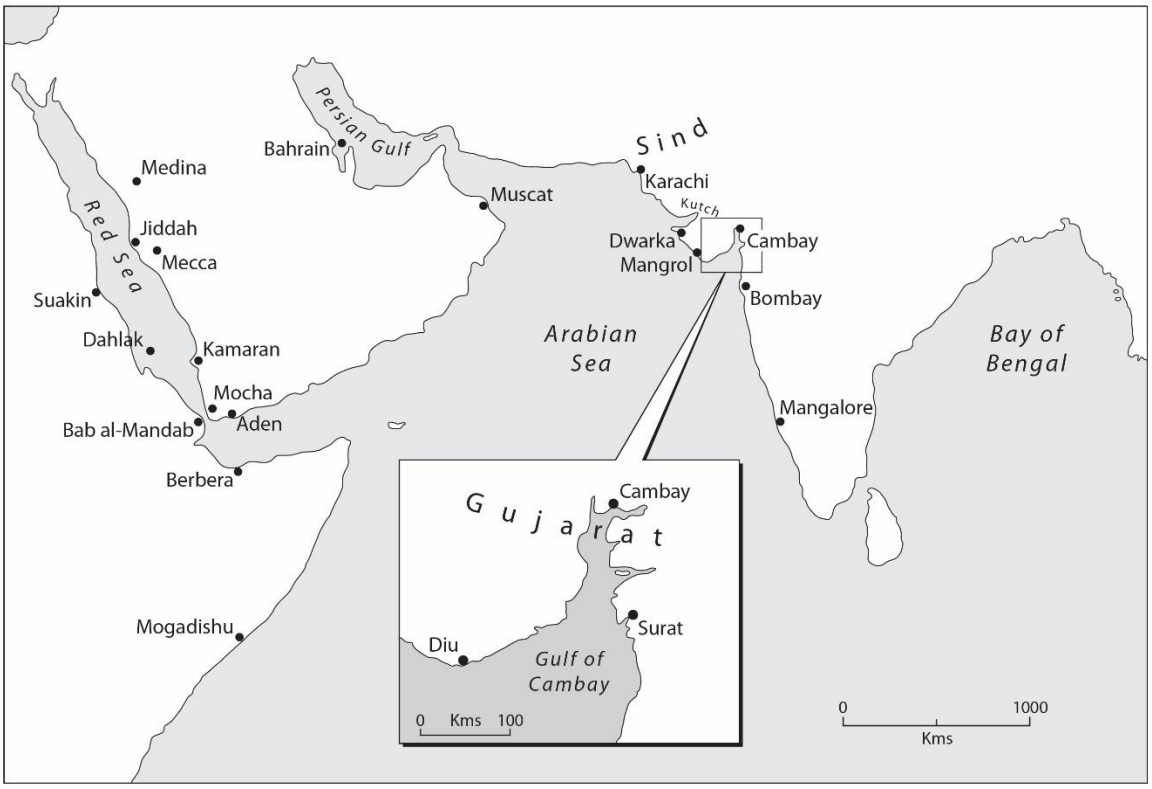


Figure 4.4 The Gulf of Bengal, the Arabian Sea, and the Red Sea, with the Gulf of Cambay (inset).

Adapted from Sheikh, S. (2009) "A Gujarati Map and Pilot Book of the Indian Ocean, c. 1750", *Imago Mundi*, 61(1), pp. 67-83, p. 68.

Figure 4.5 Verso of the Red Sea chart, covered in Gujarati writing.

Source: RGS-IBG mr Asia S.4. © RGS-IBG

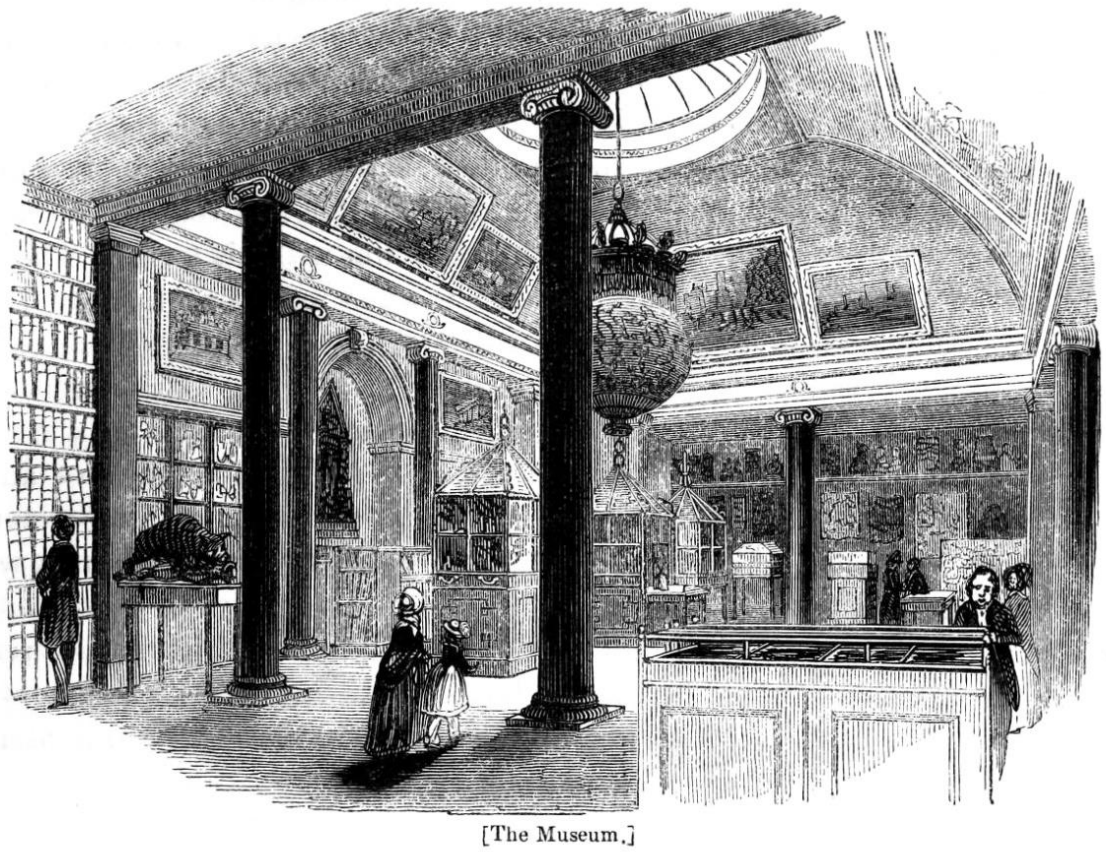


Figure 4.6 The interior of the India Museum in 1841.

Source: Knight, C. (ed.) (1843) *London: Volume V.* London: Charles Knight & Co., p. 63.

Figure 4.7 Portrait of Alexander Burnes by William Brockedon, c. 1835, oil on canvas.

Source: © RGS-IBG

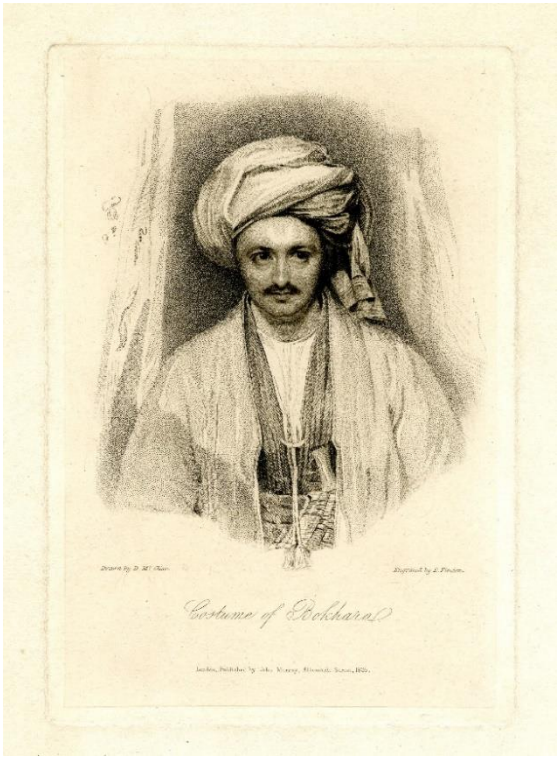


Figure 4.8 Alexander Burnes in the traditional clothing of Bokhara, 1834. Engraving by Edward Finden after an oil painting by Daniel Maclise.

Source: British Museum, Asset number 1496636001 © The Trustees of the British Museum

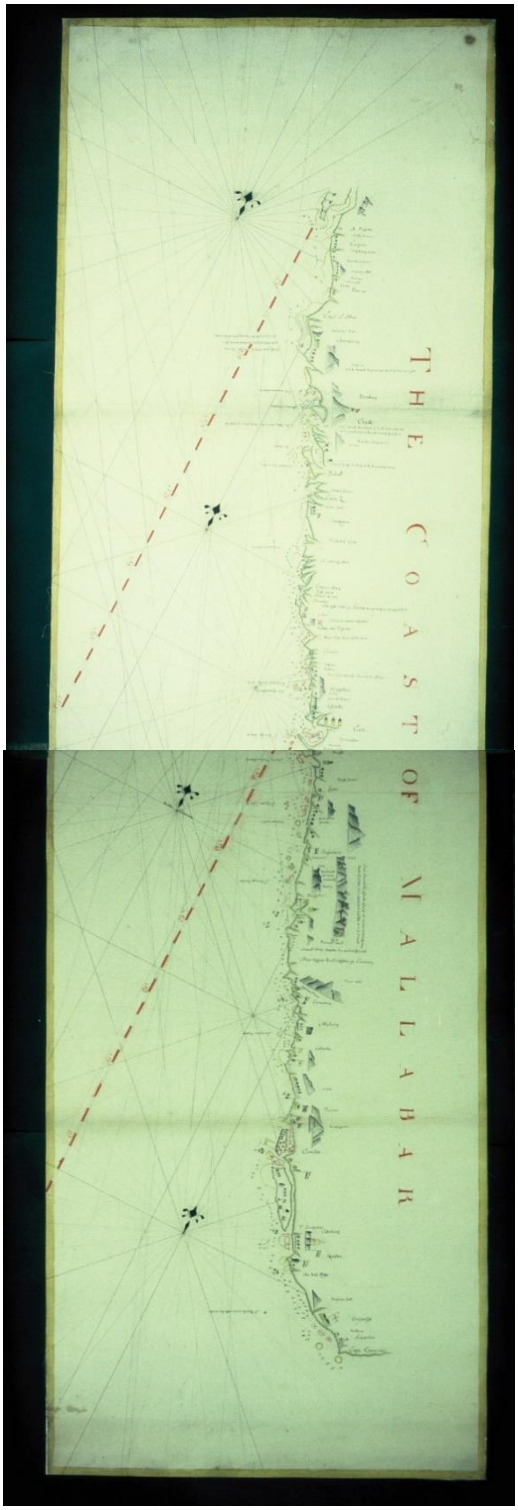


Figure 4.9 "The Coast of Mallabar" by John Corner, 1741.

Source: Oxford, Bodleian Library Filmstrip Roll 235.5, frame 12: https://digital.bodleian.ox.ac.uk/objects/a527d35d-3179-4e1c-8a0b-218ac4c65f6f/ and frame 11: https://digital.bodleian.ox.ac.uk/objects/51d0bc57-284d-466c-881b-fe087c20ea28/ (Accessed 03 March 2021)

CHAPTER 5

From John Coryton's veranda in Moulmein: a collection of Burmese and Shan manuscript maps and tracings

5.1 Introduction

There is a map held in the collection of the Royal Geographical Society which depicts part of the border region between Myanmar [1] and Thailand, located about 150 kilometres northeast of the port city of Moulmein. [2] The central feature of this map is the confluence of three rivers, labelled Mhinelonghee (called Yuam today), Thounghyeen (Moei), and Salween (Thanlwin). Also depicted are six smaller streams; hills and rocks, intricately shaded; and simplistically rendered buildings arranged in a circle, bearing the inscription "Mhinelongyee Town". The map's title reads: "THE MHINELONGHEE FOREST, from a native map in possessions of Messrs. Todd Findlay & Co., of Moulmein 4th March, 1871" (fig. 5.1). Despite the description of the map's origin as "native", it appears at first glance somewhat similar to Western sketch maps produced in the same period. Its inscriptions are in English, and with the exception of the way in which the hills are depicted—as cloud-like shapes, rendered in profile—the map mostly adopts the bird's flight view common in modern Western sketch maps. An English annotation in black pen appears to confirm the map's Western origin: it links it directly to the teak trade, an industry that dominated British imperial interests in Burma in the second half of the nineteenth century. Relating to a rock formation in

[1] In this chapter, I use the name Myanmar when referring to the present-day nation state; otherwise I will use the name Burma.

[2] For a map of British Burma ca. 1885, see fig. 5.2.

the Mhinelongee River, the unsigned inscription reads: “This is the only map I have seen in which this formidable obstruction to the timber trade of the Mhinelonghee Forest is shown in detail”.

The Moei and Thanlwin rivers today form part of the Thailand-Myanmar border. When this map was created, however, the area it depicts was regarded by the government of India as a contested territory: it had proved impossible to establish a firm border between the region the British had annexed from the Kingdom of Burma following the Second Anglo-Burmese War in 1852 and the territories belonging to Siam (Tagliacozzo, 2004).[3] The tensions in this region were further intensified by competition for its ample resources of teak. British extraction of this timber undermined Indigenous forest use and caused conflicts, sometimes violent, between the communities living in the hills and the British foresters (Bryant, 1994 and 1996). In fact, the company mentioned on the map—Messrs Todd Findlay & Co.—was involved as the plaintiff in a court case in 1865, which concerned the fraudulent marking of teak logs felled in the Mhinelonghee forest (Anon., 1865). Mapping this region had become an imperative for the British administration in Burma, both for economic and political reasons; and many surveyors relied on the Indigenous population for geographical information. The conflicts around the location of the border and the teak resources surely influenced what kind of information Indigenous mapmakers were willing to share, including on the map of the Mhinelonghee forest. As a map created for British use, certain details were most likely omitted and changed.

Moving from the content of the map to its form, more can be said about the origin and purpose of the Mhinelonghee map. Its paper is thin and transparent, making the document appear quite fragile. The choice of this material is explained in another one of the map’s numerous inscriptions, which states that the map was “copied in the Surveyor General’s office Calcutta” on the 7th of June 1871 by “Afzul Hossein”; the map at the RGS is therefore a traced copy of the original. During the process of its reproduction supervised by a colonial institution,

[3] In the nineteenth century, Thailand was known to the British as Siam.

the Indigenous knowledge the original map contained was translated, reinterpreted, and adapted (see section 5.4). The Mhinelonghee map is not the only "native" map from Burma in the collections of the RGS that has undergone this type of alteration: it is one of a collection of thirteen other tracings which were donated, along with fourteen manuscript maps of Burma, to the Society in March 1875.[4] Although different in terms of materials—the tracings are created using mostly black ink, the manuscripts contain a variety of watercolours, inks, and pencil—there is a resonance amongst these maps because most of them display characteristics which combine aspects of both European and Burmese or Shan cartographic traditions, including multilingual inscriptions (for an example of a manuscript see fig. 5.3 and for an example of a traced map see fig. 5.4).

This unique collection of maps was donated to the RGS by John Coryton (1826-1896), a London-born barrister, who held the position of Recorder of Moulmein in the 1860s and 1870s (Foster, 1885: 101). Coryton had assembled this cartographic collection over the period of some years and through a variety of channels, including the Burmese court system. The maps made their way to London via the Survey of India headquarters in Calcutta, where the tracings were created and where at least some of the original manuscripts remained (they have since been transferred to the National Archives of India in Delhi).[5] While some of the maps in the RGS collection have been examined by scholars in recent years,[6] the origins, extent, and significance of this collection as a whole and its relationship to the originals in Delhi has yet to receive scholarly attention. Indeed, prior to Joseph Schwartzberg's 1994 contribution on Southeast Asian mapping in the *History of Cartography* series, studies of maps from Burma in general have been rather scant (Schwartzberg goes as far as saying that the region had been "virtually ignored" by most

[4] The donation also included one printed British map, and two lists of names and place names written in Chinese and Burmese characters. See Appendix 1 for a full list of this donation.
[5] There are twelve manuscript maps donated by Coryton at the National Archives in India today. When I am citing collections items from the National Archives of India, I will preface the reference numbers with NAI.
[6] Notably by Marie de Rugy in her 2016 PhD thesis and by Joseph Schwartzberg (1994c) for his contribution on Southeast Asian mapping to the *History of Cartography* series.

map historians). Leo Bagrow, for example, only devotes one paragraph in his *History of Cartography* (1964) to Southeast Asian cartography; and in this paragraph he makes no mention of either Burma, Laos, or Vietnam (Schwartzberg, 1994a: 751). His only reference to Burma is in the context of his discussion on Indian cartography, where he states that "maps of native origin were brought to Europe from Burma and Nepal, but these were the products of European influence" (Bagrow, 1964: 207).

With his contribution to the *History of Cartography* series, Schwartzberg established the existence of a specifically Burmese cartographic tradition. To make this argument, he focussed largely on examples of pre-colonial cartography including a large map on Indian muslin depicting the Vale of Manipur and the surrounding region. This map was donated, in 1928, to the RGS by a descendant of Sir Henry Yule, who is thought to have obtained the map when he accompanied the British mission to the court of Ava in 1855. Schwartzberg dates the map back to the mid-eighteenth century and to the military campaigns of King Alaungpaya against Manipur, and he identified as "distinctly non-European features" the naturalistically rendered mountain and hill ranges; the depiction of rivers with "basket-weave patterns"; and the emphasis on pagodas (Schwartzberg, 1994a: 752). More recent scholarship, notably that of Marie de Rugy, has built on such descriptive accounts to include more analytical detail about the corpus of Burmese cartography. This has included a move away from pre-colonial maps to those produced in colonial settings, which were previously dismissed by Bagrow as "products of European influence" (Bagrow, 1964: 207). In a recent article in the *Journal of Historical Geography* (2020), Rugy examines in detail a collection of manuscript maps bequeathed to the Cambridge University Library by James George Scott (1851-1934), who was stationed in Upper Burma for twenty-five years. Building on Schwartzberg, Rugy places a greater emphasis on the conditions in which the maps were produced and the people present in those moments. She therefore goes beyond a study of the iconography of these maps to consider the process of mapmaking, which provides

her with insights into the production of geographical knowledge in the early years of British colonialism in Upper Burma during the late nineteenth century.

The focus of this Chapter will also be placed on the contexts in which the maps Coryton assembled in Burma were produced and reproduced. Firstly, Coryton's map collection is put into a wider historical context. Assembled at a time when the economic significance to Britain of her Burmese colony had risen sharply (thanks to the booming teak trade and the possibility of a direct trade route to China), yet the situation in the borderlands remained precarious, this collection of maps demonstrates the importance given to Indigenous geographical knowledge in the British effort to consolidate colonial power in Burma (section 5.2). The discussion then moves on to the way in which the "native information" (as it was then known), which these maps contain was understood and misunderstood by the British (section 5.3), with a particular focus on the changing material form of the maps as they were interpreted and re-interpreted on their journey from the colonial "periphery" to the imperial centre (section 5.4). The final section of the Chapter returns to Burma and looks more closely at the moment in which a set of the manuscripts in Coryton's collection were created: on Coryton's veranda in Moulmein. This demonstrates that these manuscripts can be understood as material embodiments of colonial encounters and also as traces of the agency of Indigenous people involved in their creation, making them significant artefacts in colonial-era map collections (section 5.5).

5.2. John Coryton's map collection in context

When the twenty-nine maps donated by John Coryton entered the RGS collection in March 1875, they were marked with the Society's stamp, assigned cataloguing references, and put away into the collection storage.[7] Prior to his donation, Coryton had arranged the maps into a sequence,

[7] Coryton's maps stand out amongst the other maps of Burma in the RGS collection, the great majority of which are printed on paper and designed on the basis of modern Western cartography. In contrast to the RGS, the collection of historical maps at the National Archives of India (another colonial-era map collection), which also holds materials from the Coryton's collection (discussed below) includes other

allocating all but four maps a number ranging from 7 to 53.[8] The RGS, however, catalogued Coryton's donation in a way that obscures the fact that the twenty-nine maps were initially part of a single collection.[9] The Society's online collections catalogue (which is based directly on pre-existing historical card indexes, dating from the 1890s) separates the maps into three groups: the first consisting of eight tracings, two manuscripts, and one printed British map, titled "Sketch maps of the Salween River" and given one single catalogue reference;[10] the second comprising five manuscript maps, named "Native maps of Burma with native characters" and also given a single catalogue reference; [11] and the third consisting of manuscripts and tracings, which were listed individually (or in two cases, in pairs) and given a catalogue reference each.[12] The rationale for this way of cataloguing Coryton's donation is not immediately clear, especially because some of the individually-listed maps closely resemble those catalogued in the two larger groups in style, execution, and geographical focus.

It is evident that the individual maps comprising Coryton's collection originated in the same historical and cultural context. Aside from three manuscripts and one printed map, which

examples of maps created by Indigenous people of British Burma, for example the maps belonging to the Hamilton Collection. These maps, historical copies of lost originals, were assembled by Francis Hamilton during his eight-month stay in Burma in 1795, when he served as an aide to Captain Michael Symes, the first British ambassador the country (Schwartzberg, 1994a: 743). At least some of these maps were made for Hamilton by a Shan "slave", including a map of the "Dominions of the King of Ava" discussed in greater detail by Schwartzberg (1994: 744).

[8] Coryton wrote the numbers on the front of the maps. The list of numbers is not complete, suggesting that there were more maps in Coryton's collection than those currently held at the RGS and the National Archives of India. While there are only three maps with numbers below 30 (7, 10, and one map with two numbers: 12 and 29), there are 18 maps numbered between 30 and 53.

[9] Although Coryton was listed as the donor in the RGS's accessions register to the Map Room, his name is not included in the online catalogue. Individuals mentioned in these entries are: R. A. Gibson; Tsaya Pay; Ko Shoay Kho; Messrs. Todd Findlay & Co; Maling; Moung Pho Mhyin and Ko Tsa; M. I. Slymm; Moung or Mhones; W. Tisbury; J. Jisbury. Since undertaking research for this thesis, collections staff have added Coryton's name to the title notes of some of the online catalogue entries.

[10] The catalogue reference for this group is RGS-IBG mr Burma. 39.

[11] RGS-IBG mr Burma S. 34. This group also includes two lists of names and place names written in Chinese and Burmese characters.

[12] The catalogue references for the individually listed maps are: RGS-IBG mr Burma S. 33; RGS-IBG mr Burma S. 35; RGS-IBG mr Burma S. 29; RGS-IBG mr Burma Div.4 (2 items); RGS-IBG mr Burma S. 32; RGS-IBG mr Burma S. 38; RGS-IBG mr Burma G. 13; RGS-IBG mr Burma S. 31; RGS-IBG mr Thailand S/S.2; RGS-IBG mr Thailand S.14 (2 items); RGS-IBG mr Burma S.30.

appear to be predominantly Western in style,[13] the items in Coryton's collection exhibit characteristics that Schwartzberg has identified as a uniquely Burmese or Shan style of mapping, including the birds-eye view; the pictorial rendering of hills and mountains; and the emphasis on the course of rivers, streams, and lakes (Schwartzberg, 1994a).[14] The majority of the maps (with a few exceptions, notably the elaborate "Map composed jointly by Tsaya Pay and Ko Shoay Kho of the district between Moulmein & Zimmay")[15] have a similar sketch-like quality. Using a limited range of colours to depict a selective amount of detail, the maps focus on symbols such as individual trees, mountains, or pagodas, which are exaggerated in size, possibly to convey their relative importance in the landscape (Schwartzberg, 1994a: 754) (see figs 5.5 and 5.6). Villages and towns are depicted as either squares or circles, and some of the maps have notations relating to "stages", or "posts", markers of either physical or temporal distance, between individual settlements. All of the maps depict the same region, extending northeast of Moulmein, and many of them feature specific routes traversing the area. Depicted as dotted lines, frequently in red ink, the routes are annotated in either Burmese, English, or both.

Recognising these maps' connections to each other and to their donor John Coryton is crucial for gaining a better understanding of their trajectories: how they were created, reproduced, and why they ended up in the RGS collection. Coryton started his career in British India in 1864, when he was appointed as Judge of the Marine Court in Calcutta. A year later, he was offered the position of Recorder of Rangoon and Moulmein. In 1872, he returned to London and was admitted, two years later, at the Middle Temple, and he worked in Chambers there continuously until his death twenty-two years later.[16] He died a rich man: his estate was valued at

[13] One of these manuscript maps is discussed in greater detail in section 5.3.
[14] See also Rugy (2020).
[15] RGS-IBG mr Burma S. 35.
[16] *The Friend of India*, 28 October 1869; *Morning Post,* 13 February 1871, p. 6; Coryton, J. (1873) "The Condition of the Bar" *Morning Post,* 14 January, p. 3; *The Friend of India,* "Epitome of News", 1 December 1870, p. 1372; *The Singapore Free Press and Mercantile Adviser*, 29 December 1896b, p. 406.

£45,000.[17] Coryton probably had additional income streams besides his judicial work. He was listed in 1880 as a shareholder of the National Bank of India and had connections to the shipping industry.[18] An avid collector, not only of maps but also of "medals, prints, antiques",[19] he made several donations to British institutions following his return to London.[20] Coryton was also a prolific writer, who published articles on diverse topics in newspapers and journals, and he was a regular contributor to discussions at the Royal Society of Arts, the Social Science Association, and the British Association for the Advancement of Science.[21]

Amongst Coryton's list of publications is a paper he presented at the Royal Geographical Society in March 1875 (subsequently published in the Society's *Journal*), which sheds light on his donation of the twenty-nine maps that are the subject of this Chapter. The main topic of his paper was, as its title suggests, the location of a trade route "between British Burmah and Western China" (Coryton, 1875). In the paper, Coryton explains how the maps he donated to the RGS helped him design his own suggestion for such a trade route, which he showcased in the form a printed map he also donated to the Society (fig. 5.7).[22] Connecting Burma with China by the means of a trade route was a topic of considerable interest in Britain in the second half of the nineteenth century. By that time, British control over the Burmese Kingdom had been formalised

[17] *Flintshire Observer Mining Journal and General Advertiser for the Counties of Flint Denbigh,* 13 January 1898, p. 6. The equivalent of this sum today would be around £ 3,000,000.
[18] *Daily News* "Meeting of Public Companies", 23 April 1880, p. 7.
[19] Anon. (1898) *The Library*, 10, pp. 84-85.
[20] Coryton donated coins, two wooden models of Burmese carts, a Chinese wine jug, and a Chinese compass as well as other "articles of vertu" to the British Museum, the Camberwell Library and Museum Committee, the South Kensington Museum, the Royal Naval Museum, and the Worshipful Company of Shipwrights (British Museum, *The Library*, vol. 10, 1898, pp. 84-85; Science Museum, 1873-21 and 1873-20; Anon. (1876), *Catalogue of the Special Loan Collection of Scientific Apparatus at the South Kensington Museum*, p. 781; The Worshipful Company of Shipwrights, 019/1877).
[21] Coryton's contributions to discussions at these learned societies were mostly about patents and medals; he is remembered today for arguing the case against patents (MacLeod and Tann, 2007). Besides his writing on patents, the topics of his articles and papers included polygamy in Burma (*Census Report on Burma,* 1891) and ideas regarding coinage (*Pall Mall Gazette,* 1891).
[22] This map was circulated quite widely; besides the RGS, the British Library has a copy of it (Cartographic Items Maps 58430.(1).) as do the National Archives of Singapore (HC000850). Coryton's paper was illustrated by another map showing his proposed trade route, which was created by the RGS's draughtsman (Coryton, 1875: 229).

through the outcomes of two successive wars, known as the First and Second Anglo-Burmese Wars (1824-26 and 1852 respectively).[23] The First Anglo-Burmese War, which was started due to a perceived Burmese threat over the border between British India and the Burmese Kingdom, resulted in a decisive British victory and the annexation of the provinces of Arakan and Tenasserim to the British empire (Myint-U, 2006).[24] The Second Anglo-Burmese War continued the gradual diminution of Burmese sovereignty and independence: by 1853, the British had secured rule over the state of Pegu, renamed Lower Burma. Finally, in 1885, the British Government advanced to the Burmese capital of Mandalay, sending the king, Thibaw Min, into exile and occupying the Kingdom's remaining territory, known to the British as Upper Burma (Myint-U, 2006). As territorial control was solidifying, the British started to look beyond the borders of their colonies for economic opportunities.

Eric Tagliacozzo has argued that by 1870, "commercial and governmental interests, though motivated by different goals, were starting to combine" (Tagliacozzo, 2004: 370):

> Britain's interests in mainland Southeast Asia were predicated on (…) three (…) phenomena: geo-strategic concerns (especially with regards to France); access to productive markets (especially in Southwest China); and a concern for where the problematic—and profitable—boundaries of commerce and influence might lie (Tagliacozzo, 2004: 356).

With the conclusion of the Anglo-Burmese treaty in 1862, which gave British traders the rights of free movement anywhere in Upper Burma, individual merchants were encouraged to venture into the hills on their own account; the government of India believed that this would advance the establishment of successful trade routes to Yunnan while also aiding in the creation of firmer boundaries between their own territory and the surrounding states (Edwards, 2004). The area through which a trade route to Yunnan would pass was located in the frontier regions of the

[23] The Third Anglo Burmese War (1885) eventually cemented the end of the independent Burmese Kingdom.

[24] The First Anglo-Burmese War was one of the longest and most expensive wars in British colonial history, with fifteen thousand British and Indian casualties as well as an unknown number of Burmese deaths (Myint-U, 2006: 18)

British colony, which is where colonial control was most vigorously challenged by Indigenous groups (Tagliacozzo, 2004: 355-6). These tensions were exacerbated by differing ideas about the nature and location of a border. As Thongchai Winichakul has demonstrated, it was only in the late nineteenth century that Siamese maps started to depict boundaries with any degree of fixedness (Winichakul, 1994). By the 1870s, it had become apparent that "transecting routes and thoroughfares" through this region "became better and better known" while "the exact coordinates of a 'frontier' were not becoming common knowledge at anywhere near the same rate" (Tagliacozzo, 2004: 373). When the absolute boundary between British Burma and China was finally settled with an agreement in 1894, the upkeep of the trade route continued to be of central concern. The agreement makes explicit the way in which British commercial and political interests remained intertwined: it was decided that

> It will be for the advantage of both countries and of their mutual commerce that British jurisdiction should be established over the whole of the Irrawaddy watershed. This would give a good and distinct natural frontier, and would enable them [the British] to protect efficiently the trade routes from Yunnan.[25]

Coryton was well-aware, as he demonstrated in his 1875 paper, of the discussions concerning different options for trade routes to Yunnan and the economic advantages these trade routes could generate; especially if they had their end point in Moulmein, his own official residence. Situated at the mouth of the Salween river, not far from the Gulf of Martaban and the Andaman Sea, Moulmein became the first political, commercial, and social centre of British Burma (Yin, 2016: 68). After it had passed to British rule in 1824, Moulmein acted as the capital of the colony until it was succeeded by Rangoon (Yangon) in 1852. The location of Moulmein coincided with the southern end of Indigenous caravan routes passing through various Shan states under Burmese and Siamese influence, and the city had a bustling market, where

[25] "Convention between Great Britain and China Respecting Burmah and Thibet, signed at London, March 1, 1894" (no 6521, Appendix C), in Vol. 26; cited in Tagliacozzo (2004: 376).

Indigenous traders, many of whom were Shan, sold their imported goods (Li, 2016: 76).[26] The port city was also the centre of the British teak trade, one of the most important revenue generating projects of the colony: the timber was widely used as a substitute for oak in the construction of naval vessels, thus giving it a considerable commercial and strategic value (Bryant, 1996: 171). In a letter to the Liverpool Chamber of Commerce, written in 1870, Coryton highlighted the economic and political advantages of establishing a trade route from Moulmein to Yunnan: besides facilitating the flow of goods, it would also increase the "official strength" of British rule and therefore reduce the threat of "dacoity", or armed banditry, to the teak trade (Coryton, 1870: 10).[27]

Coryton's interest in the topic of a trade route to Yunnan surely reflected his familiarity with the mountainous region extending northeast of Moulmein, the potential location of such a trade route. From the 1860s onwards, this area, with its ample teak resources, was frequently at the centre of cases Coryton presided over at the Moulmein court, as he recalled in his paper in the RGS's *Journal*: "in the Court of the Recorder of Moulmein, suits were continually before me involving rights to timber felled on the banks of the Salween, far above British jurisdiction" (Coryton, 1875: 230).[28] In the process of adjudicating cases relating to the teak trade, Coryton would have weighed the evidential value of maps and testimony obtained from Indigenous people.[29] For example, the map of the Mhinelonghee forest described in this Chapter's

[26] Eric Tagliacozzo lists among the goods that were moved along trade routes to Moulmein and sold in the market there, "amber, rubies, and jade lay athwart the Mogaung Valley on the Assam to Ava trek; teak and other timber between Calcutta and Arakan; and silver and gold through the passes of the Shan States" (Tagliacozzo, 2004: 366).

[27] The term "dacoity", from the Hindu word "daaku", meaning "armed robber" (Yule and Burnell, 1903: 1032), was used by the British in India to refer to criminal activity by armed Indigenous groups).

[28] Teak logs were felled in remote and mountainous areas, often located in the borderlands of the British colony; they were then deposited into streams, which transported them via bigger rivers such as the Salween to the port city of Moulmein. From there, the timber was exported to India and thence to Britain (Bryant 1996: 171). It was impossible to fully supervise the teak logs throughout their journeys from the hills where they were felled to Moulmein; for this reason, the logs had to be carefully marked as soon as they were felled, so that their rightful owner would be able to identify them upon the logs' arrival in Moulmein.

[29] The so-called "Great Mhinelonghee Case", to which the map discussed in this chapter's introduction is related, was one such case. The court files of this particular case reveal some of the complex relationships,

introduction, details the rights of ownership over certain parts of the forest, labelling different sections as "Chouk Mahatit's Forest", "Forest of Shoay Gan" and "Creek belonging to Choukla Ryaboot".[30] Other maps in Coryton's collection refer to these court proceedings even more explicitly; for example, one map marks the site where "Mr Dawson's timber" was located and another mentions it had been "used in the Court of the (…) Commissioner of Amherst early in 1868 on the Trial of Nga-Oh on a charge of fraudulently marking timber in Eastern Karenee".[31]

The teak trade had detrimental impacts on Indigenous communities living in the regions with the biggest timber resources (Bryant, 1994 and 1996). Although the British attempted to co-operate with the inhabitants of the forests to an extent,[32] their demands for land to grow teak increased to a level that seriously threatened Indigenous lifestyles and resulted in an increasing number of conflicts between British foresters and Indigenous groups (it also resulted in tensions between the Karen and the Burmese) (Bryant, 1996: 168, 174). Coryton mentioned these conflicts in his RGS paper, revealing at the same time his lack of knowledge about the different ethnic groups living in the borderlands of the colony. Referring to his work on court cases dealing with the fraudulent marking of timber, he claimed that it "would be difficult to define these petty sovereignties more exactly than by saying that the chiefs admit in every case some sort of allegiance either to China, Burmah, or Siam, and (…) not unfrequently to more than one at the same time" (Coryton, 1875: 230).[33]

While these court cases may have initially sparked Coryton's interest in the region through which a trade route to Yunnan would pass, he continued to build on his geographical

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sometimes cordial, more often fraught, between the Indigenous population and the British in relation to the teak trade (Anon., 1865).

[30] RGS-IBG, mr Burma S. 29.

[31] RGS-IBG mr Burma S.34 and RGS IBG mr Burma S.34.

[32] For instance by recruiting Karen individuals to plant and tend teak in their hill clearings in exchange for payment and the right to keep their territories (Bryant, 1996: 174).

[33] Tagliacozzo has argued that the various Indigenous peoples living in these regions sometimes used these European prejudices to their own advantage. He stated that "'ethnic' differences on the frontier were often a matter of choice and context, with Shan essentially 'becoming' Kachin when it suited their needs, and vice versa" (Tagliacozzo, 2004: 374).

knowledge by collecting more maps. Judging by the available evidence, he seems to have acquired manuscript maps in three main ways: firstly, through his employment at the Moulmein court; secondly as gifts or possibly purchases from other British settlers, traders, and entrepreneurs in Burma (the Mhinelonghee map, for example, was received from John McCall, who worked for the Scottish shipping company Todd, Findlay & Co: Coryton, 1875: 241);[34] and thirdly, as drawings commissioned from Indigenous people directly. While the first group of maps refer to the teak trade (as discussed), the focus of the second and third group typically lies on specific routes. The general area through which these routes pass is located between the towns of Zimmay (Chiang Mai) and Moulmein (Coryton, 1875: 241). In the late nineteenth century, Zimmay was a tributary state of the Kingdom of Siam and a centre for commerce, where Chinese merchants exchanged goods with traders from Burma (especially with the Shan, who lived in the borderlands of Siam and Burma). Some of these goods were later sold in Moulmein; in fact, Coryton himself purchased "some silk and copper" from Shan traders in 1871, also included in his donation to the RGS.[35] Coryton described the Zimmay-Moulmein trade and its advantageous potential for the British colonial administration in the following way:

> Caravans of Chinese traders were at Zimmay, waiting only for an assurance of safe-conduct to visit our newly acquired port [Moulmein]. On our part, the authorities at Moulmein were using every exertion to procure, by diplomatic negotiations with Siam, the quiet of the district through which the traders had to pass (Coryton, 1975: 237).[36]

[34] It is possible that Coryton's connection with McCall originated in his contacts with the shipping industry. Coryton is described by the Worshipful Company of Shipwrights, to whom he donated a Chinese vase in 1877, as a "shipwright"; and there is evidence that he exhibited a model boat at the Great Exhibition in 1851, when he was still a law student https://www.gracesguide.co.uk/1851_Great_Exhibition:_Official_Catalogue:_Class_VIII.:_John_Coryton (Accessed 26 July 2020). Moreover, he held the position of Judge of the Marine Court in Calcutta for some years in the 1860s before moving to Burma.

[35] In the RGS maps accessions register these objects are recorded as "two hanks of Burmese silk [and] a piece of Burmese copper," which is slightly misleading because, if we trust Coryton's report, they were probably Chinese rather than Burmese in origin (RGS maps accessions register, 1870s, p. 243). These materials appear not to have survived in the collection.

[36] There was another reason why a British presence in Zimmay was regarded as advantageous: namely, its close proximity to the French colonies in Cochin China (Coryton, 1870: 11). It was hoped that a British presence in the area would dissuade the French from attempting to extend their empire's borders (see Rugy, 2016).

Although not reflected in the way the RGS catalogued Coryton's donation, it is apparent from both his writing and the maps themselves that Coryton saw the significance of the collection as lying in its contribution to the debate over the most convenient trade route from Moulmein via Zimmay to Yunnan. As the region through which this trade route would pass had not been fully mapped by Europeans, he relied on Indigenous people to provide him with information about its geography. For example, Coryton mentioned how a group of Shan traders he met in Moulmein in 1871 showed him, "on a map made by themselves", their routes from "about a month's distant from Moulmein" (Coryton, 1875: 241); and he explained that "the maps exhibited, and which I have much pleasure in presenting to this Society, have almost all been drawn by these pedlars themselves" (p. 241). The implications of this collaboration and the way in which Coryton presented the sources of his geographical knowledge will be discussed in greater detail in the next two sections of this Chapter.

5.3 Collecting and authenticating "native information"

European dependence on local knowledge is well documented in colonial archives from many different parts of the world, although published expedition accounts and official records frequently downplay the contributions made by Indigenous people (for example by reducing their roles to "mere servants" or "unnamed assistants") (Konishi, Nugent and Shellam, 2015: 5). Whenever local knowledge and skill could be more easily fitted into existing forms of Western knowledge, such as a topographical map or a land survey, it was more positively valued. However, as Felix Driver and Lowri Jones have demonstrated with reference to the explorer David Livingstone, this was still often treated as potential evidence only, in need of corroboration by other Europeans (Driver and Jones, 2009: 16).[37] While Livingstone recalled in *Missionary Travels*

[37] See also Driver (2013).

(1857) that he had received geographical information from the inhabitants of the regions across which he had journeyed, he also said that this "native information" (as it was called) was "offered to the reader with diffidence, as needing verification by actual explorers".[38] Unlike Livingstone, Coryton did not rely on Indigenous maps primarily for wayfinding—indeed, there is no record of him travelling into the regions depicted on his maps. Instead, he used the Indigenous geographical knowledge the maps contained to make a map of his own, which he then presented to commercial bodies and learned societies in Britain.

Soliciting geographical information in the form of maps from Indigenous people was a remarkably common practice amongst European explorers and settlers from the earliest voyages of discovery onwards, [39] and many of the Burmese maps surviving in Western collections were produced in this way. This includes some of the maps of the Scott Collection now held in the Cambridge University Library. Scott obtained his maps through a variety of channels, including through commissioning maps directly from Burmese and Shan mapmakers; from the British military who seized various maps during campaigns in Upper Burma; and through acquisition from Indigenous traders (Rugy, 2020). Coryton's collecting strategies were similarly diverse. As mentioned above, just over half of the maps in the set he donated to the RGS were solicited directly from Indigenous mapmakers, mainly Shan traders who visited the market in Moulmein; another quarter or so came into his possession through his connection to the Moulmein court; and the rest of the maps were acquired by some other means, for example through British contacts. The scale of his collection and that of Scott shows that the dependence of British people on Indigenous geographical knowledge was substantial, especially in the early stages of colonisation before large-scale surveys of newly annexed regions had taken place.[40] The

[38] Quoted in Driver and Jones (2009: 16).
[39] See Jones (2010), Mundy (1996), Belyea (1992), Bravo (1998).
[40] Marie de Rugy made a similar point in relation to the Scott Collection of Burmese maps, as discussed in her article in the *Journal of Historical Geography* (2020).

remainder of this Chapter section will look at Coryton's efforts to re-present the "native information" of his maps to a Western audience.

The subject of opening up a trade route to China dominated British discourse about Burma in the second half of the nineteenth century. Eric Tagliacozzo has argued that these debates had been at the centre of British policy in Burma for much longer, since the seventeenth century, and were, in fact, a catalyst for a number of major conflicts, including the first Anglo-Burmese war in 1824-1826 (Tagliacozzo, 2004: 366). By 1860, British interest in such a trade route had become even more insistent due to the necessity of opening the Moulmein-China route to advance the British textile trade (Christian, 1940: 177). Moreover, mapping and securing the borders of the Burmese colony had also become a political imperative: there was an increasing threat of French interference in the region.[41] Some of the expeditions sent out to determine the most convenient location of a trade route and to map the borderlands at the same time were organised by the government of India, such as the diplomatic mission to Zimmay by David Richardson in 1829;[42] others were sponsored by British Chambers of Commerce.[43] The RGS was clearly interested in this topic: besides publishing Coryton's paper in 1875, the Society hosted various lectures and papers focussed on Burmese trade in the 1880s and 1890s.[44] As the President of the Manchester Chamber of Commerce wrote in a letter to the RGS in 1886, "the importance of opening new markets and of developing those already existing, renders necessary a close alliance between geography and commercial interest".[45]

[41] Thomas Simpson (2021) has recently argued that in some instances, the imperial state also had an interest in keeping boundaries fluid, as for example in the highlands of South Asia.
[42] Originally a surgeon in the Madras European Regiment, Richardson became political officer in Tenasserim after the First Anglo-Burmese War.
[43] For example the expedition in the early 1880s of Holt Hallett and Archibald Colquhoun, which aimed to determine the most suitable location for building a railway track between Moulmein and Zimmay (Hallett, 1886).
[44] Papers about this topic published in the *Proceedings of the Royal Geographical Society* include those by Hallett (1882 and 1886); Bryce (1886); Lamington (1891); and a map meant to illustrate "Dr. C. Williams "Memorandum on the Question of British Trade with Western China via Burmah" (mr Burma S/S.17).
[45] Quoted in Hallett (1886: 20).

According to Matthew Edney (1997), the British mapping of territories across South Asia during the late eighteenth and nineteenth centuries progressed from compilation ("reconciling different geographical sources and combining various surveys", p. 97) to triangulation ("a survey technique in which distances on the ground were surveyed indirectly", p. 105). However, there were, as Edney observes, noteworthy exceptions to this pattern including the mapping of the borderlands of British colonial rule adjacent to regions such as Burma, Siam, and Tibet. British maps of these areas continued to be based on compiling cartographic materials from a variety of sources, some of which were Indigenous (Rugy, 2020).[46] Coryton's own map depicting his proposed trade route was predicated upon the same principle of compilation: as it concerned an area not yet surveyed in detail by the British, Coryton applied what Edney describes as a "general geographical process of corroborating and combining observations to provide analyses and more coherent and organised regional descriptions" (Edney, 1997: 97). Aware of these conventions, Coryton assembled not just one, but a collection of maps from different Indigenous sources.

In order to justify his proposal for a trade route, at the time just one of many different possibilities, Coryton needed to demonstrate to British institutions including the RGS and the Liverpool Chamber of Commerce that the "native information" on which his proposal was based was trustworthy. He attempted to achieve this in several ways; firstly, by emphasising the personal relationships he had with the Indigenous mapmakers. As Charles Withers has argued in the context of mapping the river Niger in the late eighteenth and early nineteenth century, "ocular demonstration" was an important aspect of guaranteeing the reliability of a map once it leaves the context in which it was produced (Withers, 2004). Coryton thus described in some detail the individuals who were responsible for creating maps for him: members of a group of twenty-eight traders from Tonquin (today's northern Vietnam), who visited Moulmein for ninety

[46] See also Edney (1997: 81). Christopher Bayly's book *Empire and Information* (1996) discusses information gathering in the borderlands of the British Empire in India in greater detail, as does Simpson (2021). This topic is discussed further below in the context of a Tibetan map of Sikkim and Tibet.

days in 1871, and from whom Coryton also bought the silk and copper he donated to the RGS; a group of Shan traders, whom Coryton visited when they were selling their goods in the Moulmein market; a group of fifty-four men Coryton described as "Panthays" (a term used at the time to describe Chinese Muslims), who travelled from "Maingshai in China" to Moulmein in 1872; and, lastly, a second party of "Panthays" who visited Moulmein in 1870 (Coryton, 1875: 240-3). He also included a list of the latter group's names, written by themselves in Chinese and Burmese characters, in his donation to the RGS, as if they were authoring legal depositions.[47] Moreover, he stressed that many of the maps had been created on the veranda of his own house in Moulmein, thus further emphasising his personal relationships with the Indigenous mapmakers and his proximity to the documenting of their evidence in map form (more about this in section 5.5).

Another way Coryton sought to demonstrate the reliability of the maps in his collection to a Western audience was by highlighting that they had already been vouched for by other British people in Burma and India. For example, Coryton emphasised in his 1875 paper that it was Henry Thuillier, the Superintendent of the Survey of India himself, who had organised the tracings of his maps (Coryton, 1875: 241).[48] Moreover, Coryton also included evidence of the trustworthiness of his maps within his donation to the RGS. In addition to the Indigenous maps and tracings, Coryton donated to the Society a "Map of the teak localities in British Burma, Burma Proper and the Shan and Karannee States" (fig. 5.8).[49] This map, which depicts the whole extent of the British colony, the autonomous Kingdom of Burma, and the Shan States, with teak resources highlighted in green, follows the conventions of Western cartography. However, the map is based on "native information": its legend refers to a "Sketch given to the Recorder of Moulmein of the route from Tatee, town in China to Theinnee via Kaingma and Konglong by the headman of Kaingma who

[47] Coryton also included the names of individual mapmakers on some of the other maps he donated. The names of the Indigenous mapmakers noted by Coryton are: Tsaya Pay, Kho Shaoy Kho, Namawong, Kau-ka-reet, Ko-Shoay-Doang, and Ko-Shoay-Yah.
[48] These tracings are listed as "Tracings of the Salween River in Burmah and of routes between Burmah and China" on "15 large sheets" in the "Miscellaneous Maps, Charts, Tracings, and Extracts" section of the 1871-72 *General Report on Topographical Surveys of India* (p. 73).
[49] RGS-IBG mr Burma G. 13. The map is dated 19 October 1871.

visited Moulmein, Dec. 1870".[50] The Recorder of Moulmein at the time was of course none other than Coryton himself; and the "sketch" referred to in the legend was likely the original of a tracing he donated to the RGS, which bears an inscription explaining that it was made by "the leader of the Party of Panthays" (who visited Moulmein in 1870, see previous paragraph) and which depicts routes from "Kyengmah" (probably an alternative spelling of "Kaingma").[51] By including this British map in his donation of Indigenous maps and tracings, Coryton demonstrated that it was possible to reappropriate the "native information" contained in his collection for the benefit of Western cartography.

There is every reason to suppose that Coryton himself was convinced that the maps in his collection contained valuable geographical information. He witnessed the maps' production and influenced their contents by asking the mapmakers specific questions: he said that he "endeavoured to get what information I could from them as to their routes" (Coryton, 1875: 240). However, the Burmese and Shan mapmakers made their own decisions about what kind of information to include and omit. Many of the maps are rooted in personal experiences of travel, with annotations describing a journey along a specific route. One of the traced maps thus bears the Burmese inscriptions "four stages from the Hill" and "1/2 day";[52] while another refers to "a whole day's walk".[53] On yet another map, this one a manuscript, a Burmese inscription provides even more individual detail: it reads **"**after having slept one night, I have arrived at 10 am on the other side of the river".[54] While Coryton preferred to present these maps as containers of "native information", which could quite easily be extracted, interpreted, and re-used in the context of

[50] The map also lists "Reliable Sketches of Native Foresters and residents of Mhinelongyee, Maihonthoon and other different parts of the foreign states," which might also refer to the maps in Coryton's collection. No more information is given about why these sketches were thought to be particularly reliable.
[51] No standardised English transliteration of Burmese words has ever existed. This means that there are often different English spellings of the same Burmese words. This is especially common for place names, whose English transliterations have changed over time: for example, the "Moulmein" or "Maulmein" of the nineteenth century is today spelled "Mawlamyine".
[52] RGS-IBG mr Burma S.39
[53] RGS-IBG mr Burma S.34.
[54] RGS-IBG mr Burma S. 39 [lake].

Western cartography, it is, in fact, impossible to divorce the maps from the concerns and experiences of the people who created them, and whose agendas and interests might have diverted quite significantly from Coryton's own.[55]

5.4 Mediating Indigenous knowledge: from manuscripts to tracings

As "native information" travelled from the colonies to the metropole, it was frequently adjusted in order to make it more amenable for incorporation into Western archives and Western systems of knowledge. Such mutations in the form of images in the course of their journeys from manuscript to print have long been studied by art historians and historians of science. In her study of illustrations in travel and exploration narratives published in Victorian Britain, for example, Leila Koivunen has argued that such images "were neither exact documents of what travellers had witnessed nor of what they had recorded by visual means". Rather, they "were the result of a long construction process, which, in many respects, resembled the editing of texts for publication, but included an even greater variety of different stages and persons" (Koivunen, 2008: 206).[56] The same can be said for map sketches, which were created by or in collaboration with an Indigenous person. They, too, were liable to alteration at the hands of draughtsmen or engravers with the result that in their published form, they appear more like – if not quite the same as—Western maps (Craciun, 2013).[57] In the case of Coryton's maps, however, we are concerned not with a journey from manuscript to print, but from collaborative drawing to tracing.

Coryton describes the production of the thirteen tracings at the premises of the Survey of India in Calcutta as follows:

> Those [maps] on tracing-cloth are copies kindly made for me by the Surveyor-General of India, Colonel Thuillier, in return for the originals, which, together with a set of valuable and elaborate maps which Mr. MacCall, of Todd Findlay's, was good enough to give me

[55] For an anthropological discussion of this topic see Mueggler (2011).
[56] See also Jones (2010), Koivunen (2013), and Craciun (2013).
[57] Examples of Indigenous maps changing through the process of reproduction, including the well-known example of Tupaia's chart, are discussed in Chapter 2.

> soon after my arrival in Moulmein, I had presented to the Government of India (Coryton, 1875: 241).

As Coryton stated, the original documents remained in the collection of the Survey of India (in 1975, they were transferred to the National Archives of India in Delhi).[58] The tracings, meanwhile, were included in the set of maps which Coryton donated to the Royal Geographical Society. While little is known about the tracing process at the Survey of India itself, the name of a draughtsman who executed some of the copies of Coryton's maps is mentioned on three of them: Afzul Hossein, who presumably was one of many Asians employed in various capacities by the Survey of India in the 1870s.[59] Moreover, one other tracing appears to have been made by a person from Burma, whose name has been recorded as Moung Koy.[60] In general terms, the tracings appear to be accurate reproductions of the originals: topographical features such as hills and rivers were faithfully copied and any omissions, additions, or alterations are not immediately obvious. However, a closer comparison of manuscripts and tracings shows that some of the information contained in the originals was lost in the process of their reproduction. This can be explored further by focussing on two of the most noticeable differences between the originals and their copies: the language of the inscriptions and the materials used to create the maps.

The difference in language is immediately apparent: the inscriptions on the original manuscripts are overwhelmingly in Burmese while those on the tracings are exclusively in English.

[58] This collection remains the property of the Survey of India and therefore part of a military and governmental institution, which means that certain access restrictions apply. For example, it is not permitted to photograph or scan any of the maps in the collection. Currently, there are twelve manuscript maps from Coryton's collection at the National Archives of India. They are of three general types: firstly, maps on blue paper with English inscriptions; secondly, maps drawn on blue paper in ink and pencil, with inscriptions in Burmese and English translations; thirdly, maps on beige paper, broadly similar in terms of style, which are annotated in Burmese script without English transliterations or translations. Some of this third group also include sophisticated watercolour designs.
The RGS holds tracings of all but one of these maps. Joseph Schwartzberg mentioned the maps at the RGS and those at the National Archives of India, however, he was apparently unaware of the connection between the two collections (Schwartzberg, 1994a, 1994e).

[59] RGS-IBG mr Burma S. 32. For further discussion of Asian employees of the Survey of India, see Chapter 6 of this thesis, which looks at the technologies of map reproduction at the Survey of India in the late nineteenth century.

[60] RGS-IBG mr Burma S. 34 No. 53.

While most of the inscriptions are place names, some include more information such as details about the landscape, for instance "Hills covered with thick jungle";[61] references to the number of "stages" it takes to travel from one village to the next;[62] descriptions of the political make-up of a specific region ("Shan Territory", "Kayen or Karen Villages"[63], "Burmese Territory");[64] references to religious sites ("White Pagoda", "Christians");[65] and details about various man-made features, such as "Kack bridge 50 fathoms long and 28 fathoms broad".[66] On the whole, the translations are accurate, although the few discrepancies that do occur between the Burmese and the English inscriptions are telling.[67] For instance, some aspects of the translations reinforce British concerns with the ownership and demarcation of territory: what is described in Burmese as "British registered company forest" becomes "British government forest" in English; and the Burmese inscription referring a region as "belonging to the Chinese" is translated to "end of Chinese territory".[68] The English translations also obscure occasional misspellings in Burmese, which suggest that not all of the mapmakers were native Burmese speakers.[69]

The manuscripts and tracings are further distinguished by the materials used in their production and the overall style in which they were executed. As mentioned before, the tracings are all made of the same kind of transparent paper, presumably supplied by the Survey of India. The paper used for the manuscripts, on the other hand, varies in type and quality. Unlike the tracings, the manuscripts show clear signs of usage, with folds and tears that likely predate their arrival at the RGS and the National Archives of India. The painting and drawing materials, too, vary. Most of the tracings were produced in black ink, with some additional details added in

[61] RGS-IBG mr Burma S. 34.
[62] *Ibid.*
[63] *Ibid.*
[64] RGS-IBG mr Burma S. 38.
[65] RGS-IBG mr Burma S. 34.
[66] RGS-IBG mr Burma S.33.
[67] R. A. Gibson, a colonial official working for the Land Revenue Administration in Burma, was responsible for translating the Burmese inscriptions of at least five of Coryton's maps. Christian Gilberti translated a selection of Burmese inscriptions of the maps for me.
[68] NAI HMF 90.11 and RGS-IBG mr Burma S. 29.
[69] I am grateful to Christian Gilberti for this observation.

watercolour. The manuscripts include a much greater diversity of drawing materials, including pencils, watercolours, and inks. Many of them have visible pencil lines, indicating that they went through several stages of drafting and redrafting; even some of the lines in ink were redrawn, and some of the inscriptions changed.[70] Moreover, some of the manuscripts contain signs that suggests that they were used by more than one person. For example, on one map (fig. 5.10), places of significance such as a pagoda and the name of a town have been circled and underlined with blue pencil.[71]

In iconographic terms, the tracings at the RGS are recognisable as copies of the originals in the National Archives of India. Whereas the stylistic attributes of other Indigenous maps were liable to be altered in the process of translation to print in order to correspond to Western conceptions of perspective and abstraction, the tracings in Coryton's collection retain many of their original characteristics, including the pictorial rendering of some of their topographical features and the bird's-eye view. However, while the reproduction process enabled the circulation of the original designs, there is no direct evidence of the subsequent use of the tracings at the RGS, despite continued debate over the opening up of a trade route between British Burma and western China well into the last decades of the nineteenth century.[72] Originally, as I have argued, the collection had been assembled by Coryton in order to justify the viability of his proposed trade route, giving the manuscript maps a clear purpose. As noted above, he went to some effort to label the maps accordingly, attributing them to individual mapmakers and

[70] For example, one of the manuscripts (NAI HMF 90.19) has pencil lines, barely visible, resembling hills or perhaps streams in the background; these lines were not retraced in ink, like the rest of the map, perhaps suggesting that the mapmaker decided against making them a central feature of his work. On the tracing, however, these pencil lines have been copied in ink, like the rest of the map, which has changed its overall appearance (fig. 5.9).

[71] RGS-IBG mr Burma S. 39.

[72] The topic of a trade route to Yunnan and the possible construction of a railway connecting British Burma with western China was frequently addressed by the RGS in the decades following the publication of Coryton's paper in 1875. For some examples of articles published in the Society's *Journal* about this topic, see above, footnote 44.

explaining their provenance. By the time some of the maps and tracings were reassembled in the RGS, their purpose had become less clear and their integrity as a collection lost.

5.5 From "native information" to artefact of encounter

A Latourian (1987) interpretation of Coryton's collection of maps would suggest that once accessioned into a centre of calculation, their "usefulness" for the purpose of knowledge creation would be significantly enhanced. The fate of Coryton's collection, however, suggests that such a process was far from inevitable. Once entered into the Royal Geographical Society, these items were relegated to the margins of the collection. Michael Bravo has criticised Latour's notion that knowledge was primarily created in metropolitan centres, proposing instead that this process happens in the field. Using the example of Lapérouse's exploration of the Bay of Tartary in 1787 (also discussed by Latour), Bravo proposed that geographical knowledge emerged from a series of complex encounters between Europeans and Indigenous groups (Bravo, 1998). With the exception of a small number of maps, which either look predominantly Western (the map of the teak resources, discussed above), or, conversely, appear to have been produced by Indigenous people without British interference (fig. 5.11), the manuscript maps in Coryton's collection bear clear signs that they were the products of collaborations. For example, the multilingual inscriptions are such a sign. On a map which Coryton titled "Moung Mhones Experiences of the Route between Zimmay and Moulmein" (fig. 5.12), the main rivers and towns are labelled in Burmese in black ink and in English with a blue pen, suggesting they were made by a Burmese draughtsman whose proposed annotations were translated before being inscribed on the map in both English and Burmese form.[73]

About the production of the manuscripts in his collection (for more examples see figs. 5.13 and 5.14), Coryton noted that they "have almost all been drawn by these pedlars

[73] RGS-IBG mr Burma S.31.

themselves, usually in the verandah of my own house, the only assistance they received being that of the interpreters and lookers-on of their own parties" (Coryton, 1875: 241).[74] The detail about the setting of this collaboration provides some insight into the nature of the encounters between Coryton and the Indigenous mapmakers. The veranda, "a semi-enclosed space created (on a single-story house) by the extension of the roof down and outwards, and supported by pillars, or by an 'additional' structure incorporated onto the side of the building", was a key attribute of one of the most familiar examples of colonial architecture: the bungalow (King, 1982: 390). The bungalow and veranda were adopted, as culturally distinctive house forms, by the British in South Asia, and often functioned as the official residence of representatives of the colonial ruling power (King, 1982).[75] Typically situated apart from Indigenous dwellings in its own "compound", the bungalow "expressed the political and social relationship between the occupants of both. Spatial distance reflected social distance" (King, 1982: 62). The veranda was an integral feature of the bungalow (its base was incorporated into the building's foundations), and it was designed to help the European occupants of the bungalow mitigate the heat of the tropical climate: "when the inside got too hot, the occupants moved onto the verandah" (King, 1982: 61).

Although conceived for a very specific reason, the veranda in British India became a space that had many different (and sometimes conflicting) uses, undermining its function as a symbol of imperial power (Yeoh, 2003: 270; King, 1982: 38). Besides being an extension of the living space used by the occupants for "lounging, smoking, walking and even dining and sleeping in" (Smith, 1868, quoted in King, 1982: 76), it could also serve as a place of work, where British officials conducted their business; and it was also where Indigenous employees and servants worked, socialised, and slept (King, 1982: 66). The fact that Coryton invited the Indigenous mapmakers

[74] Three manuscripts held at the National Archives of India in Delhi (NAI 90.12, NAI 90.19, NAI 156.20.), all of which depict routes to Zimmay, appear so alike in their execution that it is possible that they were made by the very same individual. These maps are drawn mostly in black ink, including the Burmese inscriptions, and they all have English translations and transliterations in red ink.
[75] See figs 5.15 and 5.16 for examples of British residences in Burma including verandas.

onto his veranda, a threshold between two worlds, indicates that although their relationship was conducted within the context of colonial power dynamics, certain conventions governing interactions between the colonisers and the colonised might have been momentarily suspended in that space: the mapmakers were at Coryton's residence at his invitation, and they were the ones in possession of information that Coryton coveted. Coryton's collection of maps thus provides another example of mapmaking in a "contact zone" (Pratt, 1992).[76]

Coryton describes the mapmakers he invited onto his veranda as "Shan pedlars" (Coryton, 1875: 241). While the term "Shan" was sometimes used very broadly by the British in Burma—in effect describing any Indigenous person who was not ethnically Burmese—it was most often used as a descriptor for the Buddhist people who lived in the area of the Shan States and in adjacent regions belonging to the Kingdom of Siam (Schwartzberg, 1994a: 741). It thus seems possible that the maps in Coryton's collection referring to Zimmay or the region around it, and depicting Buddhist sites such as pagodas, are of Shan origin. It was common for Shan traders to sell their goods in Moulmein. As Coryton noted of his encounters with the Shan traders in the market of his hometown:

> As I was known to take much interest in such matters, the arrival of Shan traders that had come from extraordinary distance was usually announced to me by the Burmese; when possible I paid the people a visit, and endeavoured to get what information I could from them as to their routes. On the occasion one of the traders I am speaking of coming in, I was called to see "Chopstick Shans" and found that half of them disposed of their food in this fashion, and the other in the manner usual with Burmese. On inquiry, it turned out that the little company was composed of two parties, who had come from different quarters, and met at about a month's march distance from Moulmein. Their routes are shown on a map made by themselves, which I have brought with me this evening." (Coryton, 1875: 240-1).[77]

[76] For examples of mapmaking in the contact zone, see Offen (2007), Craciun (2013), Parsons (2015), de Rugy (2020). For a discussion of this literature, see Chapter 2.

[77] The map Coryton mentions in this specific excerpt is most likely one of the maps catalogued as RGS-IBG Burma S.39; an English inscription on the map mentions that it was "brought by the Shan Trader from Kiang Toung (…) Sunday 13 Oct 1871".

Moulmein's bustling "multi-ethnic" market, where "ethnic, social, and religious boundaries" (Li, 2016: 94) could be transgressed, has been discussed by a variety of scholars since John S. Furnivall first used the colonial port city as an example of a "plural society".[78] Coryton's meeting with the Shan traders was probably one of many similar encounters between British colonial officials and Indigenous people taking place in the market of Moulmein, which might explain the willingness of the traders to engage with Coryton in the first place. While many of these day-to-day encounters did not leave any archival traces, Coryton's maps are a notable exception.

In contrast with the tracings, which were copied, translated, and handled by many different people including employees of the Survey of India, the manuscript maps in Coryton's collection are more direct embodiments of the process of the collaboration and knowledge exchange that enabled their creation. These maps can be considered as witnesses to colonial encounters: they provide a tangible link to the Indigenous people who created them, which makes them significant artefacts in colonial-era collections. Many of these maps were sketched quickly, the mapmakers probably responding directly to specific questions Coryton asked about the routes on which they had travelled to Moulmein. On several maps, the time it takes to cover the distance from one village to the next is detailed with great precision, not in terms of distance, but in terms of the time it would take for a person to walk.[79] The emphasis is put on what matters most to the traveller: the number of days required for the journey and the availability and location of places for stopovers. This set of maps indicates that despite the tensions between the British and the Indigenous population arising in Burma in the 1870s, individual relationships could be cordial enough for both parties to share the space of the veranda. At least in this particular case, it appears that the making and discussing of maps made having complex conversations

[78] Furnivall, 1956: 304; quoted in Li, 2016: 63. In 1870 (15), Coryton wrote about Moulmein that "when the road to China is once opened we shall approximate I dare say more and more as regards the lower strata of our population to the conditions of Singapore". The census taken in 1869 lists a total of eleven different groups living in Moulmein, among the largest groups being them Indians, Shan, Europeans, Chines, Burmese, and Malays (Coryton, 1870: 15).

[79] For example, one of the maps catalogued as RGS-IBG mr Burma S. 39 contains the inscription "If you want to go to Hmain Say it will take you one full day and ten hours to reach the other side of the lake".

possible; conversations which otherwise would have been impossible to have due to barriers of language and social convention.

5.6 Conclusion

This Chapter began with a map depicting a river system in the southeast of Burma.[80] While this sketch exhibited characteristics of Western cartography, it contained an inscription describing the map as "native". As it turned out, this was a British tracing of a Burmese original – not an exact copy because, as I have demonstrated, it had been altered in the process of its reproduction. Although originally intended to show the location of teak resources, the map's purpose was re-interpreted by Coryton, who assembled a collection of similar maps in order to validate claims he made about the location of a potential trade route linking the British port of Moulmein with Yunnan. While the "native information" contained in Coryton's collection seems to have been understood and valued in the context of the maps' production (by Coryton himself and by other British people in Burma and India, as discussed above), the status of this information changed once the maps reached Europe. Coryton's invitation to speak at the RGS and the publication of his article in the Society's *Journal* points to the RGS's interest in the topic of opening up a trade route to China; and the fact that the Society accepted Coryton's donation suggests that his maps were considered to be of some value. However, although the topic of a trans-Burman trade route continued to be discussed at the RGS throughout the 1880s and 1890s, the story of Coryton and his route seems to have slipped into obscurity. Coryton's paper was deemed "unoriginal" by its reviewer and there is no evidence of any further engagement between Coryton and the Society.[81]

[80] RGS-IBG mr Burma S. 29.

[81] The RGS's referee report, written by James Fergusson, states: "Mr Coryton's paper does not profess to be original, but it is a careful compilation by a thoroughly competent author, of all the information attainable on the useful [subject] it treats" (RGS-IBG JMS/8/53). The trade route Coryton proposed was mentioned in other publications, for example in Coryton's obituary in the weekly *Singapore Free Press and Mercantile Adivsor* (1896b: 406) where it says that Coryton "was well-known for the interest he took in trade communications between Burma and Siam, one projected route being known as 'Coryton's Route'".

In the context of the RGS collection, Coryton's maps were too idiosyncratic, too technical, and altogether too rough in their execution to be considered as visual curiosities like other Indigenous maps including the Red Sea chart discussed in Chapter 4. However, within the context of their production in Burma, these maps were both utilised and valued; for example, they provided the basis for the printed map Coryton commissioned, and the Survey of India invested considerable resources in the maps' copying process. For the study of the development of colonial cartography, this collection is of particular importance. The manuscripts, the tracings, and, finally, Coryton's printed map represent different stages in the process of creating a map that would be useful in the context of British trade and colonial interests. In combination, the manuscript maps (at the RGS and at the National Archives of India) and the tracings reveal a crucial part of the processes of information exchange and translation on which printed colonial maps depended.

Coryton's collection of maps demonstrates the value of extending the study of Southeast Asian mapping traditions from a focus on pre-colonial material to maps created in the context of cross-cultural encounter. Studying these maps as "hybrid" objects reveals how these cartographic traditions adapted in response to the threat and the reality of European colonisation. Finally, the maps can be considered as witnesses to colonial encounters and as such are significant artefacts in their own right. Despite the maps' removal from the context in which they were produced and from the people who originally created them, they continued to represent the colonial encounters and exchanges that led to their production. Aspects of the agendas of their creators and the negotiations that took place as Indigenous people and colonisers were trying to communicate across unequal power dynamics, language barriers, and cultural differences, are inscribed in the maps themselves.

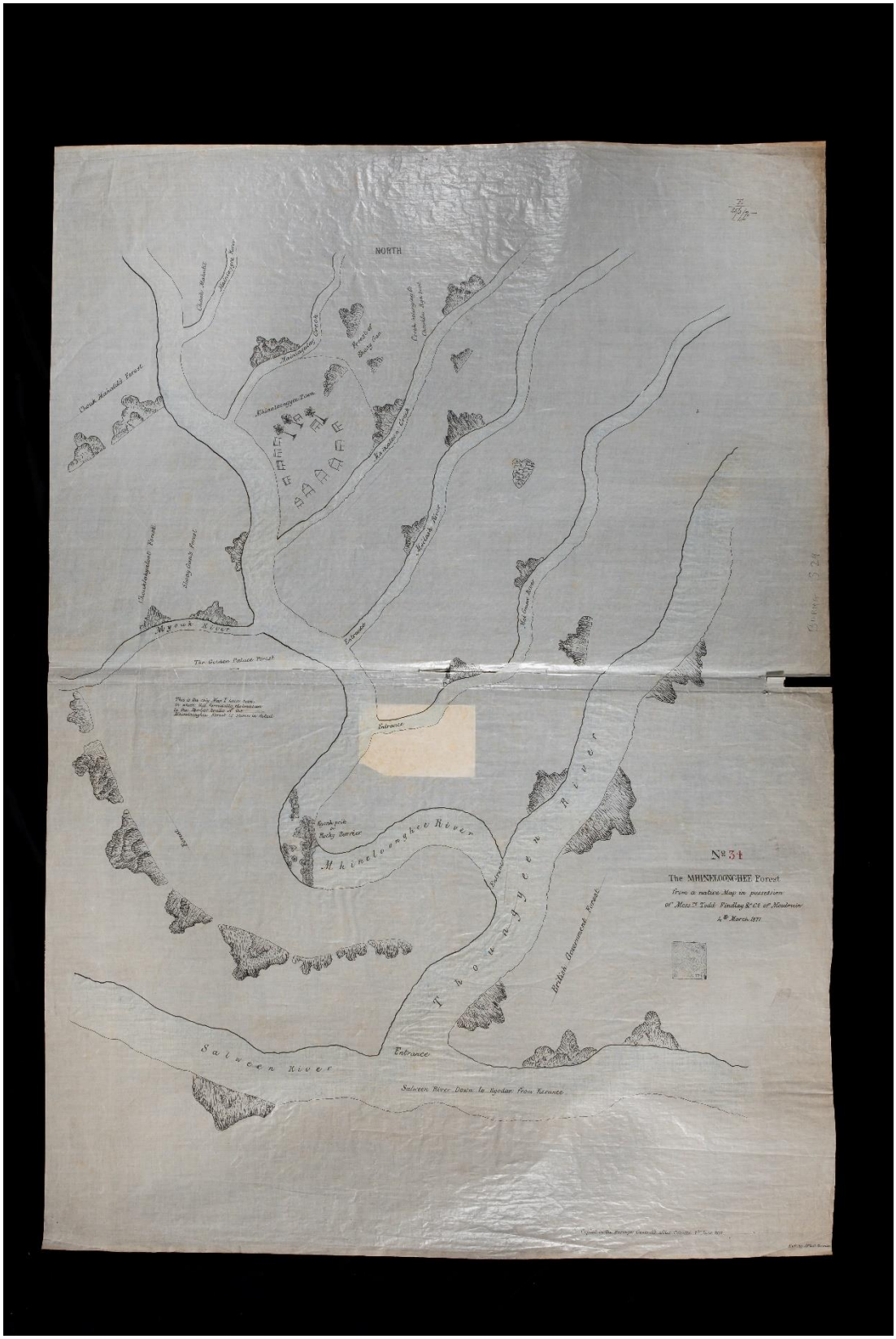


Figure 5.1 "The Mhinelonghee Forest from a native map in possession of Messrs. Todd Findlay & Co., of Moulmein 4th March, 1871". Tracing with English inscriptions.

Source: RGS-IBG mr Burma S. 29. © RGS-IBG

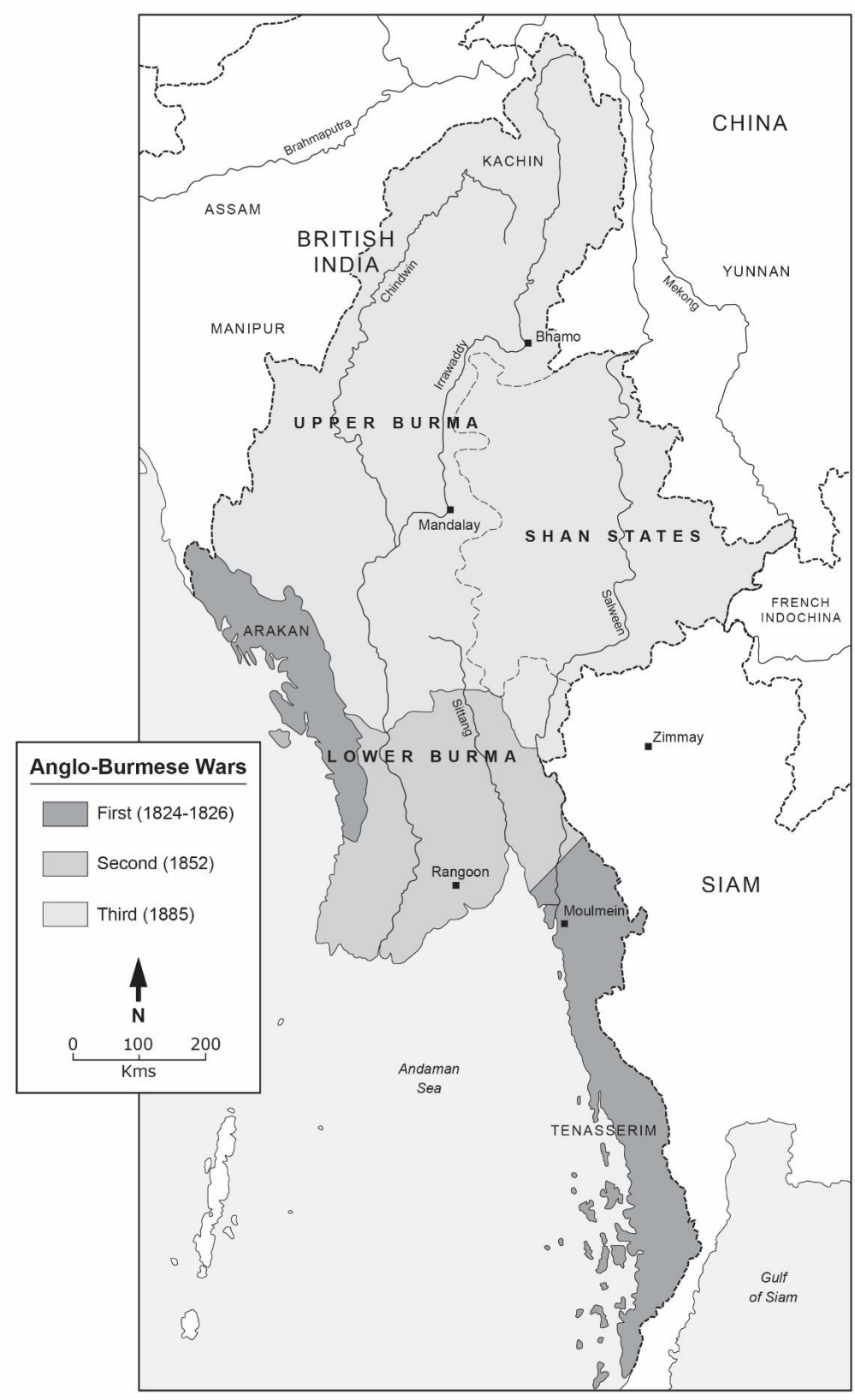


Figure 5.2 British Burma, c. 1885

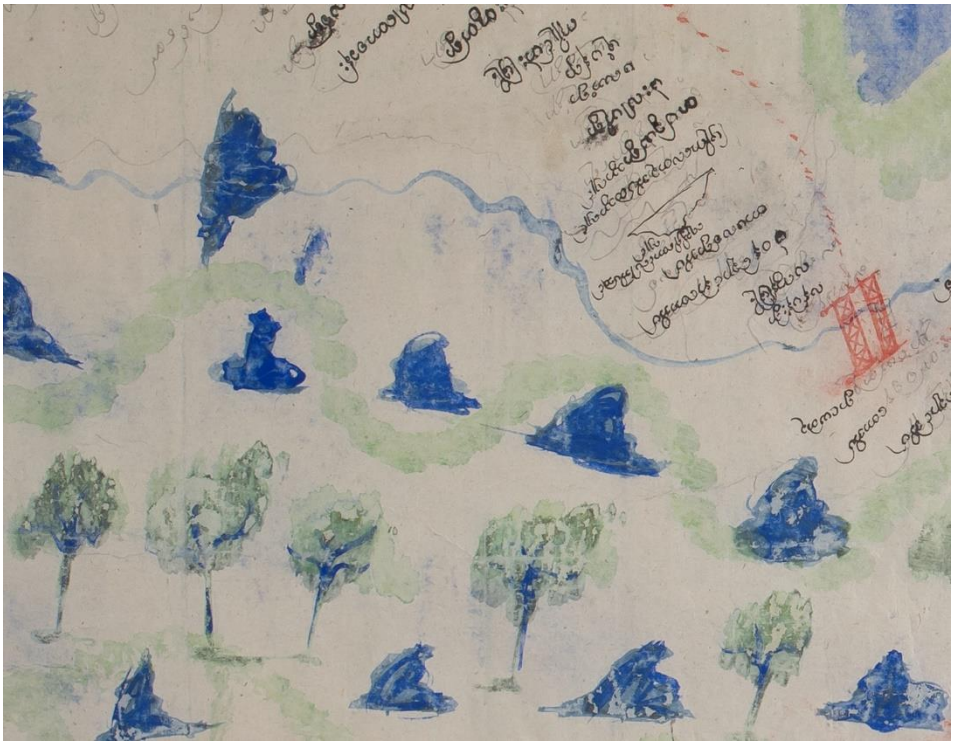
Adapted from de Rugy, M. (2020) "Looting and Commissioning Indigenous Maps: James G. Scott in Burma", *Journal of Historical Geography*, 69, pp. 5-17, p. 8.

Figure 5.3 One of the maps catalogued by the RGS under “native maps of Burma in native characters”. Manuscript with Burmese inscriptions.

Source: RGS-IBG mr Burma S. 39. © RGS-IBG

Figure 5.4 "Route by Namawong of Kieng-ma between Talifoo in Western China and Konglong on the Salween". Tracing with English inscriptions and transliterations of Burmese words.

Source: RGS-IBG mr Burma S. 33. © RGS-IBG



Figures 5.5 and 5.6 The symbols for trees and pagodas are exaggerated in size. Detail of one of the "native maps of Burma in native characters".

Source: RGS-IBG mr Burma S. 39. © RGS-IBG

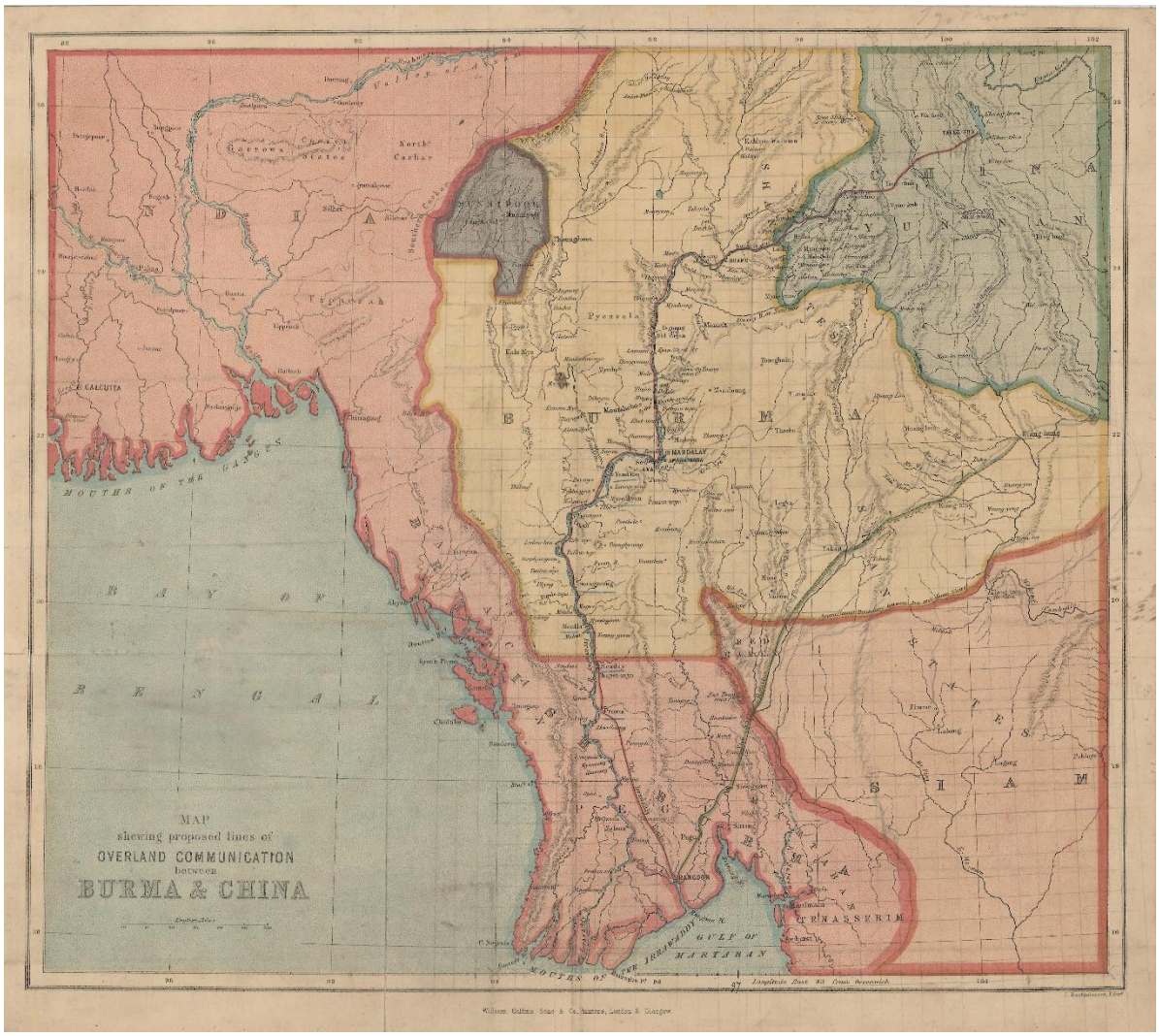


Figure 5.7 John Coryton's map depicting his proposed trade routes, 1872.

Source: RGS-IBG Burma S/S. 10. © RGS-IBG

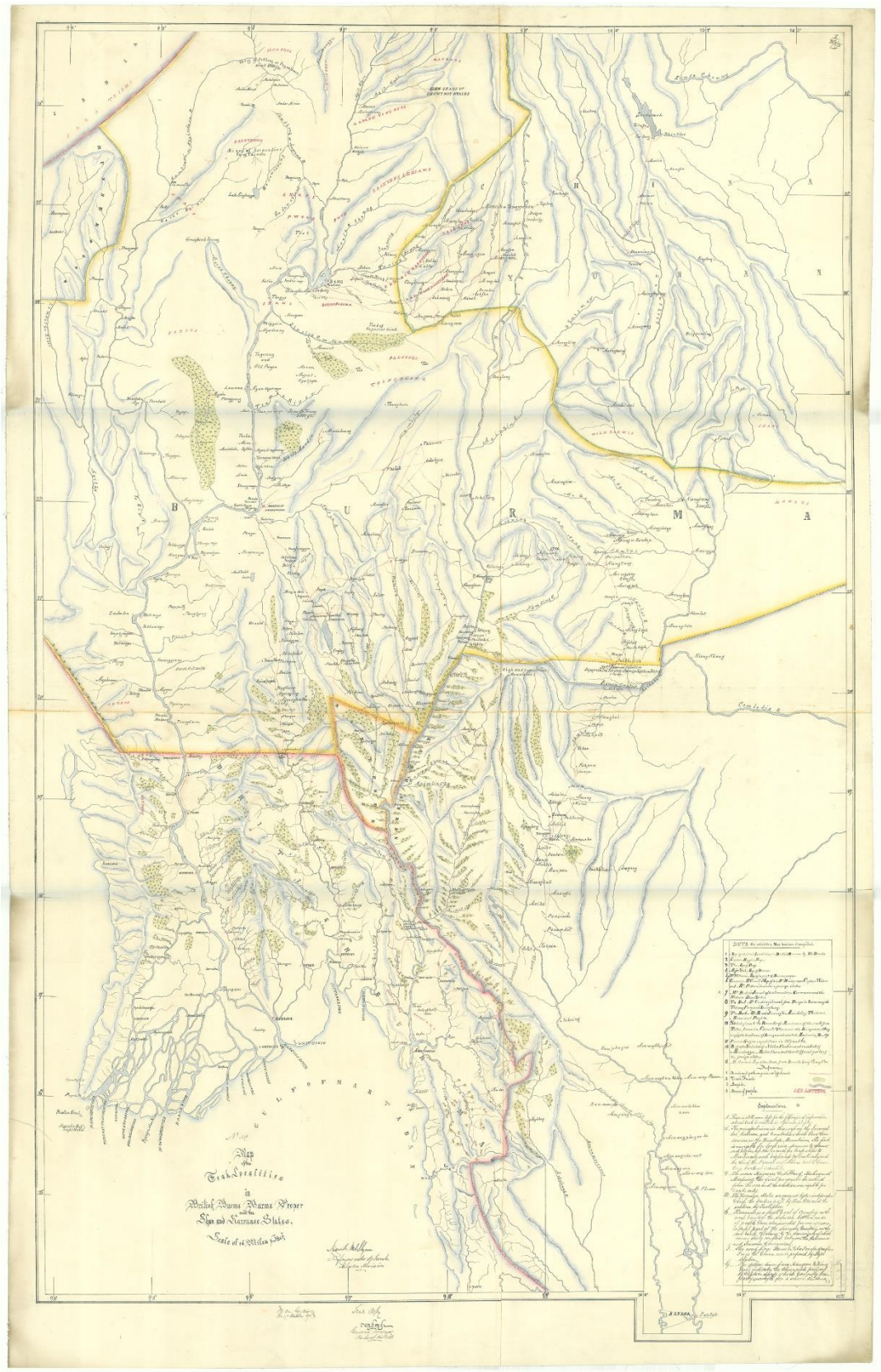


Figure 5.8 "Map of the Teak Localities in British Burma, Burma Proper and the Shan and Karennee States".

Source: RGS-IBG mr Burma G. 13. © RGS-IBG

Figure 5.9 "Forester Ko-Shoay-Ya's Map of the country between Moulmein & Zimmay". Tracing with English inscriptions.

Source: RGS-IBG mr Burma S. 34. © RGS-IBG

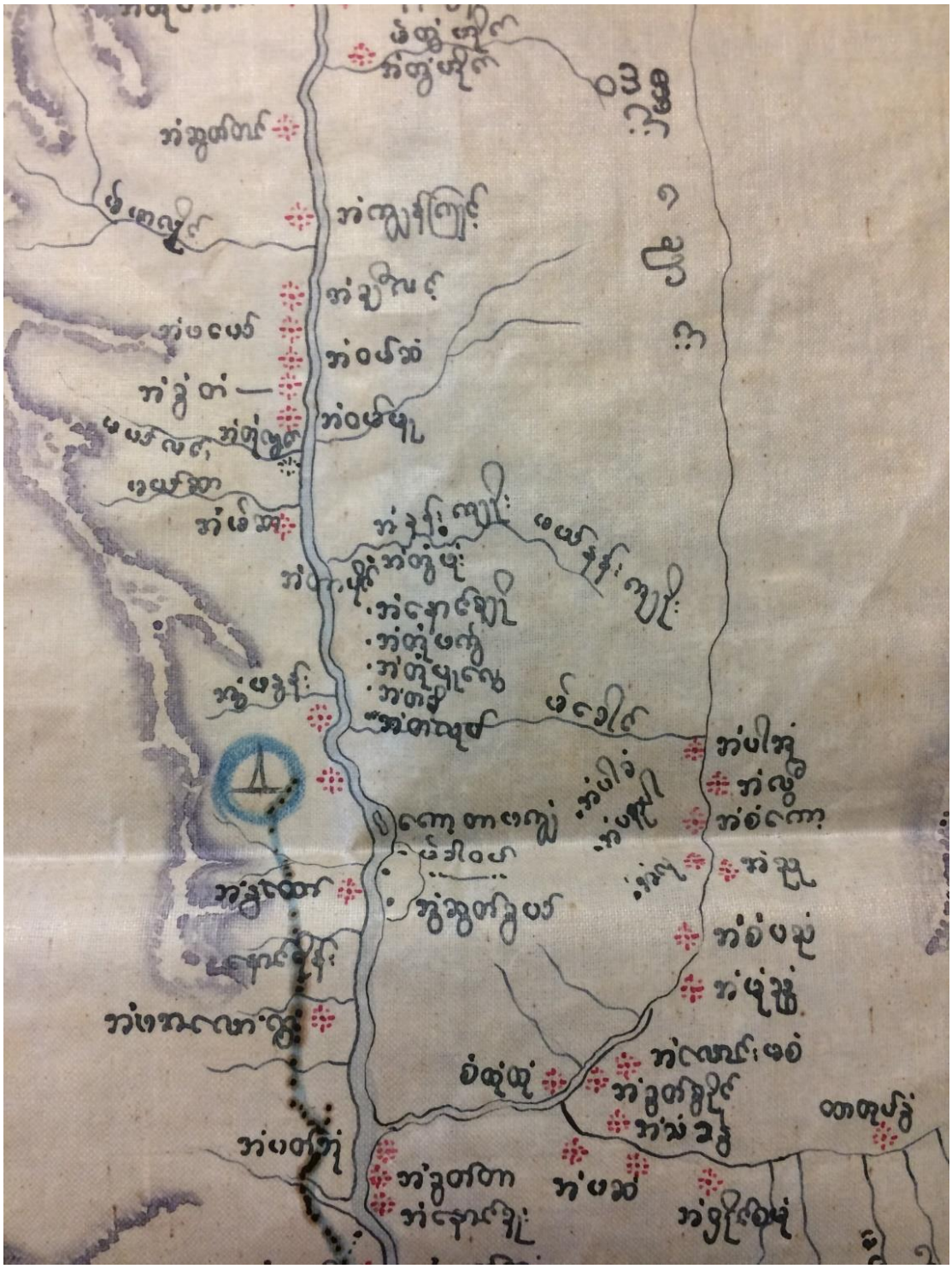


Figure 5.10 A pagoda circled with blue pencil.

Source: “Native maps of Burma in native characters”, RGS-IBG mr Burma S. 39 [detail] © RGS-IBG

Figure 5.11 One of the “native maps of Burma in native characters”. Manuscript with Burmese inscriptions.

Source: RGS-IBG mr Burma S. 39. © RGS-IBG

Figure 5.12 "Moung Mhones Experiences of the Route between Zimmay and Moulmein". Manuscript with Burmese and English inscriptions.

Source: RGS-IBG mr Burma S. 31. © RGS-IBG

Figure 5.13 “Native map of Burma in Native Characters”. Manuscript with Burmese and English inscriptions.

Source: RGS-IBG mr Burma S. 39. © RGS-IBG

Figure 5.14 “Map brought by Shan traders”. This is Coryton’s title; the RGS catalogued it under “native maps of Burma in native characters”. Manuscript with Burmese inscriptions and an English label.

Source: RGS-IBG mr Burma S. 39. © RGS-IBG

Figure 5.15 Two-storey house with verandah, photograph taken by Linnaeus Tripe in Rangoon in 1855.

Source: BL Photo 61/1(119) © The British Library Board

Figure 5.16 The British residency at Mandalay, photograph taken by J. Jackson in 1868.

Source: BL Photo 109917 © The British Library Board

CHAPTER 6

Between the Indigenous map and colonial cartography: a Tibetan map of Sikkim

6.1 Introduction

The organisation of the Sixth International Geographical Congress preoccupied the Royal Geographical Society in the summer of 1895. Due to the popularity of the Fifth Congress in Berne four years prior, the organising committee was expecting a big turn-out. Besides the challenge of hosting a meeting of over a thousand geographers from around the world, the committee was concerned about the financial strain such an event would place on the Society since no assistance from the Government was expected (Anon., 1894a). In the end, the Congress, presided over by Clements Markham, passed smoothly. Indeed, the event marked an important moment for the RGS because it helped solidify the Society's position as a centre for international geographical dialogue.[1] The major achievements of the Sixth International Geographical Congress, as recorded at the time, included productive discussions about Antarctic exploration and the innovations in teaching Geography at universities including the use of new technologies such as lantern slides (Anon., 1894a, 1895c). Accompanying the Congress was an exhibition of maps and other geographical materials, open for visitors at the Imperial Institute (Anon., 1896a). This exhibition was organised by the RGS and a number of the displayed maps were accessioned into the

[1] Papers given at the Congress by members of the RGS on new geographical technologies and their uses in imperial settings. General J.T. Walker's paper on the "Geodetic Survey of India" which, in a Congress summary in the *Geographical Journal,* was described as "one of the [Congress's] most valuable contributions," (Anon., 1895c: 291), demonstrated the Society's interest in curating an imperial role for itself.

Society's collection afterwards.[2] Amongst these new accessions was a "Native map of Sikkim" (Anon., 1896a: 91-3) (fig. 6.1). This was the only map in the entire exhibition which was described as "native", and indeed one of only a handful of non-European maps included in the display.[3]

The "Native map of Sikkim" is a relatively large map (109 cm x 37 cm) printed in vibrant colours, green being the most dominant. It contains a significant number of pictorial renderings of buildings, including many monasteries, as well as of people, animals, vegetation, mountains, and a large bridge crossing the Teesta river. The map is printed on thick, cardboard-like paper, which had been folded down the middle, possibly to facilitate transport (it is also the way in which the map is stored at the RGS today). This has caused the bright green of the map's background to fade along the crease. The map contains various background colours to distinguish different regions, including a pale pink for Darjeeling, a rusty orange for Sikkim, and a sandy brown for India.[4] Echoing the Congress' exhibition catalogue, R.H. Phillimore, well-known as the chronicler of the Survey of India, stated in a short article on "East Indian Maps" published in *Imago Mundi* in 1950 that this map contained "no suggestion of Western influence" (Phillimore, 1950b: 73). What Phillimore presumably meant by this was that the "Tibet map" (as he called it) lacked European cartographic elements such as a uniform scale, a consistently orthogonal view, and the abstraction of topographical and landscape features. Asian maps that had adopted such non-Asian characteristics, were described by Phillimore as having been ''tainted' with 'European influence''' (Phillimore, 1950b: 73).

However, Phillimore's assertions that this map contained "no suggestion of Western influence" as well as his simplistic definition of what constitutes a "Tibet map" needs to be

[2] Thirteen maps entered into the RGS collection after the closure of the exhibition: most were printed British maps from the Geological Survey of India (RGS-IBG *Accessions Register to the Map Room*, 04 August 1895).
[3] A number of Chinese and Japanese maps were included by E. G. Ravenstein in an "historical exhibition," which aimed to "illustrate the progress of cartography, as an art (…) [and] to demonstrate the increase in our knowledge of the earth's surface" (Anon., 1896a: 129, 145).
[4] For a map of Sikkim and its surrounding regions ca. 1888, see fig. 6.2.

corrected. While listed in the catalogue as a "Native map of Sikkim", the map's display at the Sixth International Geographical Congress had an additional purpose revealed by what is clearly an exhibition label affixed onto the bottom of the map: this reads simply "Specimen of Lithography" (fig. 6.3), indicating that it was intended to demonstrate the proficiency of colour printing techniques deployed by the colonial authorities. In other words, the map Phillimore discussed in his 1950 article was actually a British copy of the original made at the Survey of India offices in Calcutta.[5] The context in which this copy was exhibited at the Congress further underlines the map's dual existence as both a "Native map" and a British "Specimen of Lithography": the room at the Imperial Institute where it was displayed also contained other British maps created by the Survey of India. "Western influence" was visible not just in its material form and its display alongside other "specimens of lithography", but also in its annotations: the map is overprinted with English script and given the English title "MAP OF SIKKIM. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888."[6]

This Chapter will trace this map's transformation from a unique painting on cloth, captured by the British Indian army during a conflict about the Himalayan borders of the empire, to a photolithographed copy on paper, overprinted with both British and Tibetan script. This requires, firstly, taking a closer look at the iconography and material form of the map itself, examining it in the context of literature about Tibetan and Sikkimese cartography (section 6.2). The question of form necessitates a discussion of the production of the map at the Survey of India factory in Calcutta using the latest methods of photolithography (section 6.3). I then examine the circumstances surrounding the collection of the original "Map of Sikkim", captured during an armed conflict (section 6.4), and its transformation from a military trophy to an object of

[5] Phillimore does not actually refer to the copy exhibited at the Sixth International Geographical Congress in London and now held in the collections of the RGS, but to another copy of the same map held at the Survey of India in 1950. Unfortunately, I was unable to locate this copy when I visited the collection of historical maps from the Survey of India, now held at the National Archives of India in Delhi in 2018.
[6] Hereafter this map is referred to as Tibetan Map of Sikkim or Map of Sikkim.

knowledge at the Asiatic Society in Calcutta (section 6.5). The conclusion to the chapter situates the journey of the map in the wider context of the incorporation of Sikkim within the boundaries of the British empire.

6.2 A Tibetan map? From iconography to material form

In a brief article published in *Imago Mundi* in 1950, R. H. Phillimore described the lithographed version of the Tibetan Map of Sikkim as being in the "Tibet or Chinese style" (Phillimore, 1950b: 73). Although Phillimore's article was written under a very different theoretical and intellectual paradigm to that of contemporary writers on Indigenous cartography,[7] it nonetheless represents an early Western acknowledgement of an independent Tibetan mapping tradition. As Joseph Schwartzberg points out in his contribution on "Maps from Greater Tibet" in the *History of Cartography* series, Western studies of Tibetan cartography remained scant until the 1970s, when anthropologists including Barbara Nimri Aziz (1975) started to devote time to researching this subject (Schwartzberg, 1994b: 609).[8] Since then, an increasing number of studies of Tibetan cartography have been published in a variety of disciplines, including art history. Besides Schwartzberg's useful summary of known historical Tibetan maps in Western collections,[9] two other outstanding analyses of Tibetan cartography have been written by Toni Huber and Diana Lange, published in 1992 and 2020 respectively. Huber's analysis concerned a large and elaborate cotton scroll map given to Hugh Richardson in the 1940s, when he was the British representative in Lhasa. The map has been dated to the nineteenth or early twentieth century and has been designated by the British Museum, in whose collection it is being held, as a "picture map (Sa Khra)

[7] Phillimore explained that he wrote this article in response to Leo Bagrow's call for more studies about maps from India, especially those that are "entirely free from western or outside influence" (Phillimore, 1950b: 73). The history of the *Imago Mundi* Journal and Bagrow's importance for history of cartography scholarship are discussed in greater detail in Chapter 2.

[8] Aziz's work deals not so much with the history of Tibetan cartography, but with contemporary Tibetan mapping conventions. For example, she discusses a map that was drawn spontaneously for her by a Tibetan artist, who, apparently, had no familiarity with modern Western mapping (Aziz, 1975).

[9] Schwartzberg does not discuss the Tibetan Map of Sikkim.

for pilgrims".[10] Huber, however, has argued that the text on the map indicates that the author had little concern with religion and that the map was probably related to travel, political administration, and topographic and ethnographic intelligence (Schwartzberg, 1996b: 654; Huber, 1992). Diana Lange's study about a collection of Tibetan maps held at the British Library, known as the Wise Collection after its donor, provides a similarly detailed analysis to Huber's, albeit through a more anthropological lens (Lange, 2020). In a richly illustrated volume, Lange tells the history of this extraordinary collection of maps and pictures from its creation by a Tibetan lama at the behest of the colonial official William Edmund Hay in 1857-8 to its donation to the British Library by a Scottish physician, Thomas Alexander Wise, some time in the 1870s (Lange, 2020). Lange's examination of the maps combines visual analysis with a contextualisation of the maps and the people who produced them within Tibetan culture, concluding that the collection provides a "compendium of knowledge" on Tibet, going far beyond geographical information.

In his note on the Tibetan map of Sikkim, Phillimore does not delineate in any detail the characteristics of its "Tibet or Chinese style" (Phillimore, 1950b: 73). Since then, other scholars, including Schwartzberg and Huber, have more closely defined the specific attributes shared by Tibetan maps and religious paintings, some of which can be discerned on the Tibetan Map of Sikkim. Most immediately obvious, perhaps, is the pictorial depictions of buildings (both monasteries and houses), people, and animals; and the mountain ranges, the highest peaks of which have so-called "cloud-thrones".[11] The size of these elements is exaggerated in proportion to the topographical features of the map, denoting that they perhaps serve an iconic rather than a strictly representational purpose. This is seen on other Tibetan maps as well: on one example, included in the Schlagintweit brothers' 1861 account of their travels in the Tibetan borderlands, a Tibetan annotation relating to a single yak states that the animal is a "symbol of numerous herds

[10] The map was given the accession number 1987,0526,01 by the British Museum.
[11] "Cloud-thrones" are a prominent feature in Tibetan religious and landscape paintings and might denote a religious significance or a mountain's height (Schwartzberg, 1994b: 661).

of wild yaks, in these regions very frequent".[12] On the Map of Sikkim, a man ploughing a field assisted by a bull might therefore signify that agriculture was prevalent in this region (fig. 6.4); while the prominence of the mountain Kanchenjunga could represent its importance in Buddhist cosmography (fig. 6.5). Moreover, the exaggerated size in which the fortification near the Lingtu (Lung Thur) monastery in the centre of the map is depicted might indicate military prowess (fig. 6.6).

The Tibetan Map of Sikkim adopts a so-called "divergent perspective" (a term coined by Western scholars), which allows the viewers of the map to see more of a depicted feature at any one time than they would when looking at the same feature on a photograph or on the ground (Schwartzberg, 1994b: 616). On a Tibetan depiction of the Potala of Lhasa, which is included in Laurence Waddell's *The Buddhism of Tibet* (1895: 287), for example, the whole path surrounding the Potala is shown even though it technically passes behind the building and would therefore be invisible to the viewer (Schwartzberg, 1994b: 616). Similarly, on the Tibetan Map of Sikkim, some of the paths and rivers are visible even when they are passing behind mountains or hills. Schwartzberg reminds us that in Tibetan cartography, there seldomly is a "universality of scale", perspective, or orientation:

> A more common practice (…) is to adopt an oblique perspective, as if from a perch in space. Even more common is the use of multiple perspectives, showing some features, such as buildings, mountains, and trees, from a horizontal perspective (in frontal elevation); others from one or more oblique perspectives (oblique frontal also being very common for buildings); and still others, such as lakes and large compounds, from a vertical (planimetric) perspective. The use of a divergent perspective, the very opposite of that conventionally used in Western drawing, is also common. On maps showing a number of towns, the perspective chosen for each would presumably be the one that normally obtains for travels approaching it along the most travelled routes (Schwartzberg, 1996: 671).

[12] Schlagintweit, H., Schlagintweit, A., Schlagintweit, R. (1861) *Results of a Scientific Mission to India and High Asia*, vol 4. Leipzig: F.A. Brockhaus, geographical map 3. Discussed in Schwartzberg (1994: 661).

On the Tibetan Map of Sikkim, the perspective works to centre certain features in the eye of the viewer: Kanchenjunga is mirrored in its shape and size by the hill and fortification at Lingtu, located directly below the mountain; and the village of Chumbi, situated in the map's centre, becomes its focal point (fig. 6.7).

The background colours visible in the printed Map of Sikkim are another feature that has been observed on maps associated with a Tibetan tradition of cartography. These colours give the map exhibited at the Imperial Institute in 1895 a political significance, highlighting the borders between the different regions. From a brief description of the original map by Herbert Hope Risley, it appears that there was some variation in the use of colours in the printed version. Of the original, he noted that Sikkim was "painted red, while the British district of Darjeeling is shown in a lighter shade of the same colour", as in the printed version (Risley, 1894: vii). However, the region of Tibet was coloured yellow on the original map rather than green as on the print (Risley, 1894: vii). Other known prints of the Tibetan Map of Sikkim yet again differ from both the original as well as from the copy exhibited at the Imperial Institute. Phillimore wrote in his article that the copy of the map in Dehra Dun was "mostly in brilliant blue" (Phillimore, 1950b: 73), while two other scholars, Alfred P. Rubin (1960: 100) and Alastair Lamb (1960: 38), stated that the versions of the map they saw depicted Darjeeling and Sikkim as part of Tibet, implying, perhaps, that these regions did not have distinguishing background colours. Thus, the relationship between the colouring scheme of the original map and its multiple copies is unclear. On other Tibetan maps, colour was adopted to express political aspirations and for diplomatic purposes (Gole, 1989: 143). For example, on a Nepali map of central Asia (which shares some of the Tibetan conventions of cartography discussed above), Iran, the Russian Empire, and Bukhara are coloured differently, even though the colours do not correspond to the location of the borders at this time (Schwartzberg, 1994b: 646). In this case, Susan Gole proposed that

> It is possible that the map was drawn in the early years of the nineteenth century, when attempts were being made from Nepal to unite the neighbouring countries and throw out

> the foreign European invaders, before they became too powerful. The map may have accompanied a travel journal kept by one of the ambassadors sent to negotiate with the courts of far off countries, figured in the map (Gole,1989: 143).

On the print of the Tibetan Map of Sikkim exhibited at the Imperial Institute, the location of the border between Tibet and Sikkim was in a different place than on contemporaneous British maps (this was also the case on the copies of the map seen by Lamb and Rubin). For example, the fortification at Lingtu is depicted as being part of Tibet even though it was located about thirty kilometres southeast from the Jelep pass, which was negotiated as the location of the border between Tibet and Sikkim in the Treaty of Tumlong of 1861.

Phillimore's claim that the lithographed copy of the Map of Sikkim was in the "Tibet style" rests mainly on his reading of its iconography. However, the map also contains features suggesting a more complex identity. Firstly, its provenance as a Tibetan military map is doubtful. Although it depicts borders and emphasises the fortification at Lingtu, the map's overall look does not suggest it was intended for military use (more about this in section 6.4 below). Secondly, there are signs on the printed map indicating that, in Phillimore's terms, it has indeed been "'tainted' with 'European influence'". As noted above, the map has an English title and English transliterations of about a third of the 245 Tibetan inscriptions. These inscriptions range from large capital letters, labelling whole regions (Tibet, Darjeeling, and Sikkim, named in English only) to very small type, referring, in some cases, to individual buildings. Most of the Tibetan inscriptions are place names or the names of individual monasteries and mountains. Some exceptions provide additional information: examples include "road towards India", "iron bridge", "palace for summer residence".[13] Neither the Tibetan inscriptions nor the English transliterations are evenly distributed on the map. There are far more words in the areas depicting Sikkim and Darjeeling, and they are less likely to have English transliterations. Most of the English inscriptions

[13] In Tibetan: རྒྱ་གར་དུ་འགྲོ་ལམ། (road towards India); རྒྱ་འབར་དབྱར་ས་ཡོ་ཕྲང་། (palace for summer residence) ལྕགས་ཟམ། (iron bridge; the English translations on the map read "Teesta Bridge"). I am grateful to Tsering Drongschar for translating the complete set of Tibetan inscriptions.

are found in the region of the map depicting Tibet, possibly indicating a greater British interest in this particular region (unlike Sikkim and Darjeeling, of which at least partial British maps existed, Tibet had not, as this time, been surveyed in any detail by the British).

While it is evident that English transliterations were added in the course of the lithographic process, it is possible that the Tibetan inscriptions, too, were added at this time. Inscriptions are not a necessary component on Tibetan maps; out of the thirty-three maps listed by Schwartzberg, for example, only ten contain text. Moreover, many of the Tibetan maps that do have inscriptions were either created for or co-produced with Europeans.[14] For example, the inscriptions on the maps and pictures of the Wise collection (which number more than 900) provide additional information about the drawings for William Hay, the British official who commissioned them (as in the case of the Sikkim map, these inscriptions are bilingual, in English and Tibetan) (Lange, 2020). It is possible that the inscriptions on the Sikkim map were added for the benefit of the British, too. Not only do the inscriptions read in quite a subjective way;[15] but the Tibetan writing is also quite *ad hoc*, and includes numerous mistakes, suggesting that it was added at a later stage by a person who was perhaps not a specialist mapmaker. The English inscriptions, by contrast, appear very uniform in style, having clearly been executed by another individual again. Some of the misunderstandings accompanying the process of translation remain

[14] A notable exception here is the Tibetan map at the British Museum, discussed by Toni Huber. This map has a great number of inscription (140 in total), which Huber has translated in detail and pronounces "the most valuable aspects of the (…) map", providing the "names and data (…) for a range of items of geographical and cultural interest, including valleys or rivers (*klung, chu*) peaks and mountain ranges (*ri, ri-rgyud*), passes (*la*), points, (*nyin-lam*), bridges (*zam*), villages and settlements (*grong, lding*) and a range of religious establishments and monuments (*dgon, sgrub-sde, mchod-rthen, ma-ni*). Of particular interest are the notes on local aristocratic and monastic estate (*gzhis-kai*) boundaries and ownership, as well as indications of the traditional frontier and points of contact between local Tibetans and their southern neighbours, the various tribal peoples (*klo-pa, gting-klo*) of the Himalayan foothills of what is now the Indian state of Arunachal Pradesh" (Huber, 1992: 10).

[15] For example, one of the buildings near the border of Darjeeling and Tibet is labelled, in Tibetan, as "Sahib's house" (ས་ཧེབ་ཁྱིམ།).

engrained in the map itself. For example, ཁམ་བུ་སྨད་, meaning “below the Khambu river”, was transliterated as “khambu meh” on the map rather than the correct “kham bu smed”.[16]

Overwritten with both Tibetan and English script and exhibited as a “Specimen of Lithography,” the Map of Sikkim displayed at the Imperial Institute in 1895 had thus been transformed in the process of its reproduction. While some of the map’s original Tibetan features, such as the pictorial depictions and the divergent perspective, were apparently preserved in the process, Phillimore’s statement that there was “no suggestion of Western influence” is belied by its material form. The map as seen by visitors to the 1895 exhibition was the product of a lithographic process pioneered by the Survey of India factory in Calcutta. It is to the process of making this map that we now turn.

6.3 “A specimen of Lithography”: the (re)production of the Tibetan Map of Sikkim

The map exhibition at the Sixth International Geographical Congress was organised by three prominent members of the Royal Geographical Society: E. G. Ravenstein (responsible for the cartographic section of the exhibition), John Coles (in charge of the display of scientific instruments) and John Thomson (the photography and paintings curator). The exhibition relied for its displays on contributions from the international delegates attending the Congress (Anon., 1896a). The British display was by far the biggest, attesting to the curators’ aim to highlight their nation’s contribution to international cartography, and it included two rooms solely devoted to maps of the British Empire (Anon., 1894a: 372). With the notable exception of the “Native map of Sikkim”, displayed in Room 16 among maps from the Intelligence Division of the War Office, the maps shown in the British Empire rooms were British maps associated with various military expeditions:

[16] Tsering Drongschar, pers. comm. October 2019.

> This collection, exhibited on the North Wall of Room 16, consists chiefly of manuscript sketches made in the field by British officers, and selected with a view to showing different methods employed for the representation of ground. It contains also a few printed maps compiled chiefly from the field sketches made by British officers, and some manuscript maps drawn at the end of the last and the beginning of the present century (Anon., 1896a: 91).

In this context, the lithographed copy of the Tibetan Map of Sikkim would have stood out from the manuscript and print sketches both because of its characterisation as a "native map" and also because of its iconography which is discussed above. The English title of the map (Map of Sikkim, prepared and used by the Tibetan Military Authorities during the Campaign in 1888) might suggest that it was displayed as a Tibetan equivalent of the exhibited British military maps. However, the prime reason for its inclusion probably lies in its description on an exhibition label affixed to the map as a "Specimen of Lithography".

The development of techniques of lithography had a significant influence on the history of cartography (and vice versa), influencing maps stylistically as well as drastically increasing the number of cartographic materials produced (Mumford, 1999). While the technological process of lithography and its history have been studied in depth, the materiality of lithographed maps has commonly been overlooked; Ian Mumford attributes this at least partly to the fact that the catalogues of many map collections "do not provide a means of developing a search strategy based on reproduction terms such as lithography or zincography" (Mumford, 1999: 2).[17] Mumford describes lithographed maps as "palimpsests of cartographic processes of compilation over long periods of time", advocating a similar approach to reproduced and manuscript maps (Mumford, 1999: 4). He explains that lithographed maps are not identical copies of the original and neither are they exact copies of each other. Some of the changes that occur in the reproduction process are intentional, for example alterations to the size and the addition of lettering. Other changes

[17] The same is true for the printed version of the Tibetan map of Sikkim, which is classified, in the RGS's catalogue, according to the geographical region it depicts.

happen without explicit intention. The lithographic process consists of several stages involving a variety of different specialists, craftspeople, and labourers, who each bring their own specific expertise to their work, shaping the final product. In relation specifically to the addition of lettering to lithographed maps Mumford notes the "correlations between personalities, policies, and production possibilities" (Mumford, 1999: 156). The lithographed version of the Map of Sikkim provides a particularly interesting case study, because the changes it went through during its reproduction essentially transformed it from a Tibetan artefact into a culturally hybrid one.

On the bottom right of the lithographed version of the map there is an inscription providing more detail about the process of its reproduction. It reads: "Reduced to half Scale by Photography from the Original and Lithographed at the Survey of India Offices, Calcutta, April 1889".[18] The final two decades of the nineteenth century mark a time of particularly rapid developments in the application of photography to the mechanical reproduction of images, notably in India. This timing reflected the changing functions of photography and cartography in imperial government. As the Michael Gray, an historian of photography, has argued

> The pressures of an expanding colonial administration in the latter half of the nineteenth century created an unprecedented demand for reproductions of all types, whether in the form of maps, scientific illustrations or scholarly facsimiles (Gray, 2009: 180).

By that time, the Survey of India had become a leading institution in the application of this technology to mass printing, under the supervision of James Waterhouse, a photographer by training with a long-serving military career in India, who had become head of the Photographic Department in 1869.[19] During his tenure at the Survey of India, Waterhouse oversaw a dramatic

[18] The map contains some more information about its reproduction: on the bottom left-hand corner of the map is another label that reads "Reg No 2501 SIO 26-4-89-20". These numbers refer to the date on which it was printed (26 April 1889) and the number of prints produced: 20. (The same numbering system can be found on many other prints produced by the Survey of India).

[19] Waterhouse later served as President of the Asiatic Society of Bengal and Chairman of the Indian Museum in Calcutta, as well as president of the Photographic Society of India and the Royal Photographic Society in London.

growth of the Photographic Department's output and activities, from a minor and ill-housed offshoot of the Survey of India to one of its most important departments.[20] Its imposing new headquarters in Calcutta's Wood Street, opened in 1889, was a modern factory for the mass production of images, complete with enormous cameras and the latest design in printing presses: it has been described as "one of the largest and most advanced photographic and photo-reprographic establishments in the world" (Gray, 2009: 185) (fig. 6.8).[21]

As well as printing maps and plans, the Photographic Department undertook a wide range of additional photographic activities under Waterhouse's direction. In the late 1880s, the Department was involved in pioneering the use of colour lithography, which was "an unusually laborious, materially intensive, and delicate process" (Simpson, 2017: 14).[22] In 1898, a year after his retirement from the Survey of India, Waterhouse reported at a meeting of the Royal Photographic Society that the greater part of his Department's work was undertaken on behalf of "the miscellaneous departments and offices, military and civil, besides many public institutions" (Waterhouse, 1898: 134). Although the annual reports of the Survey do not make specific reference to the reproductions of the Tibetan Map of Sikkim, it is likely that they would have been produced for these "miscellaneous departments", perhaps to demonstrate recent

[20] James Waterhouse described his frustrations with the previous photographic offices, which were located across different buildings: "When I first joined the Photographic Office at Calcutta in 1866 (…) it was located in a few rooms on the first floor of the western side of the Mathematical Instrument Department in Park Street. There was a small glass-house on a terrace for one camera and a second camera was worked downstairs in a shady corner in the open air. Photo-zincography was not then worked in the office, though a few photo-lithographic transfers had been made by the two sapper photographers who were carrying on the work—but these had to be taken over to the Lithographic Office in another street, some 150 yards away, to be put down on stone" (Waterhouse, 1898: 134).

[21] Financial constraints had initially delayed the construction of more suitable premises for a number of years (Gray, 2009: 183); but in the late 1880s, the Indian Government finally agreed to fund the construction of a new building complex in Calcutta, as part of a complete refurbishment of the Survey of India. The lithographic presses and the lithographic type-printing machinery were located on the ground floor of the new building, while the zincographic presses were located in the gallery. These impressive new premises were encapsulated in a series of photographs, taken in the early twentieth century, some of which are used to illustrate this chapter. For another description of the new premises, see Black (1891: 222).

[22] The Survey of India in Calcutta was well placed as a location for testing some of these innovations. For example, colour lithography was able to capture the gradations in topography of the Himalayan mountains, which had recently been mapped by the Survey for the first time (Simpson, 2017: 14).

experiments using colour lithography. Other outputs of the Photographic Department were also described as "Specimens", demonstrating that the printed Map of Sikkim was not the only such prototype. For example, also produced in the late 1880s was a map titled "Specimen of photo-etching printed in three colours" depicting the Andaman Islands and adapted from a recent survey. Inscriptions on this map offer additional insights into its experimental production: on the bottom of the map, it reads "Note: Hills drawn on ground glass with black chalk".[23] The Department's technical innovations were internationally recognised: in the 1880s its products were exhibited at several international exhibitions (at the Venice Geographical Congress and exhibition in 1881; at the Calcutta International Exhibition in 1884; at the Colonial and Indian Exhibition of 1886) and won numerous prizes.[24]

Mumford describes the Survey of India as an organisation "traditionally caught between the expectations of career expatriates, both civil and military, and the constrained anonymities of a hierarchy of multi-racial native subordinates" (Mumford, 1999: 10). Such tensions were also inherent in its Photographic Department. The majority of the workforce—300 people in total—were Asian employees, while those occupying managerial and supervisorial positions were mostly British (Gray, 2009: 185). Waterhouse himself described his multi-ethnic staff in the following way:

> The work is carried out by a large staff of over 300 European and native assistants and workmen. Of these 8 are pure Europeans, most of them in charge of spectral sections of the work: 15 are European and Eurasian assistants and apprentices. The remainder comprise the staff of native draughtsmen, zinc correctors and engravers, some of whom are exceedingly clever at their work: stone and Zinc printers, polishers, machine men and pressmen, copper-plate printers and pressmen, compositors and type printers and pressmen, paper keepers and binders, also a native engine driver. In the photographic sections there are native photographers, photo-engravers, glass cleaners, and labourers. (…) The whole of the correspondence and clerical work is carried on by a native head clerk and 9 under clerks and writers (Waterhouse, 1897: 136).

[23] British Library, Photo 527/1(158): c 1886.
[24] These achievements are summarised in Black (1891: 224-25).

Having a largely Asian staff was common in late nineteenth-century colonial institutions in India as many of them grew out of "pre-existing administrations of indigenous regimes," sometimes simply replacing the highest hierarchical echelons with Europeans (Raj, 2007: 62). For the British managers in charge of the Survey of India, establishing and maintaining control over their workforce was key. Waterhouse even mentioned that this was a central concern in designing the new premises of the Photographic Department: the specific layout of the building was meant to enable "observation and proper supervision" of the Department's staff (quoted in Gray, 2009: 185).

The historiography of the Survey of India has commonly presented Indigenous employees "either as subaltern automata for those in the service of the British or else as peasants revolting against an imperial order by disrupting surveying activities" (Raj, 2007: 61).[25] Official reports from the Photographic Department are framed in the language of industrial management, with close attention to the efficiency of production and the management of the labour force which is described *en masse* rather than in terms of individuals. For example, Waterhouse described his Indigenous employees as a homogenous group of diligent workers ("to their zeal and steady work the success of this department is almost entirely due", Waterhouse, 1897: 136).[26] Other evidence reveals that these employees played more varied roles in the Photographic Department: there they were not only industrial hands but also managers and specialists. A staff directory from 1907 provides evidence of this: the entire staff of the "Helio and Vandyke Section" were Asian.[27]

The Photographic Department of the Survey of India was designed to primarily serve the needs of the imperial state. As Gray suggests, its Calcutta establishment "performed a key

[25] Jones (2010) has highlighted a third way in which some Indigenous employees of the Survey of India were discussed in the historiography: as "heroic indigenes". This treatment, however, would only be afforded to a select few individuals (for example the "pundit" Nain Singh, who received a gold medal from the RGS).
[26] See also Black (1894: 222).
[27] The staff was listed as follows: Shaik Babu was the Head Assistant; P.K. Dass was the Printer (Helio); Gurudas Shaw the Printer (Vandyke); B.K. Biswas and Rampary Tewary were the Assistant Printers (Vandyke); and they were supported by an unknown number of "Coolies". Photographic Department Staff Directory, British Library Photo 527(92).

supportive role in the origination, production and dissemination of strategically important data both for the governance of India and its military, scientific and commercial interests" (Gray, 2009: 192). A series of photographs taken in the early 1900s (some of which are used to illustrate this section of the Chapter) demonstrate the Photographic Department's modern, industrial character, rivalling that of similar institutions in Europe. The Department's rooms are big enough to accommodate numerous lithographic presses (fig. 6.9) and the sizeable cameras (fig. 6.10). The different sections including the "Duffing Section" (figs 6.11 and 6.12), where glass plates were engraved and prepared for printing, and the "Helio Section" (fig. 6.13), in which photographic negatives were transferred to zinc plates, were given their own spaces, adapted to the sections' respective needs. Waterhouse's reports as head of the Photographic Department indicate the extent to which its work could be presented as a pioneer of new technologies of visual reproduction. Yet, as Kapil Raj has argued, rather than simply imitating similar institutions in the metropole, such colonial institutions relied heavily on local labour and on local expertise: "the British were consciously aware of [Indigenous] skills, openly acknowledged them, and sought to massively redeploy them in their burgeoning military-fiscal institutions" (Raj, 2007: 92).

Mumford's assertion that lithographed maps can be understood as palimpsests can readily be applied to the printed maps produced by the Photographic Department of the Survey of India. The printed version of the Tibetan Map of Sikkim bears the marks of its reproduction method clearly, with its bilingual inscriptions being added at one of the several stages of the lithographic process. It was through this process that this map and others like it became more mobile and more legible in the context of imperial geography, reinforcing the superiority of Western technology in their very material form. As a technology, lithography enabled maps and the information they contain to circulate more widely.[28] This process also allowed the Tibetan

[28] However, there were also instances when the circulation of knowledge was purposefully being undercut by the British government. For example, the British Indian authorities were unwilling to publish their maps of the Himalayas because they feared that the geographical knowledge they contained might fall into the hands of their imperial competitors (Hansen, 1996: 57).

map of Sikkim to travel: different copies of the map have been located in Berlin and London (and there may be others) (see fig. 6.14 for an image of the copy held in Berlin).[29] A large Tibetan map on cloth, measuring two metres in width, might have been out of place in the exhibition at the Imperial Institute; however, a printed copy on European paper, reduced in size, and with English inscriptions meant the map lost some of its unfamiliarity and could even be used to demonstrate a newly developed printing technique.

6.4 The context of collection: colonial looting in the Himalayan borderlands

Before the original cloth map was lithographed at the Survey of India in April 1889, it made its way to Calcutta from the Tibetan borderlands, where it was picked up by the British troops chasing the retreating Tibetan army into Chumbi valley. From the available evidence it seems most likely to have been seized in one of two locations: either in the village of Rinchengong or that of Chumbi. On the one hand, Risley recounted that a British soldier, upon entering a house in Rinchengong, found a "very remarkable map" in one of the houses, in which, just moments before, a "Tibetan General and Secretary of State" had been sitting: "the tea they had been drinking was still hot in the cups" (Risley, 1894: vii). On the other hand, General Graham, the leader of the Sikkim Mission, stated that when British troops arrived in Chumbi village soon after, he and his men "secured" all the papers from the Sikkimese Rajah's palace (fig. 6.15); it is possible that the original Tibetan Map of Sikkim was among these papers (Lamb, 1960: 31).[30]

[29] As noted above, it appears that 20 copies were printed in the original run: others are known to have been received by the library of the Gesellschaft für Erdkunde zu Berlin (Berlin Geographical Society) (*Zeitschrift der Gesellschaft für Erdkunde zu Berlin*, 1905: 744), and by Douglas William Freshfield, a mountaineer with an interest in the Himalayas and a fellow of the RGS (RGS-IBG *Accessions to the Map Room*, 23 September 1890). Another copy was "displayed in the Survey Office in Calcutta" (Waddell, 1899: 269), while Phillimore refers to a copy he saw in Dehra Dun (Phillimore, 1950b: 73). Many thanks to Hermann Kreutzmann for identifying the map in the collection of the Staatsbibliothek.

[30] Telegram from Graham to the Vicroy, 28 September 1888 (IOR/L/MIL/7/14639); see also Iggulden (1900: 92). If the map was indeed seized from the Rajah's residence, there seems to be a possibility that it could be of Sikkimese rather than Tibetan origin, representing the Sikkimese elite's view of the kingdom and its neighbours, and especially emphasising Sikkim's close relationship with Tibet. Indeed, some of the map's Tibetan inscriptions seem to have a more Sikkimese rather than Tibetan perspective; for example, the

During this period, the regions of Central and Southern Tibet, Sikkim, Bhutan, and Darjeeling were culturally, economically, and politically interlinked (Rubin, 1960; Mullard, 2011). Their inhabitants practiced the same denomination of Buddhism; they depended on each other for trade; and they had lent each other support in the face of military threats (Nornang and Epstein, 1982). Familial connections between ruling dynasties reinforced these relationships. The Rajah of Sikkim was a member of a well-known Tibetan family, and, by the 1880s, owned large parts of land in Chumbi Valley (which belonged to Tibet), where, at his residence in Chumbi village, he also spent extensive periods of the year (Freshfield, 1904a).[31] While Tibet had been forced into a tributary relationship with China,[32] the Tibetan authorities relied on Bhutan and Sikkim as allies in defence of their continued autonomy (Nornang and Epstein, 1982). By the 1880s, the relationship between the Himalayan states and British India had become strained. For over a century, Britain had attempted to get access to Tibet through sending missions and expeditions (including the famous "pundits") and trying to force Tibet into a trade relationship; moreover, Kashmir and Ladakh had become British dependencies and Britain was gaining an increasingly strong foothold in Bhutan and Sikkim (Stoddard, 2006: 2).

Ever since Sikkimese acceptance of British help during the Gurkha wars between 1788 and 1792, which had effectively made the kingdom a British dominion, the rulers of Sikkim had become progressively more hostile towards British interference (McKay, 2009: 32; Lamb, 1960). Decades of misunderstandings and tensions culminated in the British attack on Sikkim in 1861 and the Treaty of Tumlong, making the status of Sikkim as a British protectorate official (McKay,

description of the Rajah's residence as "palace for summer residence"; and the annotation relating to a prominent building in Sikkim, describing it as "containing" the kingdom's "riches". However, according to Saul Mullard (pers. comm. September 2020), a Sikkimese origin of the map is unlikely as the important royal estates of "rdzong dgu" and "rgyal shing" are omitted from the map, as is Yuksam, a place central to Sikkimese national history, which is believed to be the place where the kingdom was founded.

[31] In fact, the Raja's association with the Chumbi Valley was so significant, it distorted the British view of the size of Sikkim: it was assumed that the Chumbi Valley belonged to Sikkim and Sikkim was therefore represented, on British maps, as covering more territory than it actually did (Freshfield, 1904a).

[32] This tributary status came about after the Chinese had helped Tibet in the face of two Gurkha invasions from Nepal in the period from 1788-1792 (Harris, 2016).

2009). In Alex McKay's view, the reason the British were interested in occupying Sikkim (described by a British administrator 1894 as "a tangle of jungle-clad and fever-stricken hills, infested with leeches and the *pipsa* fly")[33] was its location on a potential trade route to Tibet (McKay, 2009: 47). Moreover, the close connection between the Sikkimese elite and Tibet was seen as potentially undermining to British influence in Sikkim: it was said that the Rajah's "prolonged residence" in "Tibetan territory" had "the worst effect on the internal administration of the State" (Risley, 1894: iii). Things came to a head when, in 1886, the Tibetan forces occupied Lingtu on the Sikkimese side of the Jelep La mountain pass,[34] where they built the fortification so prominently depicted on the Tibetan Map of Sikkim.[35] The Tibetan occupation of Lingtu was the main pretext for the British campaign of 1888, the so-called "Sikkim Mission": the fort obstructed the main route from Darjeeling to Lhasa. Lingtu became the site of the first major battle between the British and the Tibetan troops, which ended in a decisive British victory.

What we know of Tibetan views of the 1888 conflict suggests that the mobilisation of force by the authorities in Lhasa was a serious attempt to repulse the British from the border and prevent further expansion into Tibetan territory.[36] We also know that Sikkim found itself in a difficult position, drawn between its loyalties to Tibet and the reality of having been made a *de facto* colony of Britain. In a letter the Sikkimese Rajah Thutob Namgyal (1860-1914) sent to Sir D. Mackenzie Wallace, the Private Secretary to the Governor-General of India in 1888, the Rajah

[33] Risley, quoted in White (1909: ix).
[34] "La" means mountain pass in Tibetan.
[35] The fort at Lingtu, was built at a strategically significant location, as noted by a British colonial official: "The sides of this peak are very precipitous, and the road could not have been taken along them except at great expense. A force holding Lingtu can therefore block the road, and can also command the steep downs below the Jelap, where Tibetan herdsmen pasture their sheep and cattle during the summer months" (Risley, 1894: xvii). The impressive fortification was also described by Laurence Waddell in his memoir, *Among the Himalayas* (1899): "Towering some 6000 feet above us, and scarcely two miles distant, rose, like a black wall, the beetling heights of Lingtoo, the strongest of the fortified Tibetan positions which had to be taken by our troops" (Waddell, 1899: 266).
[36] In a letter received by the British authorities from Tibetan officials, they claimed that Lingtu was located in their own territory (NAI, Letter from 23rd April 1888. Foreign Department records, May 1888, Nos. 294-394). For more information about the Tibetan perspective on this war see for example Stoddard (2006) and Travers and Venturi (2018). This edited collection contains contributions about the Tibetan military during the Ganden Phodrang Period (1642-1959).

expressed his worries that his "little kingdom will not be able to remain at rest between two great powers".[37] The Rajah was concerned that following the British attack on Lingtu, "the Chinese Tibetans will suspect me more than ever".[38]

The Tibetan occupation of Lingtu is often said to have been regarded by the British authorities in India as "the most unprovoked aggression on the part of the Tibetans" (Younghusband, 1910: 47). In their dealings with Tibet, the British had to tread carefully since their forceful actions had the potential to compromise their relationship with China (whose suzerainty over Tibet they recognised).[39] This is revealed in a memorandum sent from the British Foreign Department to the Military Department before the start of the 1888 conflict, in which it was stated that "the officer commanding the troops should receive the strictest orders against invading Tibet" because "the Government of India are most desirous to confine their efforts to the vindication of their own rights and to avoid anything approaching to ulterior complications with the Government of Tibet or the Tibetans".[40] However, scholars have since argued that the occupation of Lingtu actually provided a welcome pretext for Britain to finally breach Tibet's borders (McKay, 2009). The demands set out by the British Foreign Department were not followed, suggesting that the leaders of the Sikkim Mission knew them to be guidelines rather than strict orders: the British forces entered Tibetan territory after having won a clear victory at Lingtu, and they pursued the retreating Tibetan army into Chumbi Valley.

British accounts of the conflict suggest that the confiscation of Tibetan weapons and other objects was commonplace. Laurence Waddell later recalled amulets and "spells" being

[37] NAI, Foreign Department records. Secret-E. Pros. February 1888, Nos. 167-188D, Affairs in Sikkim. F.D. Press, Calcutta-No. 269-23-2-88-8.
[38] *Ibid*.
[39] In the peace treaty following the 1888 conflict, signed by Britain and China, the importance of continuing their cordial relationship was further emphasised: "whereas recent occurrences have tended towards a disturbance of the (…) relations [between British India and China] it is desirable to clearly define and permanently settle certain matters connected with the boundary between Sikkim and Tibet" (Anon., 1907: 80).
[40] IOR/L/MIL/7/14639. Collection 325 Sikkim Expedition of 1888 (1888-1895).

"found" in the Tibetan camp at Lingtu (Waddell, 1899: 269), while Brigadier-General Thomas Graham told the British authorities in India that "one brass field gun and several smaller pieces" had been "captured" from the retreating Tibetan army in September 1888.[41] The most explicit account of these exploits was published by Major Herbert Augustus Iggulden in 1900. He stated that after the British army had defeated the Tibetans at Lingtu, the soldiers "were allowed to fall out to look about them and hunt for loot" (although he goes on to say that "we found nothing of value at Lingtu, the Thibetans having carried everything away except forty or fifty loads of tobacco leaf, wool, copper, and iron pans") (Iggulden, 1900: 24). Once the British troops had entered the Chumbi Valley, they were more successful. At Rinchengong, the soldiers were "billeted off in the different houses which we were at liberty to loot, and not a little curious spoil was obtained" (Iggulden, 1900: 90): he recalls swords, guns, and illuminated scrolls being taken (Iggulden, 1900: 96). According to Iggulden, the troops even stripped the bodies of dead Tibetan soldiers and took their clothes (Iggulden, 1900: 96). Upon arriving in Chumbi village, Iggulden was disappointed that the original plan, "to loot and burn the Rajah's palace," [42] was abandoned (Iggulden, 1900: 92). He said, "I much [regretted] that we could not loot the place, which was rich with valuable and curious china, costly arms, and all sorts of quaint curiosities", albeit they did seize "all the papers belonging to the Rajah which were likely to be of interest"(Iggulden, 1900: 93).[43]

[41] The full text of the telegram reads: "We have taken possession of all the enemy's provisions, and destroyed large quantities of warlike stores collected at Chumbi. Rajah of Sikkim has asked permission to come in, and our Political Agent is in communication with a Chinese officer. Chinese Ampa left Lhassa three days ago. I hope this is the beginning of the end. Roberts, Chesney, and Graham deserve great credit for the way in which they have managed this business" (IOR/L/MIL/7/14639. Collection 325. Sikkim Expedition of 1888).

[42] Although the palace was abandoned after the 1888 conflict, when the Rajah fled into exile in Nepal before being imprisoned by the British, photographs taken in the context of the Younghusband Mission in 1904-05 attest to the accuracy of the Sikkim map's depiction of the palace (fig. 6.13).

[43] Inside the palace, the British soldiers encountered the Rani, the Rajah's mother, and his children; Thutob Namgyal himself was not there (it was assumed that he was hiding) (Iggulden, 1900: 96). Despite what must undoubtedly have been an extremely tense moment, the Rani attempted to appease the soldiers: "The Rani received us sitting, in a large room or private chapel, fitted up with a shrine at one end of it, and got up with embroidered scrolls, with a large brass image of Buddha in the centre of it. (…) She seemed of a cheerful disposition [and] accepting the destiny of fate" (Iggulden, 1900: 93).

Michael Carrington has argued that "the acquisition of plunder had always been used as an incentive for the troops, though its distribution was often disproportionate and the source of much discontent" (Carrington, 2003: 81). Collecting as a way of self-fashioning, which could enable British people employed in the colonies to transcend the rigid class boundaries of their homeland, has been described in a variety of imperial contexts, for example by Maya Jasanoff (2004) (as discussed in Chapter 4). Writing about the so-called "Younghusband Mission" of 1903-4, another conflict between Britain and Tibet, Clare Harris argued that for soldiers of a lower rank, "the journey into Tibet presented not only the opportunity to gather mementoes of their experiences but also to participate in an activity usually reserved for the elite: collecting art" (Harris, 2012: 53). Besides collecting for personal gain, it also became a governmental policy: by building an "'imperial archive' in which fantasy became reality and ultimate knowledge became ultimate power", Britain sought to extend and solidify its imperial authority (Carrington, 2003: 82).

More attention has been paid, by scholars such as Harris and Carrington, to looting during the Younghusband Mission than to looting during the 1888 war. During this conflict, the British, led by Colonel Francis Younghusband (1863-1942), invaded Tibet once more and advanced all the way to Lhasa.[44] The influx of Tibetan material culture in Europe after this war was so great that according to Harris an "aestheticized response" to Tibet emerged, typically combining fascination with Tibetan culture with condemnation of its system of rule (Harris, 2012: 57). By 1905, there was a ready market for Tibetan artefacts in Europe, with members of the Mission selling on their obtained goods at auctions and to collecting institutions.[45] In contrast, while much Tibetan material culture was seized during the war in 1888, it was then not described as "art" and little of

[44] For an account of the Younghusband Mission, see Harris (2012).

[45] For example, Iggulden sold 169 Tibetan artefacts to the British Museum in 1905 (Carrington, 2003: 109). Carrington also mentions that for the three decades following the Younghusband Mission, "the auction houses of London regularly sold items appropriated during the mission. Many items offered for sale were 'rare' or 'of the finest specimens' and were referenced as 'secured from the monastery by an officer in the Younghusband expedition' or 'collected during the Younghusband expedition'" (Carrington, 2003: 109)

it ended up in Western collections, being kept by the soldiers as personal trophies and mementoes (Harris, 2012). Yet in regard to looting as well as in other aspects, the Younghusband Mission can be described as a direct consequence of the 1888 conflict: Iggulden, who took part in both wars, noted crassly that "the beating we gave the Tibetans in 1888 seemed to count for nothing" (Iggulden, 1905: 663). Politically speaking, the conflict of 1903-04 meant driving the Tibetan forces out of Sikkim for good.[46] It also meant adopting a more systematic approach to the seizing of Tibetan artefacts by assigning a substantial collecting budget and appointing Laurence Waddell as "antiquarian to the force" (his task was to collect Tibetan objects and manuscripts for the British Museum) (Harris, 2012).[47] As the seizing of Tibetan artefacts became governmentally sanctioned, the language around these practices changed. While Iggulden freely used the word "loot" when writing about the 1888 conflict, he was more guarded in his description of the conduct of troops in 1903-4, denying that any looting took place at all.

6.5 From military trophy to object of knowledge?

The Map of Sikkim seized by the British on the battlefield in September 1888 was presented, three months later, at the December meeting of the Asiatic Society of Bengal by one of its former Presidents, the colonial administrator and entomologist Edwin F. T. Atkinson (1840-1890). In the Chair on this occasion was none other than Lieutenant-Colonel James Waterhouse, head of the Survey of India's Photographic Department.[48] In the Society's *Proceedings*, the artefact was described as "a Tibetan map, painted on cloth, of Sikkim and adjacent parts of Tibet, including the

[46] Although a treaty defining the borders between Tibet and Sikkim was agreed upon in 1890, it was signed only by the British and the Chinese. With the Tibetans not accepting the agreed upon terms, they continued to occupy land in the north of Sikkim (Iggulden, 1905: 660).

[47] By 1900, Waddell had been part of a number of military campaigns and had been promoted to Lieutenant Colonel. When he was stationed as Medical Officer in the Darjeeling district in the 1880s, he learnt the Tibetan language and conducted studies about Tibetan Buddhism. In his position as "antiquarian to the force", he was assisted by David Macdonald, a Government of India employee with a Sikkimese mother, who spoke fluent Tibetan (Martin, 2016).

[48] In June 1889, Waterhouse presented a copy of the printed map of Sikkim to the Royal Asiatic Society, demonstrating that he knew about the reproduction of the original map (Anon., 1889: 181-2).

Chumbi valley, and Phari &c., obtained from the Tibetan camp" (Anon., 1889: 224). Its presentation as an object of scholarly curiosity at this meeting raises wider issues about the ways in which the map was understood and classified within the framework of Western colonial knowledge.

The Asiatic Society of Bengal had been founded in 1748 and was modelled directly after similar learned societies in Britain (Edney, 1997: 304); indeed, these societies frequently had an overlapping membership.[49] By the late nineteenth century, the Society's members consisted of mostly well-educated and wealthy British and other European men, including naturalists, linguists, anthropologists, doctors, lawyers, and colonial officials, as well as a small but increasing number of Indian scholars (fig. 6.16 depicts the Dutch Tibetologist Johan Van Manen working together with his Tibetan collaborators at the Asiatic Society of Bengal in 1924). Edwin Atkinson, who presented the original Tibetan Map of Sikkim at the Society, combined several of these roles in the course of his career in the Indian Civil Service. First recruited into the Bengal Civil Service in 1862, he had served across the Bengal Presidency and the North-Western Provinces and was well-connected within the intellectual sphere of both India and Britain. Besides his prominent role within the Asiatic Society of Bengal he was also a Fellow of the Royal Geographical Society and the Entomological Society of London.[50] However, he was best known as an editor and contributing author of the three-volume *Himalayan Gazetteer*, published between 1881 and 1886, which was shaped by his experiences as census officer of the North-Western Provinces. The volumes of the *Gazetteer* included information on the inhabitants of the districts with additional sections on topography, geology, entomology, botany, and religion. Atkinson also published material from the last volume as a separate essay in the *Journal of the Asiatic Society of Bengal* entitled "Notes on the History of Religion in the Himalayas" (1885). His interest in and

[49] Later on, the Asiatic Society of Bengal was imitated by other literary and scientific societies in Madras (Chennai) and Bombay (Edney, 1997: 304).

[50] Atkinson had a specific interest in butterflies and moths and was responsible for identifying new specimens in both Britain and India (Nath, 2017).

engagement with the Himalayan borderlands of the British Empire perhaps explains how he came to present the Tibetan Map of Sikkim to the Asiatic Society.[51]

On the basis of a review of Atkinson's published work, Nivedita Nath has argued that he was "seemingly free from a dismissive sense of racial superiority and more inclined towards the romantic Orientalism of Indologists" (Nath, 2017). While it is certainly true that Atkinson and many other members of the Asiatic Society of Bengal had a genuine interest in the Indigenous cultures of South Asia, they were nonetheless embroiled in the work of colonial collecting in the service of the imperial state. By studying Indigenous material culture, religion, and languages, British scholars sought to explain and rationalise the "otherness" of these societies; and Tibet's inaccessibility and tales about its mysticism and legendary treasures made it a fascinating and often-discussed subject (Myatt, 2007: 127). The Asiatic Society of Bengal, with its library and collections, was an important focus for such research. In this context, the Tibetan Map of Sikkim was likely considered as an object of study, which might reveal insights into Tibetan culture. Indeed, the fact that Atkinson was at the time the Chairman of Trustees of the India Museum in Calcutta suggests that it may have been seen as worthy of incorporation into either the Society's own collections or those of the Museum.[52]

At the same meeting at the Asiatic Society of Bengal where the Tibetan Map of Sikkim was presented in December 1888, the Bengali scholar Sarat Chandra Das "exhibited some Tibetan MSS., one written in letters of gold, of the Bodhipathapradipa, by Dipamkara Srijnana, the celebrated Buddhist Pandit of Bengal, who visited Tibet in 1038 A.D.".[53] Das had previously been

[51] Atkinson's combination of interest in religion, natural history, and material culture was not that unusual at the time; it is also evident in the case of the much better-known figure of Laurence Waddell. Waddell originally underwent medical training, wrote on natural history (including a major work on the birds of Sikkim), and finally became best known as an Orientalist.

[52] In 1888, when Atkinson was Chair of the India Museum, Waterhouse was its Secretary, suggesting that the two men were used to working together and illustrating the connections between the museum, the Asiatic Society, and the Survey of India (Anon., 1889, Appendix 4, vii-viii). The collections of the India Museum, originally founded by the Asiatic Society in 1814, included both natural history and ethnography, with the former predominant.

[53] *Proceedings of the Asiatic Society of Bengal* (1889: 224).

employed as one of the covert Indigenous explorers of Tibet, known as the "pundits".[54] He lived in Darjeeling and was well-acquainted with Sikkim (one of his key intermediaries and collaborators during his expeditions into Tibet, Lama Ugyen Gyatso, was Sikkimese);[55] and he had offered his services to the British government during the conflict of 1888.[56] At the Asiatic Society of Bengal, Das was an influential figure in the emerging field of Tibetan studies: he "became a magnet for the many explorers, spiritual seekers and collectors" interested in Tibet (Martin, 2014: 34). Although no details survive of the discussion of the Map of Sikkim at the Asiatic Society in 1888, it is likely that Sarat Chandra Das knew of the map and perhaps commented on it during this meeting. He may also have had privileged knowledge about it through Ugyen Gyatso, who served as interpreter for the British in the 1888 conflict. The latter subsequently received a reward for his service from the British government, which is described by the RGS's *Geographical Journal*:

> Ugyen Gyatsho [sic] rendered invaluable service as chief interpreter, during the latter part of the Sikkim expedition, in obtaining information from prisoners, or in supplying useful detail regarding the road from Jelep to Chumbi (Anon. 1894b: 61).

Asian scholars such as Sarat Chandra Das and Ugyen Gyatso contributed significantly to the creation of knowledge about Sikkim and Tibet; and while their contributions were valued in the contexts of learned societies such as the Asiatic Society of Bengal, it was often obscured in published records.

In London, the printed Map of Sikkim formed part of a display of Western geographical knowledge and the technological power embodied in the means of producing and presenting it. Similar exhibitions had been organised at International Geographical Congresses since the first

[54] He took part in two expeditions, in 1879 and 1881, which he described in a celebrated narrative (published 1902); he also produced a series of highly confidential reports for the British Indian government.
[55] Ugyen Gyatso's family-owned estates in southern Sikkim and had served the Rajahs of Sikkim for several generations (Martin, 2014: 36).
[56] Sarat Chandra Das to Sir Donald Mackenzie Wallace, 27th January 1888 (NAI Foreign Department records. Secret-E. Pros. February 1888, Nos. 167-188D. Affairs in Sikkim. F. D. Press, Calcutta, No. 269-23-2-88-8).

meeting in Antwerp in 1871, and preliminary discussions about holding the Sixth meeting at the RGS reveal that it was seen as one of the Congress' most popular components: "the geographical exhibitions, arranged in connection with these Congresses, visited as they are by thousands, are in themselves ample justification for the time and trouble expended upon them".[57] The printed Map of Sikkim thus became part of a more popular, commercially-minded, imperial exhibition complex. Carol Breckenridge has written about the "transience and ephemerality" of world fairs, which sets them apart from permanent exhibitions in museums (Breckenridge, 1989: 195). According to Breckenridge, such temporary exhibitions are "special because they place objects in the service of commerce and the service of the modern nation-state, with the inevitable imperial encounters that these two forces promote" (Breckenridge, 1989: 196). Indeed, she argues that "in doing so, they yoke cultural material with aesthetics, politics and pragmatics" (Breckenridge, 1989: 196). The exhibition at the Imperial Institute served a comparable function. The Congress as a whole had distinctly imperial and commercial overtones: the majority of the discussions about Africa revolved around the continent's suitability for sustaining European colonies; and most participants of the Congress came from the European imperial powers (Anon. 1895c: 291). Representing the technological prowess of the Survey of India, the meaning of the Tibetan Map of Sikkim as a Himalayan artefact became secondary to its nature as an image of colonial power.

The Map of Sikkim is one of many materials associated with Tibet that entered the collections of the Royal Geographical Society around the turn of the last century, connected with the travels of the "pundits", the military missions into Tibet, and the early Everest expeditions. Aside from other maps of Tibet, including those showing the journeys of Sarat Chandra Das, Nain

[57] Cust and Morgan, RGS-IBG International Geographic Congress 1881-1903, CB7 Council Agenda, "Memorandum by R.N. Cust and E. Delmar Morgan, on a proposed International Congress of Geography to be held in London". To give these numerous visitors even more to see, it was planned that alongside the geographical exhibition at the Imperial Institute the British Museum too would put on a display of the geographical materials held in its own collections (RGS-IBG Minutes of the International Geographical Congress, 24 April 1894). This exhibition, put on in the museum's "Asiatic Saloon", consisted of "Oriental instruments" such as "Astrolabes, Quadrants, Sun Dials" as well as a several Chinese and Japanese compasses (Anon., 1896a: 182-3).

Singh, and Krishna Singh into Tibet, and one item based on a Tibetan map produced for Laurence Waddell,[58] the Society holds numerous Tibetan artefacts (weapons, artworks, household items and religious objects) some of which were donated by Francis Younghusband, elected as the Society's President in 1919.[59] However, the Society's records show that the interest in Tibet always lay more in the exploration of territory rather than Tibetan culture in itself: most discussions about this region revolved around surveys and expeditions.[60] Around the time of the Younghusband Mission especially, the Royal Geographical Society's interest turned to questions of information and intelligence gathering about Tibet and its borderlands.[61] However, there is no evidence that the Map of Sikkim was ever mentioned in this context, even though there were occasional suggestions that it contained potentially useful geographical and political information (Phillimore, 1950b: 73). While the map remained in the Society's collection, its status seemingly guaranteed by its association with the Survey of India, it fell short of what was required of a map for it to be useful to British geographers in military or topographical terms; equally, its material form – a printed document, the product of the latest techniques of photo-lithographic reproduction – effectively disqualified it from being the kind of ethnographic artefact that would end up in a museum. In short, the map was too Indigenous to fully qualify as a map in the eyes of

[58] "Pictorial Map of the Area around Mount Everest", RGS-IBG mr Asia S.260

[59] Following is a selection of Tibetan artefacts held in the RGS Collections: "2 Bells, 2 silver vessels; 2 copper cannon balls and one's buddha's head", RGS-IBG 124.0; "2 jade bowls", RGS-IBG 13.3; "Bronze statue of Buddha. Given to Younghusband by the Tibetans in 1904. One of his most treasured possessions", RGS-IBG Artefact C 3(1); "Mani stone brought from near Ningching on the Chinese border of Tibet in 1906", RGS-IBG 237.

[60] See for example Freshfield (1904a).

[61] In an article which Douglas Freshfield wrote for the *Geographical Journal* in 1904, coinciding with the Younghusband Mission to Lhasa, he offered some examples of the military usefulness of information he had gathered on his previous journeys in Sikkim and Tibet. For example, he points to mistakes in older Survey of India maps of Sikkim, on which the size of the country was exaggerated, and explains that this might have been because the Tibetan Chumbi Valley (in which the Rajah of Sikkim owned land) was depicted on these maps as being part of Sikkim (Freshfield, 1904a: 80). Freshfield ends his account with a direct appeal to the Viceroy: "No geographer, of course, would wish an armed expedition to be sent forth for merely geographical purposes, but when political considerations make such an expedition expedient, we are naturally desirous that the occasion should not be lost" (Freshfield, 1904a: 88).

Western cartographers; and too modern to qualify as an Indigenous artefact of the kind increasingly acquired by Western museums.

6.6 Conclusion

As an object seized during a military expedition in 1888, the Map of Sikkim began its new life in British hands as a trophy of war. Its transformation into an object of curiosity depended on the work of colonial officials and scholars associated with the Asiatic Society in Calcutta. In the few years between its capture and its exhibition in printed form in 1895, Sikkim was absorbed into the infrastructure of the empire. In 1894, Herbert Hope Risley, colonial administrator and anthropologist, published a *Gazetteer of Sikhim* (1894), the textual accompaniment to the formal territorial absorption of Sikkim within the boundaries of the Raj. In the *Gazetteer,* military intelligence is mixed seamlessly with matters of Himalayan geography and ethnography, contributed by British and Indian authorities. The book's longest section (of 150 pages), entitled "Lamaism in Sikhim", was written by Laurence Waddell and ranged widely in content, from a history of Buddhism and specific religious rituals to descriptions of monasteries (Waddell, 1894).[62]

In introducing the *Gazetteer,* Risley refers to a Tibetan map, which he says was picked up by the British in Chumbi Valley in 1888. His admiration for Tibetan artistry is evident when he describes this artefact as a "very remarkable map", on which "temples, houses, trees, and a locomotive puffing smoke at the railways station are depicted with much display of accuracy" (Risley, 1894: vii).[63] For all his interest in this map, it is clear that to Risley the map had become a curiosity rather than an artefact of war, simultaneously evidence of the backwardness of the Tibetans and offering clues to their unfathomably exotic culture. In his words, "one is disposed to

[62] The crucial advice Waddell received for over a decade from the Scottish-Sikkimese scholar David Macdonald is not mentioned (Martin, 2016: 114).
[63] The detail of the railway suggests either that the map described by Risley is not the same as that discussed in this Chapter, or that the lithograph represents only part of the original map.

wonder that our barbarous neighbours should have been so ready to adopt one of the characteristic weapons of modern diplomacy" (Risley, 1894: vii).

Like the maps produced by the Survey of India, colonial gazetteers were intended to provide authoritative surveys of the history, landscape, culture, and economy of regions under British authority. They helped to put in place a myth about the self-sufficiency of imperial knowledge which obscured the often fragile and incomplete nature of British power in South Asia. Before and after the invasion of 1903-4, much British knowledge about Tibet was collected not in Tibet itself but in the adjoining borderlands of Darjeeling and Sikkim, which Emma Martin has described as "contact zones" after Mary Louise Pratt (Martin, 2016). The complex relationships between Europeans, Indians, and Tibetans formed in such regions, which occasionally gave rise to violence as in 1888, underpinned the creation of new forms of colonial knowledge in which Indigenous people themselves were significant but often unacknowledged agents and sources (Martin, 2016: 89). These included not only colonial gazetteers and maps but also dictionaries, glossaries, and grammars, the production of which relied on Asian scholars such as Sarat Chandra Das as well as Tibetan informants and intermediaries across the whole Himalayan region.[64] The Tibetan Map of Sikkim passed briefly through the scholarly networks of the Asiatic Society of Bengal before becoming better known as a "specimen of lithography". But its inscriptions and translations bear witness to another history and geography which the British barely knew of.

[64] An example of this is Sarat Chandra Das' *A Tibetan-English Dictionary with Sanskrit Synonyms*, published in 1902 and written in collaboration with Lama Sherab Gyatso, the monk and explorer Ugyen Gyatso, the Moravian missionary Rev. Augustine William Heyde, and the Calcutta based chaplain Graham Sandberg (Martin, 2016: 643).

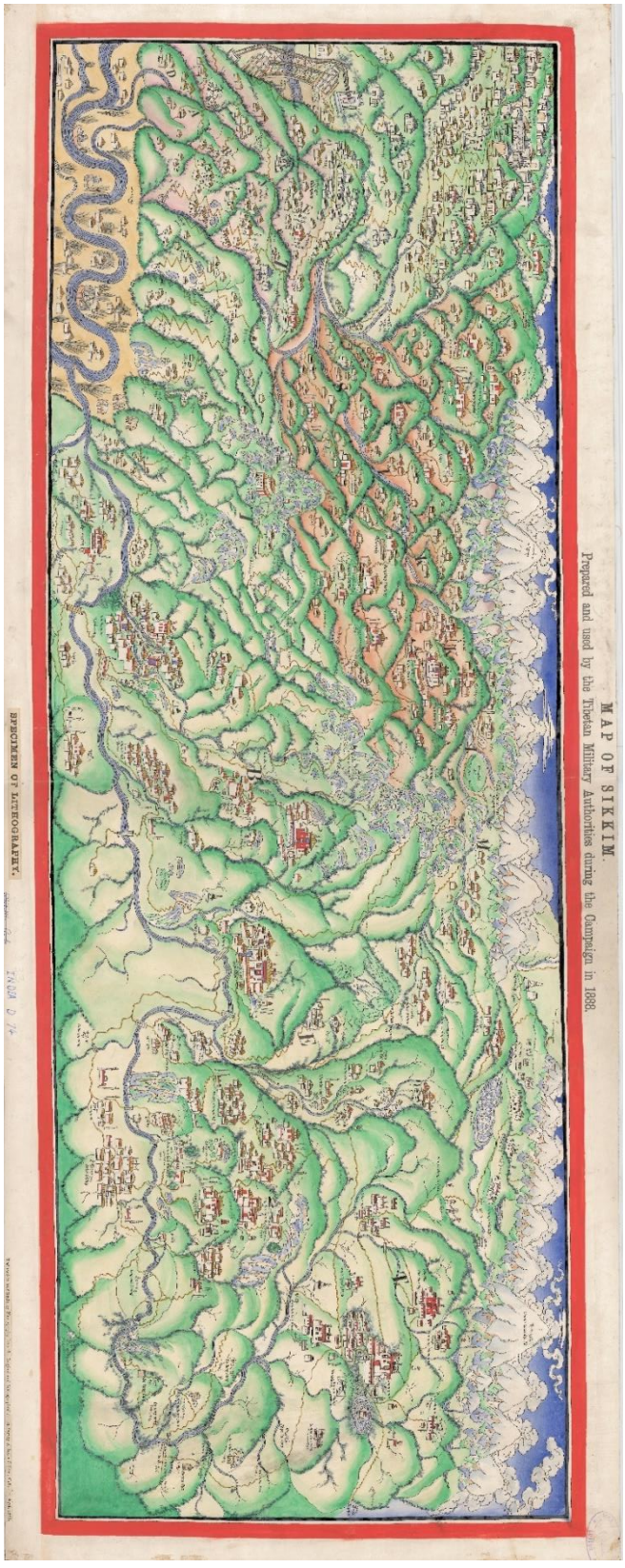


Figure 6.1 "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

Figure 6.2 Sikkim and surrounding regions, c. 1888.

Figure 6.3 A label adhered to the bottom of the map describes it as a "Specimen of Lithography". Detail of the "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

Figure 6.4 A man ploughing a field assisted by a bull. Detail of the "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

Figure 6.5 Mount Kanchenjunga is prominently depicted at the centre top of the map. Detail of the "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

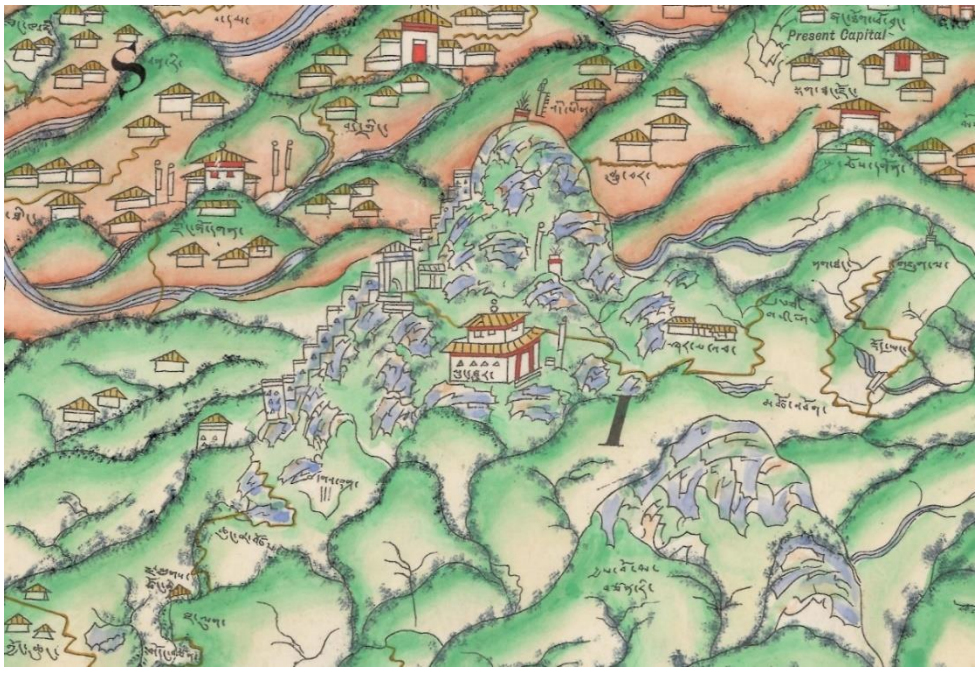


Figure 6.6 Tibetan fortification near the Lingtu monastery in the centre of the map. Detail of the "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

Figure 6.7 Chumbi village, situated in the map's centre, becomes its focal point. Detail of the "Map of Sikkim. Prepared and used by the Tibetan Military Authorities during the Campaign in 1888".

Source: RGS-IBG mr India D. 74. © RGS-IBG

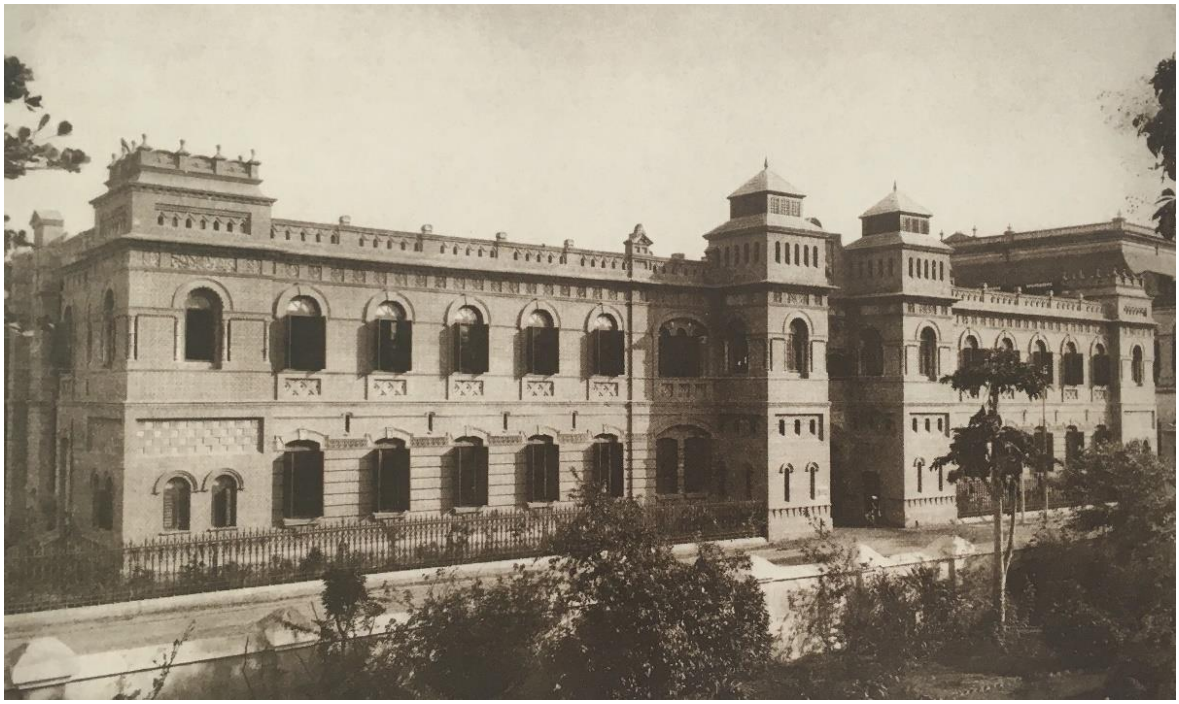


Figure 6.8 The headquarters of the Photographic and Lithographic Office of the Survey of India in Calcutta, c. 1889.

Source: BL IOR Photo 527/1 (136) © The British Library Board.

Figure 6.9 The Printing Workshop at the Photographic Department of the Survey of India, Calcutta, c. 1889.

Source: BL IOR Photo 527(131) © The British Library Board

Figure 6.10 The Photographic Copying Studio at the Photographic Department of the Survey of India, Calcutta, 1907.

Source: BL IOR Photo 527 (119) © The British Library Board

Figure 6.11 The “Duffing Section” at the Photographic Department of the Survey of India, Calcutta, c. 1911.

Source: BL IOR Photo 527 (122) © The British Library Board

Figure 6.12 The examining room of the "Duffing Section" at the Photographic Department of the Survey of India, Calcutta, c. 1911.

Source: BL IOR Photo 527 (120) © The British Library Board

Figure 6.13 The "Helio-Printing Section" at the Photographic Department of the Survey of India, Calcutta, c. 1911.

Source: BL IOR Photo 527 (124) © The British Library Board

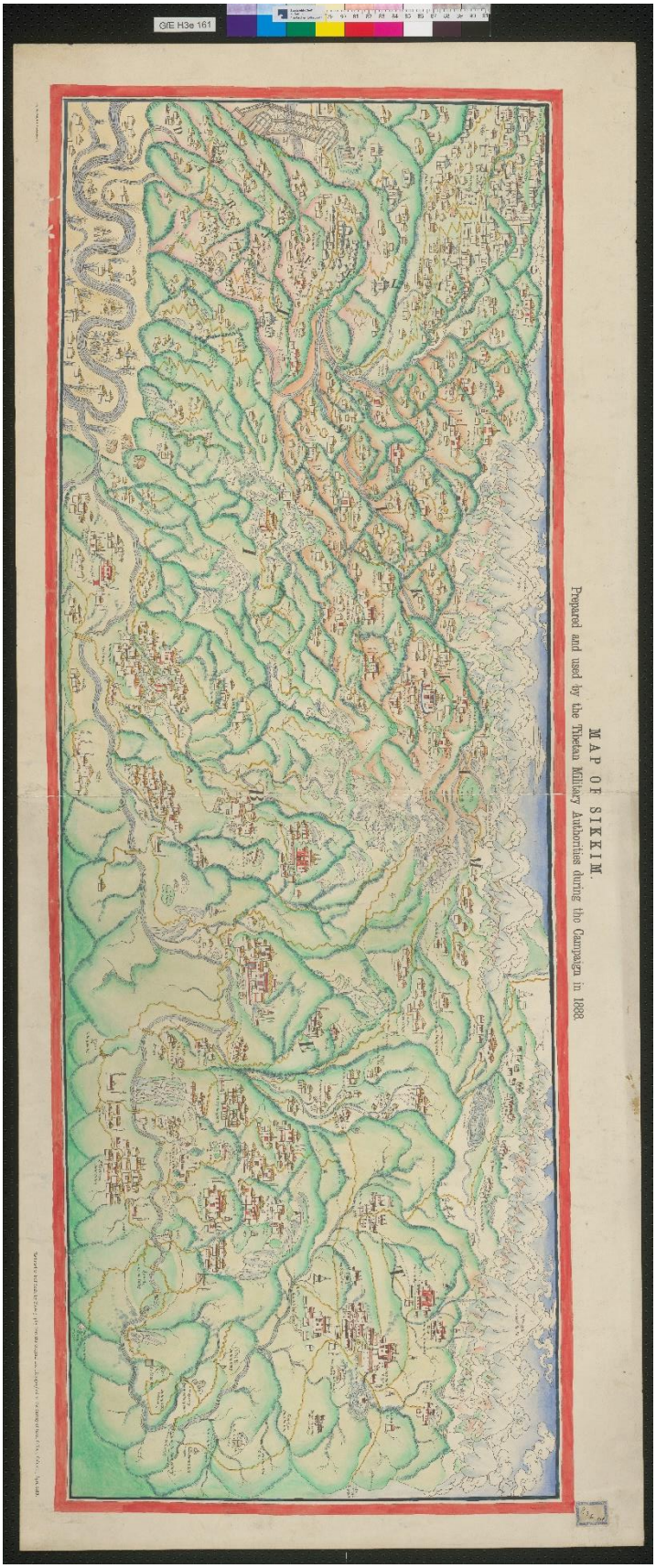


Figure 6.14 The copy of the Map of Sikkim held at the Berlin Geographical Society.

Source: Staatsbibliothek Berlin, SBB_IIIC_Kart_GfE H_3_e_161.

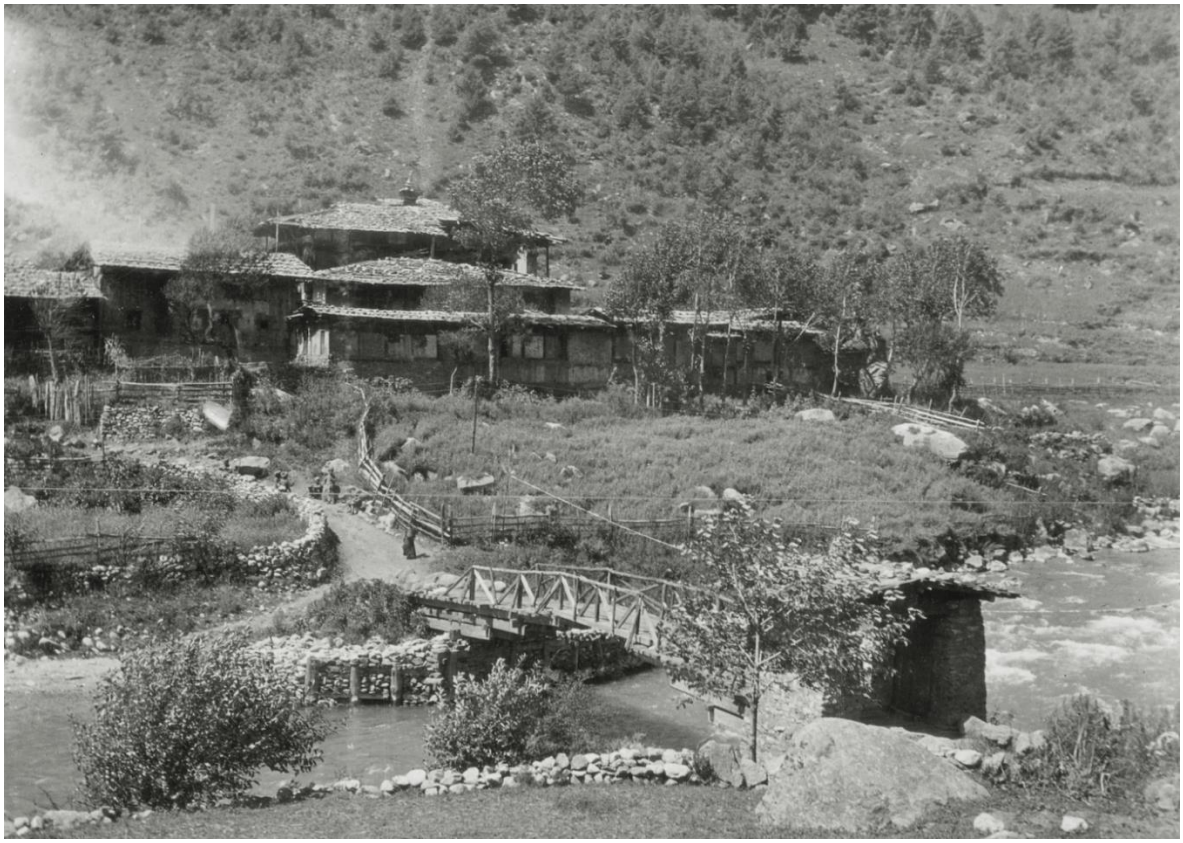


Figure 6.15 The Rajah's palace in Chumbi. Photograph taken by G. I. Davys during the 'Younghusband Mission', 1904.

Source: RGS-IBG S0016857. © RGS-IBG

Figure 6.16 Dutch Tibetologist Johan Van Manen, the librarian and then secretary of the Asiatic Society of Bengal in the period 1919-1939, with his Tibetan collaborators. Photograph taken in Calcutta in 1924.

Source: Pott, P. H. (1951) *Introduction to the Tibetan Collection of the National Museum of Ethnology*. Leiden: E. J. Brill, 1951, plate 1.

CHAPTER 7

Conclusion

7.1 Introduction

This thesis began with a quote from the 1964 edition of Leo Bagrow's *History of Cartography* in which he lamented the neglect of the study of "non-European maps" (p. 21). When Bagrow originally wrote his book in 1943, he was convinced that such maps were not only rare but in danger of rapidly disappearing. As he wrote:

> In 1914 there were still many little book-shops about the walls of the imperial palace in Seoul in Korea, where one could find ancient native maps. Five years later, these little shops had been demolished, and heaven knows what became of their stock. Similarly, the rebuilding of Canton led to the destruction of many little shops. And is the secondhand dealers' quarter of Peking—Lu Li-Tscham—still here? (Bagrow, 1964: 21-2).

In Bagrow's opinion, the disappearance of these maps meant the loss of a piece of human history, a piece that was vital to document, as he believed that the evolution of societies could be traced through their cartographic record (Bagrow, 1964: 20). For Bagrow, mapping was a universal human instinct. Maps thus served as evidence of innate affinities that existed between different cultures, while the diversity of different map forms found across the globe gave expression to the different faces of a shared heritage of human creativity and ingenuity.

This thesis has traced scholarly engagement with the "non-European map" over the course of the nineteenth and twentieth centuries. As suggested in Chapter 2, early historians of cartography such as Bagrow assumed a binary distinction between European/modern maps and non-European/traditional maps. In the century before Bagrow was writing, a few Indigenous

maps found their way into Western archives and collections, where they were frequently described as “native maps” and treated as curiosities. As I have suggested in this thesis, the accession of these maps into Western collections needs to be seen in the context of cross-cultural encounters taking place around the globe in colonial settings between European colonisers and Indigenous populations. A close analysis of individual maps and their trajectories prior to and during their incorporation within Western collections revealed something of the complex processes of exchange (frequently on unequal terms) and collaboration (sometimes forced) that underlay the production and mobilisation of these maps.

This Chapter offers some concluding thoughts on the thesis as a whole. The first section revisits the theoretical underpinnings of the thesis, as described in Chapter 2, in the light of the findings in the case study Chapters, focussing especially on questions of the definitions of maps held in colonial-era collections (section 7.2). There follows a discussion of the geographies of British colonial expansion in South Asia as revealed by the trajectories of these maps (section 7.3); and a reflection on methods, specifically the virtues of a focus on the materiality of maps and what it reveals about the production of knowledge in colonial contexts (section 7.3). The final section widens the lens by returning to the institutional context in which this research project was conceived and undertaken —as part of a Collaborative Doctoral Award with the Royal Geographical Society (section 7.4). Here, I speculate on future possible avenues for research on the map collection of the RGS and comparable colonial-era cartographic collections.

7.2 Definitions

What Bagrow termed “non-European maps” in his *History of Cartography* encompassed any map that appeared to be free of Western influence: or as he put it, “Chinese, Japanese, Arabian and so on” (Bagrow, 1964: 21). Moreover, Bagrow conflated maps from very different traditions in reducing them to a single category, those “drawn by primitive artists” (Bagrow, 1964: 26). More

than half a century after Bagrow had written the original version of his book, David Woodward and G. Malcolm Lewis were also confronted with questions of definition when editing the fourth volume (Volume Two Book Three) of the *History of Cartography* series for the University of Chicago Press. As discussed in Chapter 2, the series was originally conceived by Woodward and Brian Harley as a way of broadening the perspective of the history of cartography; by devising a more inclusive definition of map, they hoped to avoid the Eurocentrism that had so far dominated the field. However, the arrangement of this ambitious series caused the editors problems from the start, as the sheer scale of the project outstripped their original plan. In particular, Harley's original intention to treat Indigenous cartography within the same volumes as European mapping, highlighting the pivotal role of colonial encounter in the development of cartographic traditions, was superseded by a more pragmatic arrangement of content based on geographic and cultural regions.

Woodward and Malcolm Lewis devoted a significant portion of the introductory chapter of the fourth volume to explaining the diversity of its contents and their choice of its title, *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies.* As noted in Chapter 2, this volume had not been in the original plan for the series, although its advocacy of a much more catholic approach to the definition of maps and mapping was consistent with the founding vision. The editors recognised that assembling very different kinds of mapping practice in a single volume devoted to "traditional cartography" had its own risks:

> The danger is that such a division of subject matter might be thought to imply that there are two fundamentally different ways of spatial thinking: Western and "other". (…) Our motivation for using the term "traditional", despite its problems, is to convey the idea that we are dealing with a different kind of cartography that is neither inferior nor superior to that of the West. Although even "traditional" has sometimes been used pejoratively, we have preferred it to other terms that are now almost always interpreted as disparaging, such as "preliterate," "simpler," "primitive," or even "savage" (Woodward and Malcolm Lewis, 1998b: 2).

While this statement demonstrates a clear departure from earlier ideas of "primitive" cartography, the effort to differentiate "traditional" from "modern" mapping (or "Indigenous" from "Western") inevitably raises wider questions about the place of cross-cultural encounter in the history of cartography, as indeed Harley's original design for the series had done. While acknowledged by the contributors and by the editors ("almost all the maps discussed and reproduced in this volume were made by indigenous peoples after contact with Western culture": Woodward and Malcolm Lewis, 1998c: 540), the arrangement of the fourth volume and the series as a whole drew attention away from such questions. Although many decades separate the publication of their books, Bagrow and Woodward and Malcolm Lewis both sacrificed nuance for pragmatism when faced with the challenge of having to define the scope of their projects. For all the differences between their scholarly approaches and the contexts in which they wrote, these authors fell back onto generic categories – "primitive" maps in the case of Bagrow, "traditional" in the case of Woodward and Malcom Lewis – which obscure more than they reveal about map forms as diverse as Marshall Island stick charts, Southern African rock paintings, Mesoamerican calendar stones, and the tactile wooden maps of the Inuit.

Conventionally, the history of cartography as it developed after Bagrow privileged one particular kind of map: European works made on paper according to principles of Western cartography and their derivatives in the form of globes. The fact that historians of cartography had difficulties adapting the analytical framework created for this specific type of map for the study of other map forms is therefore not surprising. However, scholars from other disciplines, too, have often adopted similarly broad definitions when addressing the cartographic record of empire and the subject of Indigenous maps, even when the ethical and scholarly intention is very different from Bagrow's. For example, postcolonial work on mapmaking and empire has predominantly focussed on an enduring model of the "imperial map" inspired above all by the work of Harley, in which the main emphasis is on the assertion of imperial power and the

concomitant erasure of Indigenous presence through cartography.[1] Although there has been a growing emphasis on the need to move beyond some of the assumptions inherent in a homogenising approach to imperial maps,[2] there remains a persistent separation between the literature on colonial cartography and the work on Indigenous maps (see Chapters 2 and 3). This risks leaving the study of Indigenous cartography in a kind of pre-colonial limbo, with surprisingly few studies devoted to the interactions between European and non-Western mapping traditions in the colonial and post-colonial era, or—as in the case of the *History of Cartography* series—an ambivalence about the treatment of map history in the context of encounter.[3] As a result, it could be argued that the scholarship on Indigenous cartography is in danger of reinforcing some of the very stereotypes it seeks to challenge. The constant return to the same examples in textbooks and popular introductions to the subject – notably the iconic Marshall Island stick charts – suggests, at the least, an uncertainty over the status of Indigenous maps created or circulated in the colonial era.

The terms used to categorise maps produced by Indigenous people in colonial-era map collections have varied over time, evolving from "native map" to "primitive map" to "Indigenous map" (as discussed in Chapter 2). By reading the RGS collection "along the archival grain" (Stoler, 2009), as well as against the grain, it became possible to understand the collections context for these maps. And by approaching the collection as a subject, a "field site", I sought to identify examples of maps that question both the integrity of these defining categories as well as the grand narrative of the imperial map. As I mention in the conclusion of Chapter 3, I came eventually to conceptualise the maps selected for the case studies as "troublesome objects",

[1] Harley (2001b). See also Akerman (2009a) and Driver (2010).
[2] See for example the edited collection, *Decolonising the Map: Cartography from Colony to Nation* (Akerman, 2017a). The essays in this volume were first delivered as the 2010 Kenneth Nebenzahl, Jr. Lectures in the History of Cartography at the Newberry Library, following on from a previous lecture series also published in a volume edited by Akerman, *The Imperial Map* (2009a).
[3] Notwithstanding the decision to separate European and Indigenous cartography into separate volumes, several of the chapters in volume 2 book 3 of the *History of Cartography* series explicitly address issues of encounter and exchange: see for example Barton (1998) and Bassett (1998).

fitting uncomfortably into the RGS collection. Long pushed to the margins of the collection, these maps were often treated with ambivalence, reflecting wider attitudes towards the contributions of Indigenous people to colonial knowledge at the time.

7.3 Geographies

The map collection of the RGS, as suggested in Chapter 3, provides an opportunity to explore the diversity of Indigenous maps in a colonial-era collection and to examine how their "trajectories" as material objects provide the basis for telling different stories about the entanglement of maps and empire. These stories also throw light on geographies of knowledge production beyond the imperial metropole itself. The work of following the trajectories of maps now in the RGS collection, as discussed in Chapters 4-6, revealed a set of multiple geographies connecting London with British colonial territories across South Asia. The journeys of these maps make clear the importance of a multi-sited approach to the analyses of colonial knowledge production: it is their movement between different places that made it possible for these objects to accrue their multiple meanings. Following their trajectories revealed the shape and extent of trade networks, the nature of concerns about territory, and the patterns of encounters between the British and the Indigenous population of South Asia. These maps, in other words, bore witness to wider geographies of knowledge production.

Considering first the topic of trade, as shown in Chapter 4, the Red Sea chart was an example of maps used originally by Gujarati pilots of merchant boats, who made the journey to the Red Sea to sell their goods on the Arabic market. While the East India Company was extending its influence in these waters, the chart became an object of potential commercial and political interest to a Company officer. A few decades later, as shown in Chapter 5, maps created by Burmese and Shan traders in Moulmein, depicting Indigenous trade routes into Yunnan, were copied in Calcutta and versions of them were presented to Chambers of Commerce in Liverpool

and London. The aim in doing so was to advance British plans for extending trade into western China. But this plan was never fully realised: the collection of maps remain a relic of an imagined imperial geography.

Turning to concerns with territory and sovereignty, the Tibetan Map of Sikkim (the topic of Chapter 6) is of particular interest. This document came into British possession in the context of a minor frontier war instigated by the government of India, which sought to affirm British authority and extend imperial sovereignty further into the Himalayan borderlands. This 1888 conflict is often overlooked in histories of the region in favour of the more dramatic conflict of 1903-04, when British forces advanced all the way to Lhasa. The Tibetan Map of Sikkim, however, serves to put the 1888 conflict into a longer historical context as well as drawing attention to the contested nature of mapping in these borderlands. The original map, copied by the British, seems likely to have been created by the Tibetans in the years immediately preceding the war. One of its focal points is the impressive fortification the Tibetans built at Lingtu, in anticipation of a conflict with the British. Thus, the map also speaks to another history, that of Tibetan resistance to British influence.

All three of the case studies in this thesis provide insights into the pattern of cross-cultural encounters in the context of British expansion into South Asia. For example, the Red Sea chart illustrates British reliance on Gujarati and Arabic hydrographic knowledge in the context of their own surveys of the Red Sea. Such Indigenous documents were studied by Orientalist scholars in libraries and collections while in the field Company surveyors depended on the help of Arab pilots. The maps from Burma, meanwhile, address this theme even more directly, revealing that maps were sometimes used as a means of knowledge transfer in colonial contexts. While the Burmese and Shan maps might be regarded as amongst the more benign legacies of such colonial encounters, the Tibetan Map of Sikkim draws attention to their more brutal aspects, its title

highlighting the fact of its acquisition within Tibetan territory in the course of a violent confrontation between two armies.

The maps in the RGS collection add a new perspective to the history of empire-making in South Asia. Relating to both local sites (Coryton's veranda in Moulmein) and trans-regional contexts (the Indian Ocean), these maps put into question common assumptions about the geography of colonial knowledge production, including the conventional focus on the imperial archive of the metropolis to the exclusion of other locales across the empire. Moreover, they offer novel insights into the role Indigenous people played in the creation of geographical knowledge; a role which these case studies suggest was more significant and more diverse than the rhetoric of imperial cartography was prepared to admit. Finally, the maps add nuance to our understanding of the RGS's position within the British empire. For example, they demonstrate that the Society relied heavily on institutions within India to supply information about the most recent advancements in geography (Chapter 4 discusses this in the context of the East India Company survey of the Red Sea; Chapter 6 in relation to the production of knowledge about Tibet); and show that the colonies themselves became innovators, for example in the development of new technologies for mass printing (see Chapter 6).

7.4 Materialities

The material form of Indigenous maps has long been a topic of interest to map scholars. For Bagrow, the materiality of a map was a key factor distinguishing it as either European or non-European: in his words, "the variety of [primitive] map-forms is governed by the medium in which they are prepared" (Bagrow, 1964: 26). In his overview, Bagrow offers a succinct summary of the different materials used in the making of non-European maps:

> The commonest and simplest materials used are stone and wood; bone and leather are rarer. Pictures in stone may be carved, chiselled or drawn. Rock paintings or petroglyphs occur all over the world and, significantly, are most numerous at points of social or economic importance, such as tribal gathering-places, the best hunting-grounds, and

> dangerous crossings. (…) Maps drawn on bark, chiefly birch-bark, are particularly common in Siberia and among the North American Indians. They are easily carried, and this factor contributed to their wide distribution; Indians of north-west America used to take whole rolls of such maps with them during their wanderings. (…) While many savage peoples have shown some skill at drawing maps on a plane surface, the Eskimos are perhaps alone in attempting the delineation of relief features. Blocks [of wood] are carved in relief to represent the rugged coastline of Greenland with its fjords, islands, nunataks and glaciers, the shapes of various islands being linked together with rods" (Bagrow, 1964: 26-7).

For their part, in their contribution to the *History of Cartography* series in 1998 Woodward and Malcolm Lewis were also interested in the materiality of maps, though they were writing in a very different academic context. Here they wanted to "present the material evidence of traditional cartography—to describe the map corpus in a way that approaches the maturity of other fields that address issues of material culture, such as art history, ethnography, and industrial history" (Woodward and Malcolm Lewis, 1998b: 5). Likewise, this thesis has considered the materiality of Indigenous maps to be of prime importance, though less as a defining characteristic than as a methodological prism.

Just as scholarly interest in the materiality of maps is not in itself new, neither is the principal method used in the case studies of this thesis. Here the material form of maps was used as a tool to investigate their "biographies" or "trajectories" as they were mobilised, exchanged, altered, copied, and displayed across the sites of empire. Such an approach has hitherto been mainly applied to unique manuscript maps from Europe rather than the kinds of maps commonly held in colonial-era map collections.[4] Following the trajectories of a select number of maps from the RGS collection all the way back to the contexts in which they were produced or collected, as I did, revealed that these maps were more than simply troublesome objects for the RGS. In fact, as shown in the case study Chapters, their material form bore witness to a variety of different kinds of encounter that took place in and beyond British colonial territories. For example, the paper

[4] See Harley (2001d), Edney (2018), and Jacob (2006).

scraps from a Gujarati household and the handwriting of Alexander Burnes on the Red Sea chart discussed in Chapter 4 reveal the chart's connection to both the Indian west coast as well as the East India Company. And the English place names printed onto the Tibetan Map of Sikkim, with its stuck-on label presenting the work as a "Specimen of Lithography", transform this lithograph into a culturally "hybrid" artefact.

The interpretation of the Burmese and Shan maps discussed in Chapter 5 raises more specific issues. Unlike the two other case studies, these maps were themselves the direct products of a colonial encounter; one that took place on the veranda of a British bungalow in Moulmein between a British colonial judge and Indigenous traders. This was one of many similar encounters happening in colonial Burma in the 1860s and 1870s. However, while most of these encounters did not leave any archival trace, these maps – intended as a form of evidence, collected up and despatched by a colonial judge—provide a notable exception. As I argue in Chapter 5, this set of maps can be considered as a witness to a specific kind of colonial encounter at a particular time and place. Despite the maps' removal from the context in which they were produced and from the people who originally created them, the negotiations that took place as Indigenous people and European colonisers were trying to communicate across unequal power dynamics, language barriers, and cultural differences, are inscribed in the material form of the maps themselves.

It is notable that each of the case studies in this thesis extend beyond a single map object: they are studies not of three individual maps, but of three sets of maps. Even the Red Sea chart, prized for its uniqueness and rarity, has a non-identical twin in the form of the lithograph published in the RGS's *Journal*. The collection of Burmese and Shan maps assembled a family of documents in a variety of forms and extended beyond the confines of the RGS storage all the way to the National Archives of India in Delhi. And the Tibetan Map of Sikkim, printed at the Survey of India Offices in Calcutta, was one of a series of at least twenty reproductions, distributed among

learned societies in Europe. The multiple forms of these maps are important, drawing attention to the multiple lives that Indigenous maps can lead, in manuscript, print, and digital form.

7.5 Collections

The research on the RGS map collection presented in this thesis has built on a number of previous Collaborative Doctoral Award (CDA) projects, as discussed in Chapter 3, which have collectively demonstrated some of the potential of using the Society's colonial-era collections to reveal new kinds of histories. Rather than reproducing the conventional focus on those who led the Society or who were associated with histories of heroic exploration and empire-building, these projects have focussed attention on the role of individuals and groups traditionally marginalised within colonial-era archives and collections, including women and Indigenous people. Today the Society's support for these CDA projects goes hand in hand with its commitment to address its colonial past, most recently within the wider context of calls for the decolonisation of geography.[5] In the last twenty years, the RGS has sought to make its collections more accessible through the *Unlocking the Archives* project and the associated *Crossing Continents: Connecting Communities* programme of the first decade of this century.[6] It has also organised exhibitions and event programmes that shine a critical light on the Society's history (including the *Hidden Histories* exhibition in 2009).[7] Furthermore, such histories have informed a more critical perspective introduced into workshops and resources for undergraduate students of Geography (for example,

[5] For recent calls for the decolonisation of geography, see the themed issue of *Transactions of the Institute of British Geographers* titled "Decolonising Geographical Knowledges" and guest edited by Sarah A. Radcliffe (2017b); and its companion piece, the Special Section in *Area* on the theme "Decolonising Geographical Knowledge in a Colonised and Re-colonising Postcolonial World" guest edited by Patricia Noxolo (2017).

[6] See Patel and Pereira (2011) for a reflection on their work as part of *Crossing Continents: Connecting Communities* and specifically on their exhibition *Bombay Africans 1850-1910.*

[7] For the exhibition catalogue, see Driver and Jones (2009). The exhibition lives on in the RGS website: https://www.rgs.org/about/our-collections/online-exhibitions/hidden-histories-of-exploration/ (Accessed 09 March 2021).

a self-guided building tour, which highlights the role played by architecture in sustaining colonial structures).

Making new research on the RGS collection accessible beyond an academic audience is an important step towards increasing awareness about the Society's colonial history. How could the research presented in this thesis contribute to such a project? One possibility would be an online exhibition, building on the Society's digital strategy which has been enhanced during the current Covid-19 pandemic, highlighting Indigenous presence in the RGS collection. Maps are particularly well-suited items for online display because digital technology enables users to view them much more closely than is usually possible in the confines of a reading room: it is possible to zoom in on details, search for specific data, and arrange and overlay different maps for comparison. An online exhibition of this kind could assemble a collection of maps, highlighting their diverse forms, functions, and contexts of acquisition. Or it could perhaps focus on a single map, presented in a variety of different ways. Accompanying interpretative text could highlight certain details on the map (individual inscriptions, symbols, and labels affixed to it) as a way to provide more information about its provenance and the contexts in which it has been created and used.

Another way in which this research could help in realising the RGS's commitment to provide better access to its collection is through direct and indirect contribution to enhancement of the Society's online catalogue. It has been convincingly argued that without a complete overhaul, Western catalogues created in the context of empire cannot be decolonised insofar as they continue to reproduce colonial classifications and categorisations.[8] However, even working within the constraints of a colonial-era catalogue, it is possible to make additions and changes so that it can better reveal the Indigenous materials within. One way of doing this is by continuously updating the information and search terms as this information is made available by new research.

[8] A large field of scholarship addressed the topic of cataloguing and decolonisation, much of it in the context of libraries (see for example Drabinski, 2019). For a case study based on a museum collection, see Turner (2014).

For example, a map previously associated only with the name of its European collector could be supplemented with the names of the Indigenous informants or collaborators involved in its production or exchange; or, if this information is not available, a note could be added that clarifies the map's Indigenous provenance. Transcription of non-English inscriptions on maps and their inclusion in the online catalogue (perhaps alongside an English translation) is another way to enhance the searchability of items associated with Indigenous people, especially for native speakers of these languages.[9] In combination with such new forms of evidence, the Society would need to provide clear guidance to a wider range of potential audiences (including source communities from the regions where the maps originated) on how to use the catalogue. Improving access to the collection and highlighting new research about it in the ways outlined above requires a close working relationship between the RGS collection staff, researchers, and other users of the catalogue and the collection.[10]

The methodology of tracing the trajectories of maps used in this thesis has parallels in the field of provenance research, which has become the focus in the practice of many Western museums with colonial-era collections.[11] Generally speaking, provenance research in a museum context often involves new research on under-researched parts of the collection, establishing where these items originated and under what circumstances they entered the collection. Occasionally, this research reveals that an artefact or indeed a whole collection was not obtained ethically, for example because it was seized as part of a punitive military campaign (as was the case with the famous Benin bronzes), looted, or removed against the owner's will. [12] In some cases, these findings lead museums to instigate repatriation procedures for individual artefacts or

[9] There have been a range of projects aiming to make catalogues (of libraries, mostly) more accessible to Indigenous people. For examples, see Fagnan (2020) and Littletree and Metoyer (2014).
[10] Various projects provide models for these kinds of collaboration, for example Pacific Presences at the Cambridge Museum of Archaeology and Anthropology (Carreau, Clark, Jelinek, Lilje and Thomas, 2018).
[11] For a summary of the current state of provenance research in ethnographic collections in Europe, see Förster, Erdenheiser, Fründt, and Hartmann (2007). Provenance research originated in the art world and has influenced laws and policies in relation to art spoliation particularly under Nazism.
[12] See for example Hicks (2020). Hicks has recently proposed that a much larger extent of British museum collections than has previously been acknowledged, was taken this way. See also Sarr and Savoy (2018).

sets of objects; in other cases, source communities themselves submit a repatriation request. Returning a physical object is not the only form of repatriation practiced by museums: there have also been projects centred around the digital repatriation of images and the repatriation of knowledge contained in a museum's archive.[13] These different versions of repatriation have varying aims, ranging from a redress of colonial inequalities to long-term collaborations with source communities. However, at the core of all of these projects lies a commitment on the part of the museum to be open about its colonial past.

My research on the trajectories of Indigenous maps, focussing on the contexts in which they were created and collected, and on the ways in which they entered the RGS, could potentially feed into provenance research and possibly even a repatriation project at the Society. Using the methodology developed here for identifying Indigenous contributions to the map collection, it may be possible to identify further items that warrant more provenance research. In the context of a collection like that of the RGS, a digital or knowledge repatriation project would potentially have much wider application than one confined to the physical repatriation of objects alone. If the RGS were to embark on such a project, the Society has much to benefit from consulting institutions that are experienced in provenance research and collaborations with source communities, including UK ethnographic collections such as those of the Pitt Rivers Museum as well as other scientific collections such as those at the Royal Botanic Gardens Kew. By supporting such research, regularly updating the online catalogue, and positively encouraging consultations and collaboration with source communities, the RGS could become a model for other colonial-era map collections whose custodians want to learn more about the history of their holdings; advance their curatorial practice; and who wish to "decolonise" their collections.

[13] The ReFlora project of the Brazilian National Council for Science and Technology is one example of a digital repatriation project: https://www.kew.org/science/our-science/projects/reflora (Accessed: 09 March 2020).

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In the course of my research at the RGS, the map collection has sometimes appeared as an archive of colonial endeavour in all its forms; sometimes as an unfathomable relic of a long forgotten past. Faced with the authority of the collection as a whole, embellished by generations of map historians and historians of exploration, it was always something of a relief to absorb myself in the unique stories of individual maps. Such stories offered details that humanised these documents while also frequently upending easy distinctions about what was Indigenous and what was colonial about these maps. Individually and in their details, these maps continued to surprise me, either through the information they contained, the form in which it was conveyed, or by the evidence of their circulation across the spaces of the British empire. This thesis has demonstrated that approaching maps in colonial-era collections as material objects can reveal insights into colonial encounters and exchanges, while highlighting the agency of people who have long been marginalised within these collections.

APPENDIX 1

Coryton's collections of Burmese and Shan maps at the Royal Geographical Society and the National Archives of India

Note: This is a consolidated list of the maps (including manuscripts and tracings) donated by John Coryton to the RGS in 1875, along with manuscripts maps I have been able to identify as part of Coryton's original collection now held at the National Archives of India. The latter are listed in the same sequence as the RGS maps and where possible I have matched the original and the copy. The numbers that organise the collection into a sequence are Coryton's. The maps held at the RGS are prefixed by RGS-IBG; those at the National Archives of India by NAI.

No. 7 "Map of Tenasserim"

[Printed map; English lettering]

RGS-IBG mr Burma S. 34, "Sketch Maps of the Salween River"

No. 10 "Sketch Map of part of Route II"

[Manuscript in black ink and brown and blue watercolour; English lettering]

RGS-IBG mr Burma S. 34 "Sketch Maps of the Salween River"

No. 10 "Sketch Map Part of Route II"

[Manuscript in black ink and brown and blue watercolour; English lettering. Copy of the above]

RGS-IBG mr Burma S. 34 "Sketch Maps of the Salween River"

No. 12 “Map of the Karenee”

[Manuscript in black ink; English lettering]

RGS-IBG mr Burma S. 34 “Sketch Maps of the Salween River”

No. 29 “Route taken by Namawong of Kieng-ma between Talifoo in Western China and Konglong on the Salween”

[Tracing, black and red ink, purple/blue watercolour; English lettering)

RGS-IBG mr Burma S. 33

No. 29 “Route taken by Namawong of Kieng-ma between Talifoo in Western China and Konglong on the Salween”

[Manuscript, black ink and purple watercolour; Burmese and English lettering]

NAI HMF 88.13

No. 30 “Routes of a party of Shans from the borders of Cochin China to Yahme”

[Manuscript in black ink, red, yellow, and green watercolour; Burmese lettering]

NAI HMF 90.14

No. 32 “Map composed jointly by Tsaya Pay and Ko Shoay Kho of the district between Moulmein & Zimmay (country N.E. of Yinbaing). [1870]”

[Tracing, black and red ink, blue and green watercolour; English lettering]

RGS-IBG mr Burma S. 35

No. 32 “Map composed jointly by Tsaya Pay and Ko Shoay Kho of the district between Moulmein & Zimmay (country N.E. of Yinbaing). [1870]”

[Manuscript, red, blue, and green watercolour and black ink; Burmese and English lettering]

NAI HMF 90.20

No. 33 “Sketch map of the Salween extending North as far as Mekonda and Ka-yeng-toung, used in the Court of the [the] Commissioner of Amherst dearly in 1868 on the trial of Nga-Oh on the charge of fraudulently marking timber in Eastern Karennee. Exd. By R. A. G.”

[Tracing in black and red ink; English lettering]

RGS-IBG mr Burma S. 34 “Sketch Maps of the Salween River”.

No. 33 "Sketch map of the Salween extending North as far as Mekonda and Ka-yeng-toung, used in the Court of the [the] Commissioner of Amherst dearly in 1868 on the trial of Nga-Oh on the charge of fraudulently marking timber in Eastern Karennee."

[Manuscript on blue paper, in blue and red ink and blue watercolour; English lettering]

NAI HMF 176.2.

No. 34 "The Mhinelonghee Forest [NE. of Yinbaing] from a native map in possession of Messrs. Todd Findlay & Co., of Moulmein 4th March, 1871"

[Tracing, blue watercolour and black ink; English lettering]

RGS-IBG mr Burma S. 29

No. 34 "The Mhinelonghee Forest [NE. of Yinbaing] from a native map in possession of Messrs. Todd Findlay & Co., of Moulmein 4th March, 1871"

[Manuscript in black ink; Burmese lettering with English translations and English lettering]

NAI HMF 90.11

No 35 "Copy of Maling's Map of Eastern Burma" [Two maps]

[Manuscript in black ink and brown, blue, and red pencil; English lettering]

[Tracing in red and black ink, blue and black watercolour; English lettering]

RGS-IBG mr Burma Div. 4

No. 36 "Province of Zimmay (Country N.E. of Yinbaing)"

[Tracing, black, red and green ink, black and blue watercolour; English lettering]

RGS-IBG mr Burma S. 32

No. 36 "Province of Zimmay (Country N.E. of Yinbaing)"

[Manuscript in coloured pencil; English lettering]

NAI HMF 90.18

No. 37 "Route from Kyengmah to Ava by a party of Pantheys. Ms. tracing and translation of names"

[Tracing, red and black ink; English lettering]

RGS-IBG mr Burma S. 38

No. 37 "Route from Kyengmah to Ava by a party of Pantheys. Ms. tracing and translation of names"

[Manuscript on blue paper, black and red ink; Burmese and English lettering]

NAI HMF 156.20

No. 38 "Rough sketch made by a forester during the discussion of the other maps forwarded with this—it shows the route from Pak-poon to Zimmay. Traced and names translated by R. A. Gibson."

[Tracing, red and black ink; English lettering]

RGS-IBG mr Burma S. 34 "Sketch Maps of the Salween River".

No 38 "Rough sketch made by a forester during the discussion of the other maps forwarded with this—it shows the route from Pak-poon to Zimmay"

[Manuscript on blue paper, pencil and red ink; Burmese and English lettering]

NAI HMF 90.12

No. 39 "Sketch of the general disposition of Zimmay town and its approaches. Sketch of the town of Zimmay by Sa-ya-pay."

[Tracing in black ink; English lettering]

RGS-IBG mr Thailand S/S.2

No. 39 "Sketch of the general disposition of Zimmay town and its approaches. Sketch of the town of Zimmay by Sa-ya-pay."

[Manuscript in black ink and blue pencil; Burmese lettering with some English inscriptions]

NAI HMF 90.17

No. 40 "Forester's Ko-Shoay-Ya's Map of the country between Moulmein & Zimmay"

[Tracing, black ink; English lettering]

RGS-IBG mr Burma S. 34 "Sketch Maps of the Salween River"

No. 40 “Forester’s Ko-Shoay-Ya’s Map of the country between Moulmein & Zimmay”

[Manuscript on blue paper, in pencil and black and red ink; Burmese and English lettering]

NAI HMF 90.19

No. 41 “Moulmein to Zimmay by Kau-ka-reet on the Houndahraur or Houn-tha-you Rr. Traced and translated by R. A. Gibson”

[Tracing, black ink; English lettering]

RGS-IBG mr Burma S. 34 “Sketch Maps of the Salween River”

No. 42 “Forester Ko-Shoay-Doang’s Route from Moulmein to Nya-wa-dee. Names translated by R. A. Gibson”

[Tracing in black ink; English lettering]

No.44 “Map of the Salween and Thoungyeen”

[Manuscript, brown ink and pencil; Burmese lettering, with some English words in pencil]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

No. 45 “Map of Yembine”

[Manuscript or tracing; blue and black ink, purple and blue watercolour, blue pencil; Burmese lettering, with some English words in different ink]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

No. 47 “Route from Hlaing Bwar to Myloongee & back”

[Manuscript map in black ink; English lettering]

RGS-IBG mr Burma S. 30

No. 49 “Map of the Teak Localities in British Burma, Burma Proper and the Shan and Karennee States”

[Manuscript map, black ink and multi-coloured water colour; English lettering]

RGS-IBG mr Burma G. 13

No. 51 “Map of Salween and Bankok River”

[Manuscript in black ink, pencil, green and blue watercolour; Burmese lettering]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

No. 53 “Native Map in Native characters of part of Lower Salween”

[Manuscript map, black ink, red, green and blue watercolour; English and Burmese lettering]

RGS-BG mr Burma S. 31

Unnumbered maps

“Mr Dawson’s Timber marked in 1866/1867”

[Tracing in black, blue and red ink; English lettering]

RGS-IBG mr Burma S. 34 “Sketch Maps of the Salween River”

“Mr Dawson’s Timber marked in 1866/1867”

[Manuscript in blue and brown ink; English and Burmese lettering]

NAI HMF 158.34

“Burmese territory”

[Tracing, black ink; English lettering]

RGS-IBG mr Burma S. 34 “Sketch Maps of the Salween River”

“Burmese territory”

[Manuscript, black ink; Burmese lettering]

NAI HMF 157.44

“Brought by Shan traders”

[Manuscript, pencil, red ink and blue watercolour; Burmese lettering with English inscription in pencil in the bottom corner]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

“Journey from Inkalay to Zimmay”

[Manuscript in black and red ink, green and blue watercolour]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

“Map of journey from Yinbaing to Zimmay, by W. Tisbury, 1859”

[Manuscript map in black ink; English lettering]

RGS-IBG mr Thailand S. 14

Other

“Shan silktraders brought by Tsaya Beng 15 Oct 1871”

[List in black ink; Burmese lettering]

RGS-IBG mr Burma S. 39, “Native maps of Burma in native characters”

“Names of Panthay party, Satr 24 Dec 1870”

[List in black ink and pencil; Burmese and Chinese lettering]

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