Title:
The Cartography of Kallihirua?: Reassessing Indigenous Mapmaking and Arctic Encounters

Abstract:
This article examines a cartographic encounter that took place in 1850 between Kallihirua, a member of Inughuit community of Northern Greenland, and members of the British Admiralty. Drawing on recent literatures that critically assess histories of Indigenous mapping, the article explores the troubling circumstances that surrounded this encounter and analyses two maps which were produced as a result. Informed by ongoing debates pertaining to the decolonisation of geographical knowledge, the article also reflects critically upon the extent to which historical Indigenous cosmologies were commensurate with non-Indigenous cartographic traditions and thus reassesses the motivations that lay behind the production and circulation of these maps. The article thus concludes by arguing that while Kallihirua certainly did contribute various types of geographical knowledge during this encounter, to label him as the sole author of these maps would be a problematic act of 'cartographic ventriloquism'.

Keywords:
Indigenous Cartography; Inuit; Arctic; Greenland; Kallihirua; Erasmus York; Clements Markham; Royal Geographical Society

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In 1875, the British Admiralty was preparing for its next expedition into the Arctic regions. The British Arctic Expedition of 1875–1876 intended to rekindle national influence in the North by reaching the North Pole and claiming it for Queen and country (Fleming 2001). Captains George Nares and Henry Stephenson were chosen to lead two ships, the *Alert* and the *Discovery*, into hitherto unknown Arctic waters with the goal of finally reaching the internationally coveted location of 90° North (Hattersley-Smith 1976; Lewis-Jones 2017; Nares 1878; Deacon and Savours 1976; Anonymous 1915).

The Royal Geographical Society (RGS) played a fundamental role in both lobbying for and supporting this expedition. As part of these preparations, the Society presented the naval officers with a book informing them of what to expect while navigating the northernmost regions of the Earth. Entitled *Arctic Geography and Ethnology*, the book was edited by the Society's Honorary Secretary Clements Markham and published by the respected John Murray publishing house (C. R. Markham 1875; also see Keighren, Withers, and Bell 2015; Craciun 2016). The book is notable for the extensive insight it gave into the known Arctic at this time, yet as this article shows, it is the cosmopolitan nature of its authorship that makes it particularly intriguing for historians of cartographic knowledge.

The focus of this article will be on a map contained within the book (see Figure 3) that is attributed to a member of the Inughuit community of Northern Greenland named Kallihirua, who was abducted by the crew of the *Assistance* during the 1850–1851 Franklin Search Expedition earlier in the century (Malaurie 2003). Kallihirua co-produced various types of geographical knowledge about the Arctic regions during his time on board this ship and much of this knowledge was entered into the increasingly international system of scientific circulation that was emerging during this period (Kaalund 2021; Høvik 2013). However, as this article will discuss, scholars have cautioned against attributing European-style map-making capabilities, akin to those presented in *Arctic Geography and Ethnology*, to those Indigenous peoples who have no history of such cartographic traditions. While of course recognising that indigenous peoples around the world have produced maps that follow their

own cosmological understandings (see Lucchesi 2018), the article will explain that we must caution against accepting uncritically those historical accounts which depict Indigenous peoples as creators of cartographic materials that were immediately commensurate with European mapping traditions. Instead, as the following review of the literature makes clear, we must investigate carefully the circumstances in which these materials were created in order to expose the practices of narrative creation taking place when these moments of 'cartographic encounter' were described. Doing so will avoid the problematic practice of what Coll Thrush (2014, 71) has termed Indigenous 'ventriloquism' – that is, the misattribution of European cartographic imaginaries to Indigenous peoples – and will instead highlight the ways in which European explorers used narratives of cartographic competency in order to bolster their own scholarly and exploratory reputations.

Navigating Indigenous Cartographies

Understanding histories and practices of mapmaking by Indigenous peoples is now an important and substantial field of scholarship (Rose-Redwood and others 2020; Louis, Johnson, and Pramono 2012; Woodward and Lewis 1998). Constituting part of what is now a flourishing body of indigenous studies scholarship that sees various authors destabilising hegemonic and colonially-based geographical formations (see De Leeuw and Hunt 2018; L. B. Simpson 2017; Daigle 2016; Coulthard 2014; Johnson and others 2007), this scholarship seeks a deeper understanding of the processes through which maps and various other cartographic materials have been (co-)produced by groups or individuals situated beyond conventional European mapmaking traditions (Corbett and others 2020; Sletto 2009; Barnd 2017). The field has combined several different disciplines, with expertise from map historians (Woodward and Lewis 1998; Lewis 1998b) being brought into fruitful dialogue with historical geographers (Clayton 2000); anthropologists (Fossett 1996); historians of art (Parsons 2015), science (Raj 2007) and exploration (Akerman 2017); as well as library and archival specialists (Hatfield 2016). While such scholarship largely shares a common goal, the field has in more recent years branched out into a series of identifiable traditions.

A first definition refers to the modern-day (co-)production of cartographic materials involving Indigenous peoples from around the world and is often used interchangeably or in conjunction with

the term ‘counter-mapping’ (Mason-Deese 2020; Louis, Johnson, and Pramono 2012). Various state-, volunteer- and privately-run projects have emerged which use grass-roots or crowdsourced approaches to challenge the enduring colonial legacies of map production. Such projects rethink how the earth may be depicted or represented in ways beyond European perspectives or cosmologies (‘The Decolonial Atlas’, n.d.; ‘Mapeo’ n.d.; ‘Native Land’, n.d.; ‘Pan Inuit Trails’, n.d.; Aporta and Watt 2021; Goeman 2013; Thornton 2012; Aporta 2009). These have usually involved the use of digital and/or GIS technologies and have resulted in the production of new and alternative cartographic resources (Pearce and Hornsby 2020; Young 2018; Hunt and Stevenson 2017; Aporta 2006). These mapping practices hence seek to conceptualise social, cultural and physical landscapes in new ways in order to challenge, contest or reimagine the representations of space that have been hitherto drawn, often in colonial terms (Louis 2007; Bennett and others 2016).

A second use of the Indigenous mapping concept refers to the historical production of cartographic materials by Indigenous peoples with no European involvement whatsoever. Materials, such as the Pawnee star chart or the Shoshoni Map Rock have been used as examples of these kinds of ‘pre-contact’ cartographic materials (Lucchesi 2018; Lewis 1998b). Such maps were produced long before contact with European peoples took place and have hence been presented as examples of cartographic practices that are entirely Indigenous in origin. In the Arctic context, the carved wooden maps of the Greenland coastline purchased from Kunit, an Inuk of the Tunumiit community, by the Danish traveller Gustav Holm in 1885 are notable examples (Hatfield 2016; Lewis 1998b). In addition to the anti-colonial and decolonial forms of mapping pointed to above, Annita Hetoeveʿhotohke’e Lucchesi has termed this particular form of cartography ‘Ancestral Mapping’ and explains that ‘similar to songs, dances, and ceremonies, these maps remind us of our contractual responsibilities to the land, and show us how our ancestors meant for us to engage with it’ (Lucchesi 2018, 3). It is worth noting, however, that a small group of scholars have voiced concerns that ascribing European interpretations of what constitutes a map onto materials produced entirely by Indigenous peoples may in fact be problematic (Belyea 1992). Such authors claim that cartographic imaginaries are a particularly European phenomenon and hence may never have been part of these people’s cosmological imaginations (Louis 2007). It is argued that to do so risks projecting a particularly

European cartographic gaze onto these various non-European artefacts that were produced by societies with no history of representing the world in these terms. Indigenous scholars have responded to this somewhat narrow viewpoint, however, by arguing for an expanded or less rigorous definition of what constitutes a map and pointing out that 'on a fundamental level, all maps are storytelling devices; indeed, Western mapping practices have also always served in telling stories' (Lucchesi 2018, 4).

While these two understandings of Indigenous mapping have provided scope for important and intriguing research, the remainder of this article will follow a third definition of 'Indigenous mapping' that has been deployed. In general terms, this usage refers to the historical co-production of European-style cartographic materials between Indigenous and non-Indigenous peoples within the conceptual space that Mary Louise Pratt has termed the 'contact zone' (Pratt 1992). This critical body of work has taken an ethno-historical approach to understanding the processes through which various types of geographical knowledge have been produced and broadens the scope for those who may have been involved in historical examples of cartographic practice. Recognising that the circumstances in which maps are produced are just as (if not more) important as interpreting the landscapes they depict, scholars have turned their attention to the historical, socio-cultural contexts in which the creation of various European cartographic materials took place (Slappnig 2022; T. Simpson 2017; Clayton 2000).

In doing so, such analysis has revealed that cartographic materials were regularly (co-)created by individuals who have not conventionally been considered to be producers of geographical knowledge (Raj 2007). John Short and G. Malcolm Lewis have both developed the idea of 'cartographic encounters' in order to explore the now commonly-understood fact that 'maps made by white explorers drew heavily upon an Indigenous cartographic contribution' (Short 2009, 12–13; Lewis 1998a). Scholarship in this area has shown that non-European peoples from all corners of the earth have been involved fundamentally in the production of European geographical knowledge for centuries and that many maps, and indeed other representations of the earth, have had significant contributions from Indigenous peoples. As Short explains:

> The successful European and later American exploration of the New World resulted from the exchange of information between newcomers and Indigenous people. This exchange can be read from contemporary accounts and is embodied in contemporary maps (Short 2009, 9).

Kapil Raj takes a similar approach and explains that by appreciating fully the various Indigenous contributions that have been made to European mapmaking we can 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, 63–64). What this analysis also reveals, then, is that Indigenous contributions to European cartographic and other types of knowledge have rarely been recognised to their full extent. Following Raj, scholars have argued that Indigenous involvement in processes of mapmaking have regularly been obscured, erased or simply ignored with histories of science, exploration and navigation. The importance of reinterpreting histories of cartography has therefore been recognised and the myriad of non-European peoples who were involved in producing different representations of the earth is beginning to be uncovered. As a result, various Indigenous individuals are having their agency, influence and intellect with respect to cartographic representations appreciated in ways that have not hitherto been the case (Turnbull 2001).

Such analysis has now been conducted in many parts of the world and geographical knowledge (co)produced by Indigenous peoples in Latin America, South East Asia, India and the islands of the Pacific is beginning to be appreciated to its full extent (Parsons 2015; Safier 2012; Raj 2007; Woodward and Lewis 1998). However, it is relevant to note here that the Indigenous peoples of the Arctic have been positioned in particular ways within these literatures. The specific investigation of historical examples of Inuit cartographic practices has occupied a curious role within scholarly debates on Indigenous mapping and therefore requires critical reflection.

Complicating Inuit Cartographies

A note which appeared in the 1948 edition of the journal *Imago Mundi* set the tone for how much of the scholarship on Inuit mapmaking has been conceptually framed. Implying that Inuit have historically been able to produce more advanced cartographic representations in comparison to Indigenous peoples from other areas of the world, the note reads:

> Most primitive [sic] peoples possess some cartographical skill and can represent a locality on a plane surface, i.e. trace it on a piece of birch-bark, a slab, on sand or on a sheet of paper which the explorer gives them. The Greenlander is not content with this and also seeks to figure the elevations and depressions of a given area (Bagrow 1948).

This problematic passage seems to indicate that 'The Greenlander' takes particular care over the production of cartographic representations by adding finer details which individuals from other Indigenous communities would not. Such assumptions have also been present in many other studies examining Inuit mapmaking practices. John Spink and D. W. Moodie, for example, reached a similar conclusion in their 1972 study when they argued that:

> The published examples of Eskimo cartography display a phenomenal amount of accurate spatial representation and locational awareness for works created by a "primitive" [sic] people […] The available examples indicate that these supposed "primitives" [sic], or at least certain members of the groups, were able to envisage and produce reasonably accurate outlines of the lands known by them without the need for any training or the use of survey instruments (Spink and Moodie 1972, 21).

This idea then persisted throughout the twentieth century. As recently as 1998, Elena Okladnikova argued that 'explorers and field scientists were surprised and impressed by the facility with which Arctic and Subarctic peoples made maps in the course of contact with Europeans' (Okladnikova 1998, 340). This recurrent idea of a particular cartographic competency on the part of the Inuit has been summarised by cartographic historian Robert Rundstrom when he notes, 'the historical record of contacts between the Inuit and Western explorers is replete with references to the former's skill and facility in producing planimetrically accurate maps' (Rundstrom 1990, 158). It seems that the idea of Inuit possessing an innate ability to produce notably accurate maps conforming to European conventions has had a long intellectual legacy and can be found repeatedly in both studies of Arctic exploration and in histories of cartography (Lewis 2008; 1998b).

G. Malcolm Lewis has offered some reflections on the reasons why Inuit have been ascribed these European cartographic capabilities, and also why this notion has been so enduring. Pointing to the fact that there is a comparably large number of such maps in the archives and collections of Arctic exploration held in Europe and North America, he notes:

> The Inuit of the Arctic have sometimes been singled out as particularly able mapmakers. Such opinions, […] probably arose from a combination of three general circumstances: the relatively late but well-recorded contact between Inuit and Euro-Americans; the reproduction of redrafted versions of Inuit maps in several widely read nineteenth-century works on Arctic exploration; and the systematic collection of information in map form on later scientific

> expeditions, many examples of which were featured in subsequent published reports (Lewis 1998b, 154).

Lewis argues that these interrelated factors have converged to establish a lasting depiction of Inuit as a group of Indigenous peoples who are particularly adept at producing European-style cartographic representations of topographical landscapes.

It is important to recognise, however, that such assertions have been firmly critiqued. With the exception of the Tunumiit community mentioned above, archaeologists, historical anthropologists, and ethno-historians have questioned the notion that the Indigenous peoples from other areas of the Arctic possess the innate European-style mapmaking capabilities that have so frequently been ascribed to them. Following the decolonial insights above, and explaining that Arctic communities have historically possessed entirely different cosmological views of the world, Claudio Aporta has argued that 'traditionally, the Inuit have used a method of geographic representation that greatly differs from map views of the territory employed in most western societies' (Aporta 2006, 223). Expanding on this point further, Renée Fossett explains:

> Mapping *inuktut* differs from European cartographic activity in both concept and content. Until about the middle of the [twentieth] century, most Canadian Inuit societies stored knowledge in memory, and transmitted it verbally. Their mapping activities did not produce permanent artifacts. Archaeological investigations have not discovered any evidence of geographical charts drawn or incised on skin, bone, stone, or ivory; arctic ethnography contains no reports of Inuit making, using, or possessing tangible maps; and there is no oral tradition of mapping on material media (Fossett 1996, 74).

Lastly, Michael Bravo has reached a similar conclusion arguing that 'there is no evidence to support the view that Inuit have a longstanding nomadic mapping tradition […] [i.e.] a systematic, replicable form of knowledge graphically produced' (Bravo 1996, 3). Bravo then goes on to confront this claim further by re-evaluating one of the earliest recorded assertions that the Inuit are particularly able map makers as described by the British Arctic explorer William Parry.

Constructing Commensurability

In 1822, while conducting a search for the Northwest Passage, Parry noted in his account of the expedition that, 'we found ourselves close to a small island called by the Esquimaux *Seē-ŏ-wăk*, and laid down by Iligliuk in her chart with astonishing precision' (Parry 1824, 277). Parry had earlier

instructed the Arctic Indigenous intermediary Iligliuk to draw a map of the region through which they were traveling. Now confronted with the topographical landscape that the Inuk had depicted, Parry recorded his 'astonishment' at the apparent accuracy of the cartographic representation that Iligliuk had drawn. In his analysis of this encounter, however, Bravo (1996) argues we must be cautious in approaching Parry's account of this 'cartographic encounter' uncritically. Instead, he explains that we must consider Indigenous cartographic materials as the products of what he terms moments of 'commensurability and incommensurability.' Here Bravo is referring to the gradual building of relationships between the non-Indigenous and Indigenous actors in question in order to reach the point at which a mutual (or commensurate) level of understanding can be achieved (see also Bravo 1999). This can in turn facilitate the sharing of cartographic information.

> It is neither the case that maps mirror an Indigenous spatial framework, nor that they are exchanges or translations of spatial information from one culture to another, as though spatial information were packaged in discrete chunks. Rather spatial metaphors are interwoven with other aspects of Indigenous language. The distinguishing feature of these paper artefacts – let us avoid the term 'maps' for the time being – is that they point to dialogues, conversations, and exchanges of gestures in which, at least initially, information may not be readily distinguishable or recognisable (Bravo 1996, 5).

Viewing maps in this way – that is, as the product of prolonged periods of dialogue through which commensurability is built – calls into question those assertions made above that Inuit (and by implication many other non-European peoples) possess an innate ability to produce cartographic representations that are immediately commensurate with European mapping traditions. Instead, creating the *illusion* of an exceptional Indigenous cartographic ability was in fact a rhetorical device deployed by Western explorers in attempts to bolster their own self-representation as credible and reliable explorers. The various historical descriptions of Indigenous Arctic peoples contributing to the drawing of 'astonishingly accurate' maps should therefore be recognised as examples of carefully constructed narratives produced by those Western explorer(s) who narrated them. In the case of William Parry:

> [He] must confer honour upon both his Inuit hosts and his own ship's company [but] it must be measured out according to certain proportions. If Parry finds no cartographic commensurability, he is no better off in terms of his principal goal, finding the North-West Passage. If he fails to differentiate critically between the world of the Inuit and his own – that is, if he goes native – he faces breakdown of social order among his men, possible mutiny and blame for anything that goes wrong. Both extremes signal failure, though the captain will exercise caution and if need be, favour the former course. But ideally he needs to control the

> conditions of commensurability like a membrane where some features can be freely linked and others excluded (Bravo 1996, 7).

Recognising that those maps attributed to Indigenous peoples are in fact the products of a carefully constructed narrative allows us to understand the mediated nature of these documented cartographic encounters. While Inuit certainly did offer various types of knowledge to the explorers they encountered, it is inaccurate to state that they were particularly adept at producing cartographic materials which corresponded immediately to European mapping traditions. Yet, this fallacy of Cartesian cartographic competency was nonetheless a useful one for the explorers. It permitted them to reinforce their self-representation as capable travellers and allowed them to demonstrate their skill in extracting scientific information that would be of use to their European colleagues and collaborators. Circulating the material results of their cartographic encounters through their published accounts cemented the explorer's reputation as both conqueror of, and expert on, the previously unknown Arctic landscape and simultaneously brought the indigenous lands in question under the colonial cartographic gaze (Clayton 2000).

The remainder of this article will therefore follow use these insights to examine the circumstances through which another set of cartographic materials were produced. In doing so, it will shed light on various levels of mediation that were involved in this complex knowledge production process. Studying a particular moment of cartographic encounter that took place in Northern Greenland in 1850 which resulted in the creation of the map printed in Markham's *Arctic Geography and Ethnology*, I will show that near identical processes of narrative construction were also taking place during this important moment of contact and knowledge transfer.

'The only thing in the world that is left undone.'

As noted above, the Royal Geographical Society played a prominent role in the preparations for what has become known colloquially as the 'Nares expedition' and this was due in no small part to the keen interest and persistent advocacy of Arctic exploration that emanated from the Society's Honorary Secretary. Describing the scene as the expedition set sail from Portsmouth on 29th May 1875, John Caswell notes:

> On the deck of the *Alert* stood a figure in civilian garb, to whom this great sendoff was the culmination of a ten-year struggle. Clements R. Markham, Honorary Secretary of the Royal Geographical Society, was one of the two men whose vision and determination had at last made the expedition a reality (Caswell 1977, 200).

As Caswell suggests, Markham's demands that the British Admiralty conduct further exploration in Arctic regions had persisted for over two decades (Osborn 1864; C. R. Markham 1876; 1879). As discussed in more detail below, he had travelled in the Arctic regions earlier in the century, acting as Midshipman on board the *Assistance* as part of the 1850–1851 Franklin Search expedition (C. R. Markham 1853). His involvement in this journey clearly instilled a deep passion and curiosity for exploration in the Arctic, a sentiment that stayed with him throughout his life. When he later became a senior figure at the RGS, his obsession for Arctic exploration only strengthened. As his cousin and biographer Albert Hastings Markham noted:

> From almost the first days of his official association with the Society, he had established a strong belief in his mind regarding the necessity for the continuance of Arctic research. He was obsessed with the value of exploration in high northern latitudes, and lost no opportunity in his public addresses, and writings, of urging the despatch of an expedition, directly under the auspices of the Admiralty, to explore the unknown regions in the North Polar area (A. H. Markham 1917, 225–26).

It has therefore been widely recognised that Markham's keenness for Arctic travel and his extraordinarily influential position amongst the British intellectual and military establishment were key drivers behind the British Arctic Expedition taking place (Fleming 2001). Historians have focussed primarily on the nationalistic arguments that Markham deployed in his efforts to persuade the Admiralty to undertake this expedition (Lewis-Jones 2017; Caswell 1977). Yet it was also the case that the well-connected scholar was able to recognise the intellectual contributions that could be gained from further exploration in the Arctic.

Arctic Geography and Ethnology (1875)

Once the expedition had been approved by the Admiralty, Markham was keen to be as involved and as supportive as possible in order to ensure its success. When preparations for the expensive expedition began, he instructed the RGS, along with the Royal Society (of which he was also a Fellow), to offer assistance to the officers and crew in any way they could (Caswell 1977; Fleming 2001).

As part of this support, the RGS presented the members of expedition with a book containing as much information as was known about the Arctic regions at the time. *Arctic Geography and Ethnology* had been, perhaps unsurprisingly, curated and edited by Markham and was given the subtitle *A Selection of Papers on Arctic Geography and Ethnology. Reprinted, and presented to The Arctic Expedition of 1875, by The President, Council, and Fellows of The Royal Geographical Society* (C. R. Markham 1875). The book was a collection of writings that had been published in various scholarly monographs and periodicals across Europe and discussed various branches of Arctic inquiry. As the preface to the book reads:

> The present volume contains a series of papers on Arctic geographical and ethnological subjects, which it was thought might be useful to the officers of the expedition; and which has been prepared by a Committee appointed by the Council, and at the expense of the Royal Geographical Society. It is a contribution presented to the Arctic Expedition by the Society, in the hope that some use and instruction may be derived from it, and with the warmest and most heartfelt wishes for the success and safe return of the explorers, on the part of the Council and Fellows (C. R. Markham 1875, v).

The material contained in the book had largely been gleaned through previous journeys undertaken in various parts of the Arctic over the preceding decades. The contents page lists a range of authors who had gained experience of travelling or working in the north and who had contributed to the growing body of international Arctic knowledge emerging at this time. Heinrich Rink, who had spent many years working as a colonial administrator for the Danish crown in Greenland, contributed a chapter concerning 'The Descent of the Eskimo' while another chapter was written by the German explorer Ferdinand Von Wrangel who offered a chapter entitled 'On the Best Means of Reaching the Pole.' A hydrographical contribution was also made by Admiral Irminger of the Danish Navy.[i] As a whole, the book is a considerable compendium of contemporaneous Arctic knowledge and provides evidence of the increasingly transnational approach to Arctic exploration and knowledge production that was emerging during this period (Kaalund 2021; Kaalund and Woitkowitz 2021). Importantly, the book must also be understood as an attempt by Markham, and the wider RGS Fellowship, to project this ambiguous institution's authority in geographical matters during a period in which when the Society's overarching *raison d'être* was far from certain (Stoddart 1986).

Nestled amongst these various international contributions is a long, fold-out map that offers a depiction of the Western coastline of North Greenland (see Figure 3). Beginning at Cape York at the

bottom and stretching upwards to 'Pikierlu' at the top, the map presents a detailed representation of the islands and inlets that comprise the North-western coast of the island. Importantly, however, the map also contains a note positioned at the bottom left-hand side which offers a tantalising glimpse into the intriguing story behind its production. It reads:

> CAPE YORK TO SMITH CHANNEL
> Drawn by Kalliherua, (alias Erasmus York)
> Partly from his own observation, and partly from what he has heard his own people say.
> The Eskimo names are given by himself, and are written as pronounced.
> The names doubly underlined are to be found on our Charts.
> Drawn on board H.M.S. Assistance, during the winter of 1850–51.
> Erasmus Ommanney, Captn., R.N. (C. R. Markham 1875, 184)

The curious inscription implies that the map had been produced by an individual named 'Kalliherua.' While it can be inferred from the word 'Eskimo' that Kalliherua was a member of an Indigenous Arctic community, no further information regarding the identity of this figure is given on the map and few details are revealed in the text of the book. It is therefore the case that the circumstances surrounding the production of this intriguing map demand further historical investigation.

The Abduction of Kallihirua

Markham's passionate interest in the Arctic and continued advocacy for its exploration stemmed from his earlier travels in the region. In 1850, he had acted as midshipman on board the *Assistance* as part of the international search for the missing ships *Erebus* and *Terror* (Potter 2016; Craciun 2016; W. G. Ross 2002; C. R. Markham 1853; Snow 1851; Sutherland 1852). The *Assistance* was one of a number of ships dispatched by the British Admiralty in the spring and summer of 1850. It travelled under the captaincy of Erasmus Ommanney and was one of the expedition's two flagships, the other being the *Resolute* captained by Horatio Austin (C. R. Markham 1905). Two supporting steam tenders, the *Pioneer* and the *Intrepid*, were also dispatched under the captaincy of Sherard Osborn and John Bertie Cator, as were two brigs, the *Lady Franklin* and the *Sophia*, under the command of the whaling captain William Penny (W. G. Ross 2002; M. J. Ross 1994; C. R. Markham 1853; Sutherland 1852). These official naval expeditions were then further supplemented by two privately-funded enterprises that also sought to resolve the increasingly sensationalistic 'Franklin mystery' (McCorristine 2018; Potter 2016; Craciun 2016; Cavell 2006). The *Prince Albert* was sent north under Commander

Charles Forsyth while the *Felix* was dispatched under the captaincy of the experienced Arctic explorer, Sir John Ross (Snow 1851). This venerable flotilla of ships set sail from Britain with their large crews on board all hoping to fulfil their national duty in rescuing their missing compatriots.

Over the summer months the ships had made their way along the West coast of Greenland and by the 13th August had reached the coastline of Cape York (in the present-day Avanersuaq region). As the ships sailed into the bay, a group of figures were spotted on the nearby shore. Drawing nearer, it became clear that a group of Inughuit had assembled on the beach and were watching the ships approach. As Markham noted in his personal diary, 'Off Cape York, we saw several men, on the land ice, & on landing found them to be the Arctic Highlanders of Sir J. Ross' (C. R. Markham 1851). In the hope that information may be gained regarding Franklin's disappearance, a landing party was assembled, including Captains Ommanney and Forsyth, who ventured into the bay to make contact with the Inughuit.

This moment of encounter is highly significant as it is only the second time in recorded history that European travellers had made contact with the Inughuit – the first being John Ross's expedition in 1818 (J. Ross 1819; Craciun and Terrall 2019). The significance of this moment for the members of the expedition is also evident in that it was documented extensively in several of their personal journals and published accounts of the expedition. The author William Parker Snow, for example, who was working as a clerk on board the *Prince Albert*, recorded this moment of contact in considerable detail (Snow 1851). As his published account explains:

> I was not only desirous to have communication with some human beings inhabiting this dreary land, for the purpose mentioned; but I was also glad of the opportunity thus afforded of seeing and talking to some of the race called by Sir John Ross, in his first voyage, "Arctic Highlanders;" this being the place for them (Snow 1851, 191).

It seems encountering these Arctic inhabitants was a welcome change of pace from the monotonous nature of sailing in this region (Bravo 1998). Communication between the sailors and the Inuit was achieved through the work of the Greenlandic interpreters Adam Beck and Carl Petersen, who had been recruited from Southern Greenland by the officers during the course of the expedition (Cyriax 1962; Jensen 2010).

In the end little was learned regarding the fate of the *Erebus* and *Terror* from this dialogue and the disappointed sailors returned to their ships to continue the search. It was at this moment, however, that one of the officers determined that the Inughuit may yet be of further use. Captain Ommanney decided that the expedition ought to recruit a member of the Inughuit community as a 'pilot' to assist the crew in searching nearby Wolstenholme Bay for evidence of Franklin. As many historians have explained, enlisting the assistance of local informants and navigators was common practice amongst explorers in all corners of the earth (Konishi, Nugent, and Shellam 2015; Shellam and others 2016; Schaffer and others 2009). However, it should also be remembered that such practices were rarely discussed at length in the published accounts that followed these expeditions (Driver 2015; Stoler 2009).

In response to Ommanney's request for a navigator, one of the Inughuit men reportedly stepped forward and volunteered his services. As Ommanney wrote in the official log of the expedition:

> I asked one of the natives if he would like to come with us in the ship, without a moment's reflection he readily consented, although he perfectly understood we were going to leave his nativeland, he separated from his relatives apparently without the ceremony of taking leave of expressing a desire to return to the tents for anything he possessed – and trusted himself into the hands of strangers with a confidence which was almost surprizing (Ommanney 1850b, 54).

From this extract, we are led to assume that one of the Inuit had agreed to assist the Naval officers in traversing the Greenlandic coastline and was keen to aid them in their search for the missing Franklin. The Inuk described is a man named Kallihirua, whose extraordinary life and tragic death has been documented in the book *Kalli the Christian Eskimo* by Thomas Murray (1856). Yet, the circumstances described in Ommanney's account certainly require critical reflection. This is because accounts differ as to whether Kallihirua was fully in the knowledge that he would never again return to Cape York. In the description of the encounter written by William Parker Snow, it is stated repeatedly that Inuk *was* aware he would be under Ommanney's care for the rest of his life and that he chose to join the crew nonetheless:

> The poor fellow was made to clearly comprehend what he was about to do; and the Danish interpreter [Carl Petersen] had distinctly put the question to him and his fellow companions, as to whether he would like to forsake his natural home and be henceforth among strangers; and both himself and his friends not only agreed to it; but seemed to be much pleased thereat,

> stating that he was a young man without father or mother, and having no wife. He was, therefore, at once shipped for the cruise, and he parted from his friends with the most stoical indifference (Snow 1851, 225–26).

However, Snow's account is suspiciously forthright on this matter, and we must remember that this account was produced many months after the encounter took place. A similarly overstated tone can be detected within another of Captain Ommanney's accounts of these events. In a separate report to the Admiralty written in the days after he had enlisted Kallihirua, the Captain stated:

> Being desirous to obtain the services of the Esquimaux as an interpreter, also to show where [the *North Star*] was to be found, I asked for a volunteer to join the ship, one of them instantly offered his services and returned onboard with me, just as he said and without the slightest emotion at quitting his home (Ommanney 1850a).

While each of these sources suggest that Kallihirua was a willing volunteer and opted to leave his Greenlandic home to join the Naval men on their expedition, the tone used in each is suspiciously forthright.[ii] Suspicions are raised further when we acknowledge that these sources do not corroborate with alternative descriptions of the encounter. For example, in a poem written by an anonymous crewmember of the *Assistance*, a notably different set of circumstances are described. Rather than stating that Kallihirua volunteered on the ship indefinitely, the following two stanzas suggest that the crew sought initially to return the Inuk to his community, but that the conditions of the sea ice prevented the ships from returning to the Cape York area.

> The Captain then saw through his glass
> The Inlet, and the Bay,
> But floes of ice, as green as grass,
> And icebergs block'd the way.
>
> "Up with the sail! – the wind's awake!"
> Hark to the Captain's call,
> "I see, my boys, we shall not make
> York Inlet, after all" (Anonymous, quoted in Murray 1856).

The poem suggests that an abundance of icebergs in the seas around the Cape York area prevented the crew from returning Kallihirua to his community – a significant departure from the events described in Ommanney's and Snow's narratives above. Such disparities in the narratives surrounding Kallihirua's treatment has led Arctic historians Ingeborg Høvik and Jean Malaurie to offer much more critical readings of his encounter with the European travellers (Malaurie 2003; Høvik 2013). Both authors suggest that Ommanney and the other members of the expedition had initially informed

Kallihirua that he would be returned to Cape York but that, in reality, they had no real intention of doing so. Both therefore reach the conclusion that the Inuk was essentially kidnapped or abducted by these Naval officers. As Malaurie explains:

> The *Assistance* did not put in at Cape York on the return, contrary to the assurances given Kalli. […] The following spring it was still impossible to return to Cape York in Greenland (the British once more invoked the condition of the ice). Despite Kalli's tears, they resolutely directed the helm south toward England (Malaurie 2003, 58).

We may never know conclusively which version of these events is most accurate, but what is clear is that Kallihirua never returned to Greenland nor was he ever reunited with the members of his Inughuit community. As Murray's (1856) account explains, upon arriving in England in 1851 he was given ecclesiastical training at St. Augustine's College in Canterbury before being sent to undertake missionary work in St. Johns, Newfoundland. However, less than six months after his arrival in this remote parish, the young Inuk contracted a severe case of bronchitis and, as a result of having no immunity, subsequently passed away many miles away from his Greenlandic home. He thus became another in a long line of Arctic peoples who had been transported to southern regions following encounters with European explorers in the North and had suffered similarly dire consequences as a result (Thrush 2014; Stopp and Mitchell 2010; Stopp 2009; Harbsmeier 2007; Sturtevant 1999).

Kallihirua's 'Cartography'

The abduction of Kallihirua is certainly an important and troubling example of Arctic Indigenous/non-Indigenous encounter but the aspects of this narrative that are of particular interest here are the events which took place while Kallihirua was travelling on board the *Assistance*. Kallihirua's time on board the ship was documented in considerable detail within the personal journal kept by Clements Markham during the expedition. Markham maintained meticulous records throughout the course of the journey (C. R. Markham 1851) and noted any events and occurrences that took place, often accompanied by sketches and drawings (see Figure 1). Hester Blum has discussed the importance of examining the textual materials produced during expeditions in the Polar regions, explaining that they give crucial insights into the embodied atmospheres and environments experienced by Arctic travellers (Blum 2019). The diary, now stored in the RGS-IBG collections, hence offers a rare, first-

hand account of Kallihirua's activities aboard the *Assistance* and gives some indication of the events following his abduction.

[Figure 1]

Figure 1: Drawing in Markham's personal journal (C. R. Markham 1851).

Turning to page four of the diary, we see the hand-drawn map shown in Figure 2. The top half of the drawing, marked '(1)', is a copy of a map that had been drawn by 'Lieutenant Elliott R.N.' It is likely that Markham had made a copy of this map in order to aid prospective readers of his diary in situating the account geographically. The bottom half of the page, labelled '(2)', is somewhat more intriguing, however. A short note inscribed at the bottom of the page reveals that it is in fact a copy of a map that had been 'drawn by Erasmus York' – the pseudonym that had been given to Kallihirua by the crew of the *Assistance* (C. R. Markham 1851). The original map from which this copy had been made is now lost, but the meticulous nature of Markham's record-keeping would suggest it resembled closely the one presented in his diary. The map depicts the Greenlandic coastline at a larger scale than the one drawn by Elliot and is filled with various notes and labels revealing pieces of information about the region. These labels are also supplemented by a series of secondary labels that have been underlined by the author. These underlined labels apparently indicate the geographical terminology that had been supplied by Kallihirua.

Studying this hand drawn map then, we are perhaps to conclude that Kallihirua had fulfilled Captain Ommanney's hopes and had provided his cartographic knowledge to aid the search for Franklin. As Markham recalled these events within *Arctic Geography and Ethnology*:

> One of the most striking points in the intellectual development of all the Eskimo [sic] tribes is their wonderful talent for topography. […] The same talent was displayed by our shipmate, Erasmus York, on board the *Assistance*. When asked by Captain Ommanney to sketch the coast, he took up a pencil, a thing he had never seen before, and delineated the coast-line from *Pikierlu* to Cape York, with astonishing accuracy, making marks to indicate all the islands, remarkable cliffs, glaciers, and hills, and giving all their native names (C. R. Markham 1875, 184).

A simple reading of this extract, and of the map drawn in Markham's journal, would indicate that Kallihirua had indeed shared his local geographical knowledge of the region and had translated this

onto the paper that had been presented to him. He had also seemingly labelled all the features that he felt would be of particular importance to the officers.

[Figure 2]

Figure 2: Copy of map 'drawn by Erasmus York' in Clements Markham's journal (C. R. Markham 1851).

It is crucial to recognise two things here, however. Firstly, the hand drawn map is certainly not an example of 'mapping Inuktitut' as described by Fossett (1996) and Aporta (2006) or indeed of Ancestral mapping as described by Lucchesi (2018). It has clearly been drawn following European cartographic conventions of Cartesian spatial accuracy and thus not in a style that conveys Inuit conceptualisations of the Greenland landscape. It is therefore the case that, while Kallihirua may have assisted in the creation of this map, contrary to Markham's claims he certainly did not do so alone. The second point to note is how similar Markham's words are to those of William Parry. Referring to the map's 'astonishing accuracy' and 'remarkable' detail, Markham is almost repeating *verbatim* the sentiments that had been expressed by Parry during his cartographic encounter with Iligliuk. The repetition of this phrasing should therefore signal the critical approach that must be taken when analysing this map from a critical Indigenous cartographies' perspective.

The map featured in the diary, and the description of its creation, must be viewed as manifestations of Markham's desire to convey a degree of scientific authority over the Greenlandic landscape. As with Parry's earlier cartographic encounter with Iligliuk, the map attributed to Kallihirua was in fact described and presented in such a way so as to reinforce Markham's perceived geographical competency. Describing the skill with which Kallihirua drew the map, and repeating the notion of Inuit cartographic competency, Markham was in turn demonstrating his own skills in conversing with the Inuk and extracting the coveted geographical information pertaining to the area. He was therefore able to position himself as an intellectual successor to Parry who had been praised for his ability to interact with the Inuit in order to attain the coveted cartographic information (Bravo 1996). The account of Kallihirua drawing this map must therefore be viewed as a prime example of

the ways in which explorers manipulated the commensurability of the Indigenous knowledge being shared in order to secure and advance their standing as scientific practitioners.

The Published Map

These points are brought into sharper focus when we remember that the hand-drawn depiction of the Greenlandic coastline did not remain confined to Markham's diary. Returning to *Arctic Geography and Ethnology*, a note of authorship positioned at the bottom of the page reveals that the map attributed to Kallihirua had been redrawn by the lithographer Edward Waller before being printed within the published Arctic guide (Figure 3). It should be noted here though that considerable alterations had been made during this re-drafting process. The map was redrawn in order to conform even more closely to British cartographic conventions. We can see that shading and textures have been added to represent the various geographical features situated along the coastline, and labels identifying the locations of different flora and fauna are positioned at various points. Information about the conditions of the sea ice have also been included, giving details about its extent and seasonality. These various additions meant that the map is now even further removed from an authentically Inuit cosmological understanding of geographical space.

[Figure 3]

Figure 3: 'Chart of Coast from Cape York to Smith Channel Drawn by Kalliherua (alias Erasmus York)' (C. R. Markham 1875, 184).

Yet crucially, indications of Kallihirua's involvement in the production of the map remain. As well as signalling Kallihirua's authorship, the inscription at the bottom also explains that certain locations have been given their 'Eskimo names' – we are to assume those given by Kallihirua – which have been 'written as pronounced' (C. R. Markham 1875, 184). There are also several notes on the map which indicate that Kallihirua had provided a variety of information pertinent to the map's creation. One note reads, 'York states that some natives were killed by falling from the Cliffs on Agpen' while another explains 'York does not know whether this [channel] continues far up or not' (C. R. Markham 1875, 184). A particularly salient note on the map also reads 'Burial place of Kalliherua's parents and relatives' (C. R. Markham 1875, 184). These short descriptions therefore

give fascinating, yet fleeting, insights into the information that the young Inuk had shared with the officers on board the *Assistance* during their lengthy voyage. Yet of course they also reveal the fact that the map had been the result of prolonged conversation and dialogue, rather than instantaneous creation.

The red lines that have been drawn across the entirety of the map are also of significance. As the text at the bottom of the map explains; 'The Coast line, &c. in Red is in accordance with the Admiralty Chart' (C. R. Markham 1875, 184). The geographical information contained within the existing Admiralty maps had hence been superimposed over the printed map that had (supposedly) been drawn by Kallihirua. In doing so, the lines force the reader to draw a direct comparison between the Admiralty charts and the representation attributed to Kallihirua, presumably to highlight their relative similarity. Comparisons between Kallihirua's knowledge and that possessed by the Admiralty are also alluded to when the map's labels are studied more closely. A note relating to the map's nomenclature states that, 'the names doubly underlined are to be found on our Charts' (C. R. Markham 1875, 184). This again encourages the reader to draw a direct comparison between the geographical knowledge conveyed by Kallihirua, and the geographical knowledge that was contained in the Admiralty's existing maps. However, in this instance, it is the differences between these two sources of knowledge that is stressed in order to indicate the indigenous geographical information that Markham was able to contribute to the geographical record as a result of his interactions with Kallihirua. Once again, we can see that Markham was able to carefully manipulate the commensurability of the information conveyed to him by Kallihirua in order to develop and bolster his own geographical skill and authority.

A final point for consideration is the map's positioning within *Arctic Geography and Ethnology*. The fold-out map appears within a chapter in which Markham describes the characteristics and attributes of the Inughuit. Exploring various aspects of the community's culture including rituals, dress, and dwellings, the chapter is primarily ethnographic in tone. The fact that the map is positioned here indicates that its cartographical content was not necessarily its primary purpose. Rather, situated as it is amongst the descriptions of the Inughuit, the map has been framed as a curious artefact that had been produced by an Arctic Indigenous inhabitant. It is thus again deployed as a tool to convey

Markham's knowledge and expertise over this Arctic community and the geographical area they inhabit.

Conclusion

On first inspection, the publication of *Arctic Geography and Ethnology* may be seen as an attempt by Clements Markham and the RGS to provide the members of the British Arctic Expedition with a useful resource to support their travels in a region that was to a large extent still unknown to Europeans. Yet, as this article has argued, it must also be recognised as an intention to convey the intellectual authority of the Royal Geographical Society over the Arctic regions and also, by implication, the scholarly reputation of its Honorary Secretary. Collated and edited by this keen Arctic advocate, Markham's authorship of the book is as much an indication of his desire to promote the capabilities and potential of this precarious learned society as it was a means of conveying geographical knowledge to the leaders of the forthcoming expedition.

The inclusion of the map attributed to Kallihirua within this volume must hence also be positioned within this wider context. By reproducing the map – and even going as far as to have it redrawn professionally – Markham was simultaneously exhibiting his deep knowledge of the Inughuit population and projecting a degree of intellectual authority over the region of the earth which the map depicted. For scholars of Indigenous cartographies, then, the information contained within this map is not of significance *per se*, nor indeed is the fact that that it was attributed to an Indigenous intermediary, but rather it is the carefully constructed narrative that surrounded the creation and presentation of the map that is of vital importance. The map provides further evidence for the fact that claims of European-style cartographic capabilities attributed to Inuit were often little more than rhetorical devices deployed by explorers in order to convey their intellectual authority over the Arctic regions. For explorers like Markham, and those whom he represented at the RGS, their intellectual status was established through both travelling in the regions that they claimed to understand, but also through circulating this knowledge to their colleagues and contemporaries via scholarly publications and various other printed materials (Martin 2020; Craciun 2016; Keighren, Withers, and Bell 2015). As Bravo notes:

> The refinement of commensurability carries on throughout the encounter […] [and] it carries on after the expedition arrives safely home, where the British press entertains their readers with versions of these episodes, using them to make sweeping generalisations about the nature of these hyperborean people. It carries on in the editing of the officers' journals for publication (Bravo 1996, 13).

The cartographic encounter discussed in this article, and the maps produced as a result, therefore serve as crucial reminders of the critical approaches that are needed when analysing histories of Indigenous involvement in European exploration of the Arctic. The historical accounts produced during these expeditions, and perhaps especially those edited and published afterwards, were not impartial, objective accounts of map-making events as they unfolded. Instead, they were carefully curated by individuals and institutions with particular intellectual agendas. They were of course also imbued heavily with colonial biases and were laden with problematic assumptions relating to race, intellect and 'cultural development'. As historians of colonial cartographic knowledge seek to gain more accurate understandings of how our world has historically been (co)produced through moments of Indigenous/non-Indigenous encounter, we simply cannot continue to take the European accounts describing such instances at face value. It is clear that cartographic encounters involved *appropriating* indigenous knowledge – both for colonial endeavours and for individualistic agendas – and hence cannot be interpreted as the simple transference of information from indigenous peoples into European scientific understandings that the published accounts would have us believe. It is thus vital to be mindful of the subtle yet pervasive processes of narrative creation which were constantly at play within these accounts or else we may run the risk of misrepresenting the complex and unequal relationships formed during these important moments of intercultural exchange.

These deeper understandings of cartographic encounters have immense significance for the wider and ongoing attempts to decolonise geographical knowledge and research noted above (see also Radcliffe 2017; Tuck and Yang 2012). Indeed the cartographic encounter involving Kallihirua has important resonances with the modern-day decolonial agenda identified by Sarah De Leeuw and Sarah Hunt (2018, 8):

> As Indigenous peoples around the world continue to live the impacts of historic and ongoing dispossession, facilitated through the imposition of Western cartographic imaginaries and other means, Indigenous geographers have undertaken a twofold decolonial project: 1) asserting a presence of Indigenous geographies within the predominantly White Western-

centric discipline and 2) upholding Indigenous spatial knowledge and place-based practices on their own terms.

As noted above, by recognising the presence of indigenous peoples in histories of cartography and identifying the contributions they have made, map historians, historical geographers and others have done significant work in attending to the first of these objectives. However, it is clear that scholars have thus far achieved limited success on the second. As has been explained, scholars of cartographic encounters have by-and-large taken western cartographic imaginaries as universal and thus have not appreciated fully the diverse ways our world can be viewed through a non-western or indigenous lens. By recognising Kallihirua's contributions to cartographic knowledge, but *also* recognising that his indigenous spatial knowledge would have differed greatly to that of Markham and the other Naval officers, this article has offered an alternative template for how future scholarship on cartographic encounters can both inform, and be informed by, wider efforts to decolonise our discipline. This study thus also serves as an important reminder of the fact that modern-day processes of gathering geographical and cartographic information involving indigenous peoples can often be similarly extractive in nature (Bryan and Wood 2015). Indigenous knowledge is regularly used to inform non-indigenous scientific research, yet rarely are the vitally important cultural, ceremonial and/or spiritual contexts in which this knowledge is produced afforded sufficient recognition (Krupnik 2010; Louis 2007). Being attentive to a range of radically alternative cosmological imaginations of our world(s) must therefore be fundamental to our investigations of how geographical and cartographic knowledge has been constructed, both in the past and in the present.

References

Akerman, James R., ed. 2017. *Decolonizing the Map: Cartography from Colony to Nation*. Chicago: University of Chicago Press.

Anonymous. 1885. 'Admiral Baron Ferdinand Von Wrangell'. *Science* 6 (144S): 417–18.

———. 1888. 'Obituary: Admiral C. L. C. Irminger'. *Proceedings of the Royal Geographical Society and Monthly Record of Geography* 10 (6): 386–87.

———. 1915. 'Obituary: Vice-Admiral Sir George Strong Nares, K.C.B., F.R.S.' *The Geographical Journal* 45 (3): 255–57.

Aporta, Claudio. 2006. 'From Map to Horizon; from Trail to Journey: Documenting Inuit Geographic Knowledge'. *Études/Inuit/Studies* 29 (1–2): 221–31.

———. 2009. 'The Trail as Home: Inuit and Their Pan-Arctic Network of Routes'. *Human Ecology* 37 (2): 131–46.

Aporta, Claudio, and Charlie Watt. 2021. 'Arctic Waters as Inuit Homeland'. In *Routledge Handbook of Indigenous Peoples in the Arctic*, edited by Timo Koivurova, Else Grete Broderstad, Dorothée Cambou, Dalee Dorough, and Florian Stammler. London: Routledge.

Bagrow, Leo. 1948. 'Eskimo Maps'. *Imago Mundi* 5 (1): 92–92.

Barnd, Natchee Blu. 2017. *Native Space: Geographic Strategies to Unsettle Settler Colonialism*. First Peoples: New Directions in Indigenous Studies Series. Corvallis: Oregon State University Press.

Belyea, Barbara. 1992. 'Amerindian Maps: The Explorer as Translator'. *Journal of Historical Geography* 18 (3): 267–77.

Bennett, Mia M., Wilfrid Greaves, Rudolf Riedlsperger, and Alberic Botella. 2016. 'Articulating the Arctic: Contrasting State and Inuit Maps of the Canadian North'. *Polar Record* 52 (6): 630–44.

Blum, Hester. 2019. *The News at the Ends of the Earth: The Print Culture of Polar Exploration*. Durham: Duke University Press.

Bravo, Michael T. 1996. *The Accuracy of Ethnoscience: A Study of Inuit Cartography and Cross-Cultural Commensurability*. Manchester Papers in Social Anthropology 2. Manchester, UK: Department of Social Anthropology, University of Manchester.

———. 1998. 'The Anti-Anthropology of Highlanders and Islanders'. *Studies in History and Philosophy of Science Part A* 29 (3): 369–89.

———. 1999. 'Ethnographic Navigation and the Geographical Gift'. In *Geography and Enlightenment*, edited by David N. Livingstone and Charles W. J. Withers. Chicago: University of Chicago Press.

Bryan, Joe, and Denis Wood. 2015. *Weaponizing Maps: Indigenous Peoples and Counterinsurgency in the Americas*. New York: The Guilford Press.

Caswell, John Edwards. 1977. 'The RGS and the British Arctic Expedition, 1875-76'. *The Geographical Journal* 143 (2): 200.

Cavell, Janice. 2006. *Tracing the Connected Narrative: Arctic Exploration in British Print Culture, 1818-1860*. Toronto: University of Toronto.

Clayton, Daniel W. 2000. *Islands of Truth: The Imperial Fashioning of Vancouver Island*. Vancouver: University of British Columbia Press.

Corbett, Jon, Jeff Hackett, Rachel Olsen, and Steve DeRoy. 2020. 'Indigenous Mapping'. In *International Encyclopedia of Human Geography*, edited by Audrey Kobayashi, 2nd ed. Oxford: Elsevier.

Coulthard, Glen. 2014. *Red Skin, White Masks: Rejecting the Colonial Politics of Recognition*. Minneapolis: University of Minnesota Press.

Craciun, Adriana. 2016. *Writing Arctic Disaster: Authorship and Exploration*. Cambridge Studies in Nineteenth-Century Literature and Culture. Cambridge: University Press.

Craciun, Adriana, and Mary Terrall, eds. 2019. *Curious Encounters: Voyaging, Collecting, and Making Knowledge in the Long Eighteenth Century*. Toronto: University of Toronto Press.

Cyriax, Richard J. 1962. 'Adam Beck and the Franklin Search'. *The Mariner's Mirror* 48 (1): 35–51.

Daigle, Michelle. 2016. ‘Awawanenitakik: The Spatial Politics of Recognition and Relational Geographies of Indigenous Self-Determination’. *The Canadian Geographer / Le Géographe Canadien* 60 (2): 259–69.
De Leeuw, Sarah, and Sarah Hunt. 2018. ‘Unsettling Decolonizing Geographies’. *Geography Compass* 12 (7): e12376.
Deacon, Margaret, and Ann Savours. 1976. ‘Sir George Strong Nares (1831-1915)’. *Polar Record* 18 (113): 127–41.
Driver, Felix. 2015. ‘Intermediaries and the Archive of Exploration’. In *Indigenous Intermediaries: New Perspectives on Exploration Archives*. Acton, A.C.T: Australian National University Press.
Fleming, Fergus. 2001. *Ninety Degrees North: The Quest for the North Pole*. London: Granta Books.
Fossett, Renée. 1996. ‘Mapping Inuktut: Inuit Views of the Real World’. In *Reading beyond Words: Contexts for Native History*, edited by Jenifer Brown and Elizabeth Vibert. Peterborough, Ontario: Broadview Press.
Goeman, Mishuana. 2013. *Mark My Words: Native Women Mapping Our Nations*. Minneapolis: University of Minnesota Press.
Harbsmeier, Michael. 2007. ‘Persian Letters From Real People: Northern Perspectives on Europe’. In *The Anthropology of the Enlightenment*, edited by E. Wolff and M. Cipolloni. Stanford, CA: Stanford University Press.
Hatfield, Philip J. 2016. *Lines in the Ice: Exploring the Roof of the World*. Montreal: McGill-Queen’s University Press.
Hattersley-Smith, Geoffrey. 1976. ‘The British Arctic Expedition, 1875-76’. *Polar Record* 18 (113): 117–26.
Høvik, Ingeborg. 2013. ‘Arctic Images 1818-1859’. PhD Thesis, Edinburgh: University of Edinburgh.
Hunt, Dallas, and Shaun A. Stevenson. 2017. ‘Decolonizing Geographies of Power: Indigenous Digital Counter-Mapping Practices on Turtle Island’. *Settler Colonial Studies* 7 (3): 372–92.
Jensen, Nils Aage. 2010. *Carl: Polarfarer*. Rødovre: Sohn.
Johnson, Jay T., Garth Cant, Richard Howitt, and Evelyn Peters. 2007. ‘Creating Anti-Colonial Geographies: Embracing Indigenous Peoples’ Knowledges and Rights’. *Geographical Research* 45 (2): 117–20. https://doi.org/10.1111/j.1745-5871.2007.00441.x.
Kaalund, Nanna Katrine Lüders. 2021. *Explorations in the Icy North: How Travel Narratives Shaped Arctic Science in the Nineteenth Century*. Pittsburgh, Pa: University of Pittsburgh Press.
Kaalund, Nanna Katrine Lüders, and John Woitkowitz. 2021. ‘“Ancient Lore with Modern Appliances”: Networks, Expertise, and the Making of the Open Polar Sea, 1851–1853’. *The British Journal for the History of Science* 54 (3): 277–99.
Keighren, Innes M., Charles W. J. Withers, and Bill Bell. 2015. *Travels into Print: Exploration, Writing, and Publishing with John Murray, 1773-1859*. Oxford: Oxford University Press.
Konishi, Shino, Maria Nugent, and Tiffany Shellam, eds. 2015. *Indigenous Intermediaries: New Perspectives on Exploration Archives*. Acton, A.C.T: Australian National University Press.
Krupnik, Igor, ed. 2010. *SIKU: Knowing Our Ice: Documenting Inuit Sea Ice Knowledge and Use*. New York: Springer.
Lewis, G. Malcolm. 1998a. *Cartographic Encounters: Perspectives on Native American Mapmaking and Map Use*. Chicago: University of Chicago Press.
———. 1998b. ‘Maps, Mapmaking, and Map Use by Native North Americans’. In *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, edited by David Woodward and G. Malcolm Lewis. The History of Cartography Series, Vol. 2, Book 3. Chicago: University of Chicago Press.
———. 2008. ‘Maps and Mapmaking of the Native North Americans’. In *Encyclopaedia of the History of Science, Technology, and Medicine in Non-Western Cultures*, edited by Helaine Selin. Dordrecht: Springer Netherlands.
Lewis-Jones, Huw. 2017. *Imagining the Arctic: Heroism, Spectacle and Polar Exploration*. London: I.B. Tauris.
Louis, Renee Pualani. 2007. ‘Can You Hear Us Now? Voices from the Margin: Using Indigenous Methodologies in Geographic Research’. *Geographical Research* 45 (2): 130–39.

Louis, Renee Pualani, Jay T. Johnson, and Albertus Hadi Pramono. 2012. ‘Introduction: Indigenous Cartographies and Counter-Mapping’. *Cartographica: The International Journal for Geographic Information and Geovisualization* 47 (2): 77–79.
Lucchesi, Annita Hetoevėhotohke’e. 2018. ‘“Indians Don’t Make Maps”: Indigenous Cartographic Traditions and Innovations’. *American Indian Culture and Research Journal* 42 (3): 11–26.
Malaurie, Jean. 2003. *Ultima Thule: Explorers and Natives in the Polar North*. London: W. W. Norton & Company.
‘Mapeo’. n.d. Accessed 7 August 2020. https://www.digital-democracy.org/mapeo/.
Markham, Albert Hastings. 1917. *The Life of Sir Clements R. Markham, K.C.B., F.R.S.* London: John Murray.
Markham, Clements R. 1851. ‘Private Journal 18 April to 1 October 1851, Kept on Board HMS Assistance.’ CRM/3. RGS-IBG Collections.
———. 1853. *Franklin’s Footsteps; a Sketch of Greenland, along the Shores of Which His Expedition Passed, and of the Parry Isles, Where the Last Traces of It Were Found*. London: Chapman and Hall.
———. 1875. *Arctic Geography and Ethnology: A Selection of Papers on Arctic Geography and Ethnology. Reprinted, and Presented to the Arctic Expedition of 1875, by the President, Council, and Fellows of the Royal Geographical Society*. London: John Murray.
———. 1876. ‘The Arctic Expedition of 1875-76’. *Proceedings of the Royal Geographical Society of London* 21 (6): 536.
———. 1879. ‘The Arctic Expeditions of 1878’. *Proceedings of the Royal Geographical Society and Monthly Record of Geography* 1 (1): 16.
———. 1905. ‘Obituary: Two Arctic Veterans. Sir Erasmus Ommanney and Sir James Donnet’. *The Geographical Journal* 25 (2): 221–24.
Marquardt, Ole. 2016. ‘Between Science and Politics: The Eskimology of Hinrich Johannes Rink’. In *Early Inuit Studies: Themes and Transitions, 1850s-1980s*, edited by Igor Krupnik. Washington, D.C: Smithsonian Institution Scholarly Press.
Martin, Peter R. 2020. ‘Indigenous Tales of the Beaufort Sea: Arctic Exploration and the Circulation of Geographical Knowledge’. *Journal of Historical Geography* 67: 24–35.
Mason-Deese, Liz. 2020. ‘Countermapping’. In *International Encyclopedia of Human Geography (Second Edition)*, edited by Audrey Kobayashi, 423–32. Oxford: Elsevier.
McCorristine, Shane. 2018. *The Spectral Arctic: A History of Dreams and Ghosts in Polar Exploration*. London: UCL Press.
Murray, Thomas B. 1856. *Kalli the Christian Esquimaux: A Memoir*. London: The Society for Promoting Christian Knowledge.
Nares, George S. 1878. *Narrative of a Voyage to the Polar Sea during 1875-6 in H.M. Ships ’Alert’and ’Discovery’.* London: Slow, Marston, Searle, & Rivington.
‘Native Land’. n.d. Native Land. Available at https://native-land.ca/.
Nelleman, George. 1967. ‘Applied Anthropology in Greenland in the 1860s: H.J. Rink’s Administration and View of Culture’. *Folk* 8–9: 221–41.
Okladnikova, Elena. 1998. ‘Traditional Cartography in Arctic and Subarctic Eurasia’. In *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*, edited by David Woodward and G. Malcolm Lewis, 3rd ed. Vol. 2. The History of Cartography Series. Chicago: University of Chicago Press.
Ommanney, Erasmus. 1850a. ‘Captain E. Ommanney, Report to the Admiralty’. EO/3/1/e. RGS-IBG Collections.
———. 1850b. ‘Captain Erasmus Ommanney’s Journal, HMS Assistance, 1850-51, Employed in the Search after Franklin’s Missing Expedition’. M-925-vol.2. Glenbow Archives.
Osborn, Sherard. 1864. ‘On the Exploration of the North Polar Region’. *Proceedings of the Royal Geographical Society of London* 9 (2): 42–70.
‘Pan Inuit Trails’. n.d. Available at http://www.paninuittrails.org/.
Parry, William Edward. 1824. *Journal of a Second Voyage for the Discovery of a North-West Passage from the Atlantic to the Pacific; Performed in the Years 1821-22-23, in His Majesty’s Ships Fury and Hecla, under the Orders of Captain William Edward Parry, R.N., F.R.S., and Commander of the Expedition*. London: John Murray.

Parsons, Harriet. 2015. ‘British–Tahitian Collaborative Drawing Strategies on Cook’s Endeavour Voyage’. In *Indigenous Intermediaries: New Perspectives on Exploration Archives*, edited by Shino Konishi, Maria Nugent, and Tiffany Shellam. Acton, A.C.T: Australian National University Press.
Pearce, Margaret W., and Stephen J. Hornsby. 2020. ‘Making the Coming Home Map’. *Cartographica: The International Journal for Geographic Information and Geovisualization* 55 (3): 170–76.
Potter, Russell A. 2016. *Finding Franklin: The Untold Story of a 165-Year Search*. Montreal ; Chicago: McGill-Queen’s University Press.
Pratt, Mary Louise. 1992. *Imperial Eyes: Travel Writing and Transculturation*. London: Routledge.
Radcliffe, Sarah A. 2017. ‘Decolonising Geographical Knowledges’. *Transactions of the Institute of British Geographers* 42 (3): 329–33.
Raj, Kapil. 2007. *Relocating Modern Science: Circulation and the Construction of Knowledge in South Asia and Europe, 1650–1900*. New York, NY: Palgrave MacMillan.
Rose-Redwood, Reuben, Natchee Blu Barnd, Annita Hetoevėhotohke’e Lucchesi, Sharon Dias, and Wil Patrick. 2020. ‘Decolonizing the Map: Recentering Indigenous Mappings’. *Cartographica* 55 (3): 151–62.
Ross, John. 1819. *A Voyage of Discovery, Made under the Orders of the Admiralty, in His Majesty’s Ships Isabella and Alexander, for the Purpose of Exploring Baffin’s Bay, and Inquiring into the Probability of a North-West Passage*. London: Murray.
Ross, Maurice James. 1994. *Polar Pioneers: John Ross and James Clark Ross*. Montreal ; Buffalo: McGill-Queen’s University Press.
Ross, William Gillies. 2002. ‘The Type and Number of Expeditions in the Franklin Search, 1847-1859’. *ARCTIC* 55 (1): 57–69.
Rundstrom, Robert A. 1990. ‘A Cultural Interpretation of Inuit Map Accuracy’. *Geographical Review* 80 (2): 155.
Safier, Neil. 2012. *Measuring the New World: Enlightenment Science and South America*. Chicago: University of Chicago Press.
Schaffer, Simon, Lissa Roberts, Kapil Raj, and James Delbourgo, eds. 2009. *The Brokered World: Go-Betweens and Global Intelligence, 1770–1820*. Uppsala Studies in History of Science 35. Sagmore Beach, MA: Watson Publishing International.
Shellam, Tiffany, Maria Nugent, Shino Konishi, and Allison Cadzow. 2016. *Brokers and Boundaries: Colonial Exploration in Indigenous Boundaries*. Acton, A.C.T: ANU Press.
Short, John Rennie. 2009. *Cartographic Encounters: Indigenous Peoples and the Exploration of the New World*. London: Reaktion Books.
Simpson, Leanne Betasamosake. 2017. *As We Have Always Done: Indigenous Freedom through Radical Resistance*. Minneapolis, MN: University of Minnesota Press.
Simpson, Thomas. 2017. ‘“Clean out of the Map”: Knowing and Doubting Space at India’s High Imperial Frontiers’. *History of Science* 55 (1): 3–36.
Slappnig, Joy. 2022. ‘The Indigenous Map: Native Information, Ethnographic Object, Artefact of Encounter’. London: Royal Holloway, University of London.
Sletto, Bjørn. 2009. ‘Special Issue: Indigenous Cartographies’. *Cultural Geographies* 16 (2): 147–52.
Snow, William Parker. 1851. *Voyage of the Prince Albert in Search of Sir John Franklin; a Narrative of Every-Day Life in the Arctic Seas*. London: Longman, Brown, Green and Longmans.
Spink, John, and D. W. Moodie. 1972. *Eskimo Maps from the Canadian Eastern Arctic*. Toronto: B. V. Gutsell.
Stoddart, David. 1986. *On Geography and Its History*. Oxford: Basil Blackwell.
Stoler, Ann Laura. 2009. *Along the Archival Grain: Epistemic Anxieties and Colonial Common Sense*. Princeton, USA: Princeton University Press.
Stopp, Marianne P. 2009. ‘Eighteenth Century Labrador Inuit in England’. *ARCTIC* 62 (1).
Stopp, Marianne P., and G. Mitchell. 2010. ‘“Our Amazing Visitors”: Catherine Cartwright’s Account of Labrador Inuit in England’. *ARCTIC* 63 (4).
Sturtevant, William C. 1999. ‘This New Prey: Eskimos in Europe in 1567, 1575, 1577’. In *Indians and Europe: An Interdisciplinary Collection of Essays*, edited by Christian F. Feest. Lincoln: University of Nebraska Press.

Sutherland, Peter C. 1852. *Journal of a Voyage in Baffin's Bay and Barrow Straits in the Years 1850-1851: Performed by H.M. Ships Lady Franklin and Sophia under the Command of Mr. William Penny in Search of the Missing Crews of H.M. Ships Erebus and Terror, with a Narrative of Sledge Excursions on the Ice of Wellington Channel and Observations on the Natural History and Physical Feature of the Countries and Frozen Seas Visited*. London: Longman, Brown, Green and Longmans.

'The Decolonial Atlas'. n.d. Available at https://decolonialatlas.wordpress.com/.

Thornton, Thomas F., ed. 2012. *Haa Léelk'w Has Aaní Saax'ú =: Our Grandparents' Names on the Land*. Juneau : Seattle: Sealaska Heritage Institute ; University of Washington Press.

Thrush, Coll. 2014. 'The Iceberg and the Cathedral: Encounter, Entanglement, and Isuma in Inuit London'. *Journal of British Studies* 53: 59–79.

Tuck, Eve, and K Wayne Yang. 2012. 'Decolonization Is Not a Metaphor'. *Decolonization: Indigeneity, Education and Society* 1 (1): 1–40.

Turnbull, David. 2001. 'Cook and Tupaia, a Tale of Cartographic Méconnaissance?' In *Science and Exploration in the Pacific: European Voyages to the Southern Oceans in the Eighteenth Century*, edited by Margarette Lincoln. Woodbridge: Boydell & Brewer.

Woodward, David, and G. Malcolm Lewis, eds. 1998. *Cartography in the Traditional African, American, Arctic, Australian, and Pacific Societies*. The History of Cartography Series, Vol. 2, Book 3. Chicago: University of Chicago Press.

Young, Kaitlin. 2018. 'Indigenous Cartographies of Arctic Places and Spaces'. In *The Routledge Handbook of the Polar Regions*, edited by Mark Nuttal, Torben Christensen, and Martin Sigert. Abingdon: Routledge.

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[i] For more on each of these authors see Kaalund (2021), Marquardt (2016), Nelleman (1967), Anonymous (1885) and Anonymous (1888).

[ii] Unfortunately it has not been possible to identify any indigenous oral histories that make reference to Kallihirua or to this encounter. Nunatta Katersugaasivia Allagaateqarfialu, art historian Ingeborg Høvik (2013) and literary historian Hester Blum (2019) have all also noted the unfortunate lack of available indigenous sources through which to study Kallihirua's life and contributions in any further detail.