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Frederick George Jackson, Indigenous knowledge, and the "heroic age" of polar exploration

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Research Article

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Abstract

In 1893, the British explorer Frederick George Jackson travelled in the north of the Russian Empire, where he learned lessons—particularly in the areas of diet, transport, and clothing—from the Nenets and Sami people. I argue that his travels in this area influenced both his subsequent Jackson-Harmsworth Expedition (1894–97) and British Antarctic expeditions in the early 20th century, including those led by Robert F. Scott and Ernest H. Shackleton

Studying Jackson's travels and writings can advance discussions about the role of Indigenous knowledge in British Polar exploration in the late 19th and early 20th centuries.

Based on a new reading of both published and archival materials, the paper also charts some forms of knowledge that Jackson struggled to appropriate—particularly the use of reindeer for transport. In examining his failures, I argue that attempts to write Indigenous contributions into the history of exploration must focus on explorers' failures as well as their successes—and on forms of Indigenous knowledge that proved difficult to use in other contexts.

Between 1894 and 1897, Frederick George Jackson was the leader of the Jackson-Harmsworth Expedition, which explored the archipelago of Franz Josef Land in the Arctic. Beforehand, he travelled in the north of the Russian Empire to learn Indigenous survival techniques. His journeys to the Arctic are often treated as a minor footnote in the history of British polar exploration. The relatively limited interest in Jackson is a product of the fact that his journeys to the Arctic were largely trouble-free. The expedition's main finding was that contrary to their hopes, Franz Josef Land was unlikely to provide a good route to the North Pole. The most dramatic incident was a chance meeting with the Norwegian explorers Fridtjof Nansen and Hjalmar Johansen, who were trying to reach safety after their own attempt on the North Pole. Nansen had set a new furthest north record and travelled back to Britain before Jackson, so his journey received more attention. When published in 1899, Jackson's rather repetitive narrative had limited appeal to a public fascinated by stories of "suffering for science" and "heroic failure" (Barczewski, 2016; Jones, 2003; Herzig, 2006). Despite more recent attempts to examine the Jackson-Harmsworth Expedition's legacies, the venture has been largely ignored by polar historians (Savitt & Lüdecke, 2007).

Jackson's expeditions and writings deserve more attention. Focusing on them can develop understandings of the importance of Indigenous knowledge within British polar exploration. Recent scholarship has devoted growing attention to the experiences and contributions of people written out of mainstream exploration histories (e.g. Armston-Sheret, 2023; Armston-Sheret, 2024a; Driver & Jones, 2009; Driver, 2013; Driver, 2015; Jones, 2010; Konishi, Nugent, & Shellam, 2015; Routledge, 2018). Within scholarship on Arctic exploration, numerous writers have re-examined 19th- and 20th-century expeditions. Such works have drawn attention to the contributions, experiences, and perspectives of Indigenous people and to their misrepresentation or erasure within dominant histories (Kaalund, 2021; Kaalund, 2023; Martin, 2020; Martin, 2024; Pálsson, 2004; Smith, 2021). I develop such works by focusing on Indigenous contributions to Jackson's expeditions. I examine his engagements with Indigenous Nenets and Sami communities in the north of the Russian Empire and how these engagements shaped British exploration cultures in the late 19th and early 20th centuries, including those expeditions led by Ernest Shackleton and Robert Scott.

The paper is based on a reading of Jackson's published and private records, attentive to the presence of Indigenous ideas within them. Jackson's one-sided and partial records undoubtedly limit how far it is possible to take such discussions. It is not possible to totally overcome this "straightjacket of evidence" (Barrett-Gaines, 1997, p. 53). However, as critical scholarship on exploration has shown, it is possible to re-read these archives in ways attentive to subaltern contributions and experiences (Armston-Sheret, 2023; Driver, 2013; Driver, 2017; Driver & Jones, 2009; Fleetwood, 2022). One of the challenges of my own analysis has been the limited sources available. Various records relating to the Jackson-Harmsworth Expedition are held in the archives of the Scott Polar Research Institute and the Royal Geographical Society (with IBG).

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I have been unable to locate any unpublished sources relating to his earlier journey to the Arctic and have had to rely primarily on his published books and articles.

Despite this limitation, I show that in some areas, Jackson's attempts to appropriate Indigenous knowledge had a significant influence on early 20th-century British explorers. They had a particular impact on the British National Antarctic Expedition (BNAE, 1901–04), an expedition that started the polar careers of both Scott and Shackleton. In other areas, Jackson's efforts to adopt Indigenous knowledge were less successful. I examine how and why he struggled to redeploy some techniques. I also develop historical debates about this subject. Much writing on Indigenous knowledge and Antarctic exploration focuses on techniques that could be learned in one environment and then redeployed in another. In contrast, I devote attention to the transport techniques that explorers found impossible to adopt. Finally, I show the need to recognise the diversity of Indigenous Arctic cultures when discussing their influence.

Indigenous knowledge and British polar exploration

Dominant narratives about polar exploration in the 19th and early 20th centuries portray British explorers, particularly those drawn from the Royal Navy, as resistant to the knowledge of Indigenous people. There is some truth to this claim, as many British polar expeditions were organised along naval lines and therefore drew more heavily on the naval protocol. In contrast, American and Scandinavian explorers often had different relationships with Indigenous peoples and ideas, partly shaped by the presence of Indigenous communities in Norway and the settler-colonial history of the USA.

Historians have used such differences to make broader arguments. A wave of historiography on the Franklin Expedition (1845–c.1850), which foundered in the Arctic leading to the loss of all souls, has suggested that the expedition's demise was a product of "cultural blindness and ethnocentrism" (Porter, 2022, p. 14). Critics point to the fact that Franklin's 129-man expedition would have had a far better chance of success had it adopted Indigenous methods of travelling, rather than using large naval ships. Franklin's demise was undoubtedly linked to the fact that his expedition was large and organised on naval lines. Yet, the idea that British explorers would have faced cultural backlash if they adopted Indigenous methods can be overstated. As Janice Cavell (2008, p. 226) has shown, following the disappearance of Sir John Franklin's expedition in the Arctic in the late 1840s, some British commentators suggested, without apparent concern, that the explorers may have survived by adopting Inuit techniques. It is also worth remembering that Franklin and other Victorian Arctic explorers did show some willingness to engage with such ideas (Woodman, 2015).

The Naval model of polar exploration embodied by Franklin was not the only one. Other explorers, such as the Orcadian John Rae, became successful polar travellers through learning from Indigenous people in the North American Arctic while working for the Hudson Bay Company (McGoogan, 2002). Despite being a successful polar traveller, Rae never felt that he received sufficient recognition for his "discovery" of the Northwest Passage. Some contemporary critics also disparaged Rae because he correctly claimed—based on Inuit testimony—that Franklin Expedition members had resorted to cannibalism. Rae consequently had a fraught relationship with both the Admiralty and the Royal Geographical Society (RGS). Despite being more willing to draw on Indigenous knowledge and methods, Rae still wrote in prejudiced terms about Indigenous people.

Similar narratives emerge in writing about the "heroic age" of Antarctic exploration, and the expeditions of Scott and Shackleton. Contrasts are often drawn between Scott and the Norwegian polar explorer Roald Amundsen, who beat Scott to the South Pole in 1911. Amundsen used dogs and sledging techniques learned from Inuit people he encountered during his expedition through the Northwest Passage (1903–6). In contrast, British polar explorers placed less reliance on dogs and "man-hauled" their sledges for much of their journeys.

John Wylie (2002, p. 250) notes that Scott and Amundsen's expeditions employed very different "styles of dwelling within, and strategies for movement through, the Antarctic landscape." Wylie (2002, p. 257) reports that Amundsen "adapted his sledging techniques from those of the polar Inuit." Meanwhile, he argues that Scott's expeditions are more "simple ... to theorize" because of his reliance on man-hauling sledges for much of his polar journey and because he disregarded evidence from the Arctic about the utility of skis (Wylie, 2002, p. 259). Katz and Kirby make a similar argument. Amundsen, they argue, relied on techniques learned in Scandinavia and amongst Indigenous people. Meanwhile, Scott was "seduced by technology, he distrusted what he saw as primitive and obsolete" (Katz & Kirby, 1991, p. 260).

Similar portrayals are widespread within popular culture, in large part, because of Roland Huntford's popular history book *Scott and Amundsen* (1979) and the 1985 Central Television series *The Last Place on Earth* (Huntford, 1999). These works have played a key role in shaping the understandings of the history of exploration. Huntford's dual biography of the two explorers painted Scott as a blunderer uninterested in developing his sledging skills by learning to drive dogs. Amundsen, in contrast, is presented as a master polar traveller, who appropriated the skills of Indigenous people. Since its publication, Huntford's approach has been criticised by authors including Max Jones (2003), Susan Solomon (2001), and the explorer-come biographer Ranulph Fiennes (2003). These more nuanced assessments have questioned the idea that Scott was an incompetent leader. Equally, Riffenburgh (2004) has shown that Shackleton's decisions about polar travel were very similar to those made by Scott. Yet, Shackleton's reputation has not suffered to the same degree as Scott's (Barczewski, 2009). Despite more balanced portrayals of individuals, the idea that British polar explorers generally refused to learn Indigenous skills and knowledge has remained a dominant theme in writing about exploration in this period.

The degree to which British explorers drew on Indigenous knowledge is more than just a practical question. As Sarah Pickman (2017, p. 53) has demonstrated, Scott's decision to rely primarily on man-made clothing was shaped in large part by the "need to project an image of strong, modern, Britishness to the public at home through his dress." Scott, Pickman (2017, p. 54) continues, "embodied the image of the civilized British explorer, so confident in his nation's traditions that no Indigenous knowledge or material culture could be of any great use." In contrast, many of Scott's international contemporaries—such as Amundsen and the Americans Robert E. Peary and Frederick Cook—relied much more heavily on Indigenous clothing and techniques. They also incorporated images of themselves in fur clothing into their publicity materials, using fur to perform a tough outdoorsy masculinity.

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It is undoubtedly true that most British explorers did not draw on Indigenous knowledge effectively. Recent literature on this subject has, however, sought to extrapolate from this fact to make broader moral and political claims about British exploration cultures and national identity. Writers have sought to use the failure of British explorers to adopt such methods to show the hubris of colonial-era explorers. The problem with this approach is that it can overlook the ways that British travellers did draw on the skills and knowledge of Indigenous people (thus writing them out of the history of British geographical exploration altogether). There is also a risk of portraying explorers who more effectively adopted Indigenous techniques as less racist than those who did not. As Pickman (2017) has demonstrated, many explorers who adopted Inuit dress still harboured deeply prejudiced views about Indigenous people and approached their knowledge in extractive, colonial ways. In the rest of this paper, I offer a new perspective on such debates by showing that some British Arctic explorers were keen to draw on Indigenous knowledge, but they did not always do so effectively.

Frederick George Jackson, Nenets knowledge, and the Jackson-Harmsworth expedition

We can recover the influence of Indigenous people and other forms of Arctic knowledge by focusing on the writings of the Arctic explorer Frederick George Jackson. Jackson was born in 1860 in Warwickshire and spent time travelling in Australia as a young man. He first travelled to the Arctic in 1887 on the sealer and whaler *Eric*. In the 1890s, he became interested in exploring Franz Josef Land, which had first been seen by an Austro-Hungarian expedition in 1873. Other explorers had visited the islands, but they had never been systematically surveyed. In 1892, after unsuccessfully applying to join a Norwegian expedition led by Nansen, Jackson announced plans to lead an expedition to Franz Josef Land (Jackson, 1935). At first, funds proved hard to secure, so Jackson went travelling.

In the autumn and winter of 1893, Jackson completed a five-month journey across the north of the Russian Empire. In his subsequently published book, Jackson (1895, p. vii) stated that the "first and more important" object of the journey "was to experiment with and test a selected variety of equipment, clothing, and food under the conditions of an Arctic winter, in order that the results of this experience might be utilised in the more prolonged and far more difficult journey contemplated to the unknown Arctic area north of Franz Josef Land." While Jackson was interested in learning Indigenous techniques, he was limited by the relatively short duration of his journey and his lack of relevant linguistic skills.

Despite this limitation, much of the food, clothing, and equipment he tested was Indigenous. Indeed, Jackson spent time living and travelling with Indigenous Nenets people. Most were reindeer herders, migrating seasonally following the herds, though some lived more sedentary lives. He also travelled further west for a shorter period, living and travelling with the Sami people. He wanted to visit the Yamal Peninsula, further to the east, but was unable to do so because he could find no one to take him there. Jackson also interacted with non-Indigenous Russians living in the area.

Jackson's willingness to appropriate certain Indigenous skills did not mean that he was free from prejudice. Jackson used the now deprecated terms "Samoyads" and "Lapps" to refer to these people. I have used the terms only when quoted from original sources. His writings describe Indigenous people in objectifying and dehumanising ways. Racism also shaped his anthropological research. He measured the bodies of Nenets people and even robbed a Nenets grave to collect human remains, which he transported back to Britain (Jackson, 1895; Jackson, 1899).

While in the Russian Arctic, Jackson found out that he had managed to secure the support of the British newspaper owner Alfred Harmsworth (later Viscount Northcliffe) for his expedition to Franz Josef Land. Because the journey was largely financed by Harmsworth, it has become known as the Jackson-Harmsworth Expedition. Jackson returned to the UK to begin preparations, purchasing a whaling ship named the *Windward* to take the explorers to the Arctic.

After briefly stopping in the north of Russia, where they purchased dogs, ponies, and fur clothing, the expedition reached Franz Josef Land in September 1894. They erected a hut at Cape Flora and spent the following years exploring the archipelago by both sledge and boat. While the venture attracted less public attention than other expeditions from this era, it was to prove influential in terms of how explorers approached various logistical issues. Partly, this was because Jackson was well-connected with the British geographical establishment. His expedition received support from the RGS and its president Sir Clements Markham. Jackson's book *The Great Frozen Land* (1895), which discussed his encounters with Indigenous people in the Russian Arctic, was a way in which other British explorers would have learned about his ideas, and a copy of this work was added to the RGS's library in 1895 (Anon, 1895).

The most significant influence of the expedition on Antarctic exploration was in the area of personnel. Two important figures on the Jackson-Harmsworth Expedition, Reginald Koettlitz, the medic, and Albert Armitage, the second in command, went on to join the BNAE on which they lived and worked with more famous Antarctic explorers including Scott and Shackleton. Both men encountered Nenets people during their outward journey on the Jackson-Harmsworth Expedition, so also had some direct experience of Indigenous techniques. On the expedition, Koettlitz also formed a relationship with Nansen (who had learned Indigenous techniques in Greenland). Koettlitz (1900a) turned to him for advice during the run-up to the BNAE, opening another avenue through which Indigenous knowledge was indirectly communicated to Scott and Shackleton.

Between 1896 and 1897, William Speirs Bruce joined the Jackson-Harmsworth Expedition as a naturalist. He went on to lead the Scottish National Antarctic Expedition (1902–1904). The expedition was thus an important node within the networks of polar exploration. In the rest of this paper, I examine four different areas where Jackson sought to draw on Indigenous skills, knowledge, and techniques. Where possible, I also chart their influence within broader exploration cultures.

Clothing

During his time in the North of Russia, Jackson learned about polar clothing. He was particularly impressed with the clothing worn by Nenets men. Jackson (1895, p. 64) described these outfits at length:

> This militza [malitsa] is a smocklike garment of reindeer skin, having the hair inside. It is cut very full, and is absolutely closed from the hem to the neck, through which he thrusts his head on putting the garment on. Attached to the neck is a close-fitting skin hood, hair inside; and sewn with sinew on to the end of his sleeves are his rukavitza (mitts).

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THE AUTHOR IN SAMOYAD MILITZA AND PIMMIES, WITH BAMBOO FOR HARRAY OR DRIVING-POLE.

Figure 1. Studio photo of Jackson in a militza and pimmies. Public domain: Jackson, *The Great Frozen Land* (1895), 114.

He noted that Nenets men wore a belt around the waist to prevent draughts, which he thought "a simple and effectual plan which may be commended to Arctic explorers." He also noted that the militza (see Fig. 1) was better than the sealskin coat he had bought in London (Jackson, 1895: 113–4).

Another important item of clothing was the Nenets "siluke" or "soveek" (see Fig. 2). (In recent writing on Nenets clothing, I have seen a similar garment referred to as a gus or sokui.) These garments were "made on the same pattern as the militza, but of the white reindeer skin, and with the hair outside" (Jackson, 1894: 145). They were worn over militza in cold weather. Jackson reported that such clothing allowed him to stay warm in temperatures as low as minus 40 °C. Given that they were so warm, it is hardly surprising that he saw such garments as useful for an expedition to the high Arctic.

Jackson was also impressed by the quality of sewing performed by Nenets women. "The neatness of the work put into their clothing ... is deserving of all praise," he commented, "and one never met with threads coming undone or anything fastened on coming off" (Jackson, 1895, p. 81). Yet, discussions of clothing production also expose Jackson's prejudiced attitude towards Indigenous knowledge. After describing such clothing, for instance, Jackson (1894, p. 145) commented that "The Samoyads [*sic*], by the way, are far ahead of the Eskimo [*sic*] in their skill in fur-working." In such passages, Jackson evaluates the Indigenous people of the Arctic based on his own Eurocentric ideas about progress. Similarly, Jackson (1895, p. 180) compared the fur-working of Sami and Nenets people, claiming that "with regard to clothing, sledges, driving, and general mode of life the Samoyad [*sic*] can give points to the Lapp [*sic*] and beat him easily." Apparent compliments to the skills of Nenets people are used to disparage other Indigenous groups. Such comparative comments about the "progress" of different groups of people were common within 19th-century anthropological writings.

Jackson equipped the Franz Josef Land expedition with Nenets outfits "almost without modification." Complete outfits were bought for "all members of the expedition." Some of the Nenets outfits were purchased in the Russian Arctic, but other items were copied from Indigenous articles by a Norwegian company (Jackson, 1935, p. 94, 99). Jackson paid special attention to footwear, which was considered "perhaps the most vulnerable point in Arctic costume." On this front, Jackson (1895, p. 283) combined different Indigenous dress from across the Arctic. On their feet, the explorers wore "pimmies or long boots and

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Figure 2. Studio photo of Jackson in a siluke. 1893 or 1894. Courtesy of Wikimedia Commons.

leupthieu (or skin stocking)." Jackson appears to be wearing an example of these in Figure 1. "But owing to the varying conditions of snow," he reported, "we are taking a considerable variety of boots specially adapted to each condition. Thus, we have heavy elk-skin boots; the lighter Finnesko; longboots for the wet snow, etc." (Jackson, 1895, p. 145). Finnesko were a form of fur boot worn by Sami people but were also commercially produced in Norway (Fig. 3).

On the Jackson-Harmsworth Expedition, Indigenous items of dress were combined with industrially produced clothing, particularly woollen underclothes and linen windproof garments. The full fur suits were not generally worn while travelling by sledge (as Jackson found them too warm). Instead, the men slept in them overnight, finding them better than sleeping bags, because it allowed them to get out of their tent quickly in case of an attack by polar bears. The fur suits were also worn while hunting or conducting scientific work during the winter. Jackson wore them for publicity photos, and they appeared in several press reports about the expedition (see Fig. 2).

Some fellow explorers were clearly impressed with the items of Nenets clothing they wore. When preparing for the BNAE, Armitage (1900) asked the RGS President, Sir Clements Markham, about the possibility of securing similar items of clothing:

> "Would it be possible, through the foreign office, to have a couple of Samoyed [*sic*] families sent to London or Norway (more like their own country during winter) where, the skins being supplied to them; they could make all necessary fur garments under supervision?"

Armitage clearly saw clothing produced by Indigenous people as preferable for a polar expedition. Indeed, the comments suggest that Armitage agreed with Jackson about the quality of Nenets needlework. His reference to "families" is an implicit acknowledgement that producing such clothing was a collaborative undertaking, relying on the labour of Indigenous women. As such, he perhaps understood the important role of family and collective labour in many Indigenous groups. Yet, the quote, particularly the suggestion that clothing should be made "under supervision," illustrates Armitage's prejudices about Indigenous people. Equally, Armitage may be seeking to second-guess the prejudices of Markham, the RGS president, who was sceptical about the value of Indigenous knowledge. The suggestion of moving families seems to echo a longer and more troubling history of Indigenous people being brought to metropolitan capitals, often against their will (Qureshi, 2011).

The BNAE did not follow through on Armitage's plans, largely due to timing. On the advice of Armitage and Koettlitz, Scott brought fur clothing on the BNAE, purchasing wolf and reindeer skin suits, as well as fur boots, mittens, and finnesko. He ordered these items from the Norwegian firm Møller. These clothes were made in Drammen, Norway, mostly by Norwegian women. On one level, these items cannot be considered Indigenous in any meaningful sense of the term, as they were produced by a non-Indigenous commercial company near the Norwegian capital. On another level, we should remember that finnesko were "imitations of the boots worn by the Sami" and many of the skins they used probably came from Indigenous Arctic communities (Pickman, 2017, p. 46).

Once in Antarctica, Scott did not find the fur suits particularly useful, reporting that their Jaeger underclothes and Burberry windproof suits were perfectly adequate. Decisions around clothing were not just practical. As Sarah Pickman (2017) notes, cultural attitudes towards masculinity, national identity, and Indigenous knowledge clearly also shaped Scott's decisions around furs. But, in large part, Scott was sceptical of furs because of his reliance on "man-hauling" sledges as a method of transport. Pulling the sledges was hard labour, and explorers often sweated excessively if they wore fur (Solomon, 2001). In this sense, we see how the inability of British explorers to utilise Indigenous transport methods affected their ability to use Indigenous clothing. It is also worth emphasising that they were trying to use such items of clothing in ways quite different from those intended by the Nenets people who had designed such garments. They were also operating in significantly different environmental conditions. Nenets men often used their best furs while reindeer herding in winter, and it is unsurprising that Antarctic explorers found them too warm in summer.

Despite his lack of enthusiasm for animal-skin clothing, Scott's expedition did still use furs for their mittens and wore finnesko boots in cold weather. Scott (1905, v.1 p. 459) noted that it was important to be "most careful in the selection of these articles" as some of their finnesko were made for the tourist market and would last only a few days. Shackleton agreed with Scott in this regard. When he returned to Antarctica as leader of the 1907–9 *Nimrod* expedition, he also saw fur suits as unnecessary. Nevertheless, he also used fur mitts and boots (bought again from Møller). Shackleton, 1909, p. 13) commented: "Our furs did not make a very

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Figure 3. Finnesko, as used on the British Antarctic Expedition 1910–13. Photography by Herbert Ponting. Courtesy of SPRI Freeze Frame: Ref P2005/5/845.

large order, for after the experience of the Discovery expedition I decided to use fur only for the feet and hands and for the sleeping bags, relying for all other purposes on woollen garments with an outer covering of wind-proof material." Scott made similar decisions on his final expedition (Pickman, 2017).

On the surface, both Scott and Shackleton seem confident in the ability of modern clothing to keep them warm. But the story is not quite so straightforward. In Antarctica, in 1911, Scott (2008, p. 260) penned his doubts about their gear in his diary: "One continues to wonder as to the possibilities of fur clothing as made by the Esquimaux [*sic*], with a sneaking feeling that it may outclass our more civilised garb. For us, this can only be a matter of speculation, as it would have been quite impossible to have obtained such articles." Scott thought Indigenous clothing may be better than their industrially produced clothes but did not use it for practical rather than ideological reasons. Moreover, even after deciding not to use furs, he was clearly not confident in the superiority of industrially produced clothing. Doubts about the safety of modern, industrially produced items also shaped explorers' attitudes towards food supplies.

Food

One area where Jackson learned important lessons from Indigenous people was in the prevention and treatment of scurvy. As discussed elsewhere, medical thinking about scurvy was confused in this period (Armston-Sheret, 2024b; Guly, 2013). The disease was widely seen as preventable (and most thought it was caused by poor diet, and to a lesser degree unsanitary conditions) but the specific cause of the disease—a want of dietary vitamin C—had not yet been discovered (Armston-Sheret, 2019b). Fresh meat, particularly if raw or lightly cooked, contains some vitamin C and was one of the main methods used by Antarctic explorers in this era to prevent and treat scurvy.

The use of fresh, lightly cooked meat as a cure for scurvy probably owes something to Jackson's time in the Arctic, although the lines of influence are more difficult to trace. In his book, he reported that Nenets people preferred to eat reindeer meat raw and drank reindeer blood (Jackson, 1895, p. 75). Despite having few vegetables, Jackson noticed that Nenets people seldom suffered from scurvy. This left Jackson (1895, p. 267, 270) convinced that scurvy was "a form of anaemia" that could be prevented by the consumption of large quantities of fresh meat from which the blood had not been drained. Jackson had ordered some tinned meats for his Russian reconnaissance journey. Yet most did not arrive, so he generally lived on reindeer meat. While travelling with Nenets people, Jackson generally tried to cook his own food separately. "Under press of circumstances, however, I often ate the steaks and haunch raw, and having got over one's natural repugnance I should not find any particular hardship were I compelled to subsist on it for some time," he commented (Jackson, 1895, p. 75).

Other experiences confirmed the idea that scurvy could be prevented by the consumption of fresh meat. In 1893, Jackson (1895, p. 99) stayed in an isolated log house that had previously been lived in by six Russian Orthodox monks, along with a boy who worked as their "general servant." Local people told Jackson that the monks had taken a religious vow to abstain from meat. The boy, meanwhile, was exempt from this vow and also ate fresh reindeer meat. Jackson (1895, p. 99) was informed that after two winters had passed, the log hut was visited by a group of Nenets people and Russian peasants who found that all the monks had died from scurvy, while the boy remained in "perfect health." He thus deduced that fresh meat was the best means to prevent and treat the disease.

These ideas strongly influenced Jackson's approach to the management of scurvy in Franz Josef Land. The explorers spent a great deal of time hunting polar bears and walruses for food, and this formed a key part of their diet throughout the polar winter. Nevertheless, there was an outbreak of scurvy on board the crew of the expedition's ship *Windward*, which was forced to overwinter in the Arctic as the ocean surface froze. Even this scurvy outbreak seemed to confirm Jackson's belief in Indigenous knowledge about the importance of fresh meat. The expedition's doctor reported that only men who refused to eat fresh walrus and bear meat had been struck down by scurvy (Koettlitz, 1895). Koettlitz (1895),

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drawing on Jackson's idea that scurvy was a form of anaemia, ordered that the sick men "take bears' meat every day, and also soup to which bear's blood is added."

The idea of fresh meat as a cure for scurvy was also shaped by domestic medical developments, which viewed scurvy as the product of some microbial taint (Armston-Sheret, 2019b; Guly, 2013). These arguments gained traction because of the genuine problems many polar explorers experienced with tinned food, due to variable food hygiene standards and the fact that preserved foods had little vitamin C. These anxieties should also be understood in the context of broader anxieties about the impact of modern, industrialised food on the human body (Armston-Sheret, 2024b). In the late 19th and early 20th centuries, food safety became an increasingly important issue in British culture, driven by a growing understanding of microbial contamination (Hardy, 1999; Woods, 2020).

Yet, it is also worth reflecting on the ways that scientific knowledge was shaped by the experiences of Arctic travel. Before more established systems of medical testing, explorers were often used as a source of evidence in medical textbooks and journals (Armston-Sheret, 2019a; Heggie, 2014). Jackson continued in this tradition. On his return, he and the scientist Vaughn Harley (1899) published a paper in the *Proceedings of the Royal Society of London* (the paper was also read before the Royal Society). The article drew on Jackson's experiences of the expedition and his 1893 Arctic journey (but also involved an experiment on an unfortunate group of monkeys). Jackson did not present Indigenous Arctic people as equal knowledge producers able to narrate their own experiences about how best to live in the Arctic. Instead, their lifestyles are treated as material for analysis and interpretation by the paper's authors. Jackson and Harley (1899, p. 253) highlighted how some Arctic Indigenous people avoided scurvy by eating fresh reindeer meat, despite having little access to fresh vegetables or other established remedies such as lime juice. They also noted that other Indigenous groups, with diets based around dried fish, had higher rates of scurvy. Indigenous lifestyles could thus be used as a source of evidence within scientific papers.

These ideas directly influenced later practices. Their dissemination can be traced through the writings and actions of Armitage and Koettlitz. Both men played a key role in the organisation of the BNAE. They were consulted by Scott and Markham on the provisions to be taken by the expedition (e.g. Koettlitz, 1900b). Koettlitz had more nuanced views than Jackson, arguing that variety was the key consideration in an expedition's food supplies. But he was also convinced that scurvy was a form of ptomaine poisoning and that it could be prevented by the consumption of fresh meat. Before the departure of the BNAE, Koettlitz wrote an article in the *British Medical Journal*, in which he claimed that the expedition would avoid scurvy by eating fresh meat and hinted at how Indigenous lifestyles had shaped his approach. Koettlitz (1902a) stated:

> that want of vegetables, fruit, and saccharine, and farinaceous foods does not predispose to not produce scurvy is shown by the condition of those Eskimo [*sic*], who never come in contact with Europeans or other people. These people live exclusively, or very nearly so, upon a meat and fish diet, and never from generation to generation obtain vegetable and fruit which has so often been considered a necessity for the prevention of scurvy.

Koettlitz does not reference his (nor Jackson's) encounters with Nenets people in the Russian Arctic directly (instead using a term more widely used to refer to Indigenous people from the North American Arctic and eastern Siberia). Nevertheless, Indigenous ideas clearly shaped his approach.

Koettlitz and Armitage also played a key role in dealing with the scurvy outbreak on the BNAE, as the first signs were discovered in late September 1902, amongst the men of sledging a party led by Armitage. Armitage explicitly drew on his Arctic experiences. A key pillar of his strategy for treating the disease was to "give all hands fresh seal meat for dinner every day" (Armitage, 1905, p. 138). Likewise, Koettlitz (1902b) wrote to Scott claiming that scurvy would "quickly disappear if fresh seal meat is the staple meat diet for entire expedition." These recommendations were implemented and did deal with the scurvy outbreak. British Antarctic expeditions continued to use fresh meat as a cure for and preventative of scurvy following the BNAE (Guly, 2013).

Tracing the influence of Arctic lifestyles on the conduct of polar explorers is rather complicated. Not only is the only available evidence limited and one-sided, but it is also impossible to disentangle the influence of Indigenous ideas from shifting scientific and medical ideas. Moreover, engagement with Indigenous Arctic communities shaped medical knowledge about scurvy long before Jackson's journeys to the Arctic. Despite these various caveats, it seems reasonable to conclude that Jackson's time living amongst Nenets people shaped his own thinking about scurvy and influenced the practices of later British explorers, even if it was not the only factor.

Dogs

Diet and clothing were not the only areas where Jackson's expeditions in the Russian Arctic shaped how British explorers drew on Indigenous methods. Jackson also investigated the use of dogs as draught animals during his preliminary journeys in the Arctic. In the areas where Jackson travelled, Nenets people primarily used dogs for herding reindeer (rather than drawing sledges). However, Siberian huskies were used as draught animals by other Indigenous communities, and the practice had also been adopted by Russian traders. "Their [the dog's] strength, and speed, and pluck I tested last winter under conditions of extreme cold and severity," Jackson (1894, p. 146) reported, "and my admiration for them, and their endurance on the barest allowance of keep, is great."

Before his Franz Josef Land expedition, Jackson purchased thirty western Siberian huskies, via an intermediary named Henry Howard, a British government official in St Petersburg, who enlisted the support of Mr Edward Wardropper (Jackson, 1895, p. 282). Their actual purchase was carried out by a man named Räwing. Confusingly, the same man is referred to as Raving in Jackson (1895, p. 282) and is reported to be a Russian man. In Jackson (1899, p. 17), he is described as a German. Perhaps he was one of the many ethnic Germans living within the Russian Empire. Most were "Ostiak" dogs, a term generally used to refer to animals raised by Khanty communities (Koettlitz, 1895; Jackson, 1899, p. 17). It is, however, unclear if the animals had been raised by Khanty or Nenets communities, as Jackson claimed that they were purchased by Räwing "from the Samoyads on the Ob." Jackson described them as "stout, heavily boned animals weighing from between fifty and seventy pounds, others were leggy and wolf-like in appearance." At the time, he claimed that while the animals were "[i]nferior, perhaps, to the fine animals of Eastern Siberia, they are distinctly superior to the more familiar Eskimo [*sic*] dog" (Jackson, 1894, p. 146). Once in Franz Josef Land, the animals were used to haul the expedition's sledges. Jackson also used "Samoyad"—that is Nenets—dogs purchased in the north of Russia. These animals were primarily

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employed as "bear dogs," used to warn of the approach of bears and to assist with hunting.

Jackson's expedition shaped where other British explorers bought their dogs. The organisers of the BNAE also turned to the Russian Arctic in their efforts to secure draught animals, as it was in these areas where British geographers had connections and networks that allowed them to purchase animals. The 23 huskies of the BNAE were born in Indigenous communities in Siberia and were purchased for the expedition by D.W. Wilton, who joined the Jackson-Harmsworth Expedition from 1896–7 and also greeted Jackson in Archangel on its outward voyage (Jackson, 1899). Wilton had lived in the north of Russia for some years and had "extensive experience of Arctic life" (Brown et al., 1978, p. 19). Armitage wrote to Wilton in the spring of 1900, and he proved instrumental in purchasing the dogs for the BNAE (Wilton, 1900). Wilton purchased the animals in Archangel and brought them to England (Scott, 1901; Scott, 1905, v.1, p. 471). The dogs were kept at London Zoo before being shipped to join the expedition in New Zealand (Scott, 1905, v.1, p. 471). Armitage (1905, p. 11) also took one dog from the Jackson-Harmsworth Expedition on the BNAE.

Koettlitz (1900b) and Armitage (1925, p. 141) both argued that the expedition should have taken a larger number of dogs, suggesting that their time in the Arctic had given them a greater appreciation of their value. Koettlitz (1900b) also suggested that the expedition's dogs had been purchased "as a grudgingly given concession to the urgent representations of Capt. Scott," who had been convinced of their value by Nansen. As this quote suggests, Scott does seem to have shown flexibility on the transport question, listening to those with more knowledge about Arctic travel.

Beau Riffenburgh (2004, p. 76) argues that Scott made a mistake in purchasing western Siberian rather than the "preferable" eastern Siberian animals. This is a valid criticism, as western animals are somewhat smaller than eastern ones, as used by Nansen on his 1893–96 Farthest North Expedition (Nansen, 1897, p. 76). They also weigh less and have less pulling power than North American sledge dogs, as used by Amundsen in 1911 (Alp, 2019, p. 479). But, it is worth remembering that the choice of western Siberian animals was not accidental. Nor did his choice represent a rejection of Indigenous knowledge in general; it was a product of the connections and experiences forged in this region of the Arctic by the recent Jackson-Harmsworth Expedition.

Scott was not the only Antarctic explorer who used dogs from the north of Russia. The British-financed and Norwegian-led Southern Cross Expedition (1898–1900) also used dogs from this area. The leader Carsten Egeberg Borchgrevink brought 90 dogs on the journey southwards, mostly western Siberian animals (Borchgrevink, 1901, p. 40–41). Louis Bernacchi, who served on both the Southern Cross expedition and the BNAE apparently reported that (Anon, n.d., p. 1) these dogs were "strong & good hauling animals."

One handwritten note in the records of the BNAE (Anon, n.d., p. 1) suggests that the animals were the "street cases of Arkangel." However, it is not clear that this claim is true. Bernacchi (1901, p. 8) reports that the dogs were "procured from the Samoyedes, in the north of Siberia." Similarly, one newspaper account notes that they were purchased by Joseph Russell Jeaffreson from Indigenous communities in the north of Russia (Anon, 1898). Jeaffreson was a friend of Jackson. They met in the Nenets settlement of Khabarova in 1893. A keen natural historian, Jeaffreson even wrote an appendix to Jackson's book on the "Ornithological results" of his journey (Jackson, 1895). His involvement again suggests the importance of Jackson's journey in ensuring this was the area where other British explorers purchased dogs from.

Unlike many British explorers, the Norwegian Borchgrevink used numerous dogs. He also employed two Sami men from Finnmark in Norway—Ole Must and Persen Savio—as dog drivers on the expedition. Borchgrevink was more willing to draw on Indigenous skills than most British explorers who purchased animals in the north of Russia without understanding how to drive them effectively. Many of the surviving dogs from the Borchgrevink expedition were kept by a breeder in Stewart Island, New Zealand. Nine of these animals and their offspring were purchased by Shackleton, 1909, p. 23–24) for use on his 1907–9 expedition. Another dog, named Joe, was taken on the BNAE by Bernacchi (Scott, 1905, p. 473).

Other British Antarctic explorers also drew on animals from this region. Bruce took only two "Samoyede" dogs on the Scottish National Antarctic Expedition (SNAE, 1902–04). These animals were probably supplied by the same Wilton who purchased the dogs for the BNAE and then went on to join the SNAE. Wilton met Bruce, the leader of the Scottish expedition, during the Jackson-Harmsworth Expedition (Brown et al., 1978: 146, 10). These animals do not seem to have been specially purchased but were animals from the Jackson-Harmsworth Expedition brought back to the UK by Wilton (Anon, 1900, p. 9).

By the end of the so-called heroic era, British explorers had moved away from using western Siberian and Samoyed dogs and recognised the need to employ skilled drivers. On his final expedition, Scott still used Siberian huskies. This time, though, the animals were purchased by the expedition's dog handler Cecil Meares in eastern Siberia. By using such animals (and employing experienced dog drivers) the expedition had more success. After Amundsen reached the South Pole in 1911, Shackleton sought to emulate many of his methods on his Imperial Transantarctic Expedition, using large numbers of North American huskies, rather than Siberian animals. He did so because of the proven success of such methods. Shackleton also tried to hire a (non-Indigenous) Canadian dog driver to instruct him on how to lead such animals, but the man never arrived.

While Jackson's influence eventually waned, connections in the Russian Arctic, forged by his journeys, meant that this was the area many other British explorers turned to for animals. Tracing the purchase of dogs by British explorers is comparatively straightforward as records are often included in expedition archives. These records do not leave us much evidence on exactly where these dogs were purchased nor on the specific Indigenous communities that raised them. We are therefore left knowing that explorers did rely on such animals, but the specific relationships and intermediaries involved are generally obscured. Dogs were not the only animals considered by Jackson, as I now examine.

Reindeer and ponies

Jackson's time in the Russian Arctic also shaped his approach to transport in other areas. Nenets and Sami people used sledges drawn by reindeer as the primary method of transport. After travelling in such a way, Jackson (1895, p. 99) was impressed and wrote that the "reindeer is the camel of the Arctic desert." Jackson initially wanted to take reindeer on his expedition to Franz Josef Land. "If there had not been the insuperable difficulty of feeding these splendid draught animals," Jackson (1895, p. 185–186) noted, "I should certainly have secured a number of them for the Expedition to Franz Josef Land; but until they are thoroughly domesticated and stalled, this difficulty in the way of their usefulness to the explorer in the highest latitudes will not be

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removed." The decision not to take these animals was purely practical, rather than ideological. Environmental considerations were clearly an important factor, as Jackson was concerned about the availability of food for these animals in Franz Josef Land.

While reindeer were seen as the ideal animals for polar transport, Jackson also felt that ponies could be useful. His first use of them was a result of reindeer being unavailable, so he was "reluctantly compelled to use horses, although afterwards I regarded my new experience as a very valuable one" (Jackson, 1895, p. 147). "The horse of the country is a little shaggy animal," Jackson (1895, p. 147) continued, "standing about fourteen hands, and extremely hardy." These ponies were used by Russians in the Arctic (rather than by Indigenous Nenets people). Jackson (1895, p. 160) described their hardiness, noting that they "went at a spanking pace nearly the whole of the way . . . We never gave them more than two hours at a time for food and rest and then at long intervals. They were never out of their harnesses nor put in a stable; in fact, they proved themselves the best nags for cold work that I have yet seen. It was after this satisfactory experience of them that I decided to take them on the Polar Expedition."

Jackson (1894, p. 146) took four ponies to Franz Josef Land, collecting the animals at Archangel. After the expedition, Jackson (1935, p. 98) claimed that ponies had been "an unqualified success for use on landfloes and glaciers." Whether his positive reviews were accurate is another question, given that none of the animals returned alive. Truthful or not, ideas about the effectiveness of ponies as polar transport were highly influential within British exploration cultures in the run-up to the First World War. Armitage (1925, p. 141) would later claim that he had advised Scott to take ponies (as well as more dogs) on the BNAE. But, this advice, he suggested, was "overruled" (Armitage, 1925, p. 141).

Shackleton, 1909, p. 21) was the first to take ponies to Antarctica, and he did so explicitly because he had "heard of the good work they did on the Jackson-Harmsworth expedition." Jackson (1935, p. 98) reported that Shackleton gave him a copy of *The Heart of the Antarctic* (1909) bearing an inscription saying he felt "the length of the Southern journey was largely due to his friend's advice re [*sic*] the ponies." This statement suggests that the two men may have spoken about the matter directly. Shackleton's (1909, v.1, p. 21) ponies were not exactly the same breed as those used by Jackson, as they were acquired in Shanghai and were "the hardy ponies used in Northern China and Manchuria."

These hardy ponies were undoubtedly a useful form of transport in the cold conditions of Northern Russia, particularly along well-established routes. However, ponies faced additional problems when used in Antarctica. First, there was the problem of transporting them thousands of miles by ship, across both the tropics and stormy seas. Once there, the lack of grass, even in the summer, meant that explorers had to take all the food for the ponies with them. Three of Shackleton's (1909, v.1, p. 162) ponies died from eating salt-covered sand in Antarctica, possibly because their diets lacked this nutrient. Moreover, the ponies' greater weight (compared to dogs) meant their feet were more likely to break through the lids of crevasses, putting them (and the explorers) in greater danger. One of Shackleton's ponies, named Socks, fell into a crevasse during his attempt on the South Pole. Moving ponies from one environment to another created problems.

Despite such issues, Shackleton (1909, v.1, p. 161) wrote positively about the use of ponies as a form of polar transport. "[C]ompared with the dog, the pony is a far more efficient animal," he claimed, "one pony doing the work of at least ten dogs on the food allowance for ten dogs and travelling a longer distance in a day." When he heard Norwegian explorer Amundsen heading for Antarctica in 1910, Shackleton stated, "I cannot see how Amundsen can hope to reach the South Pole unless he has a large number of ponies on board" (Anon, 1910, p. 5).

On his final expedition, Scott followed Shackleton's lead and took 19 ponies with him. They were of Siberian rather than Manchurian stock and were purchased in Vladivostok by Meares, the expedition's chief dog handler. As discussed elsewhere, Scott's decision to use ponies has been controversial (May & Lewis, 2015). Such animals suffered greatly on their journey to Antarctica and required bulky food and a great deal of care once they arrived. Today, it is easy to see that Scott made a mistake in placing reliance on such animals. Yet, viewing his choice in the above context allows us to see that it reflected a broader British interest in the use of such animals influenced by Jackson's journeys. The decision to use these animals did not represent a rejection of Arctic knowledge in general.

Indigenous communities in the North of Russia did not traditionally use ponies, but it is also worth recognising that such animals were not Jackson's first choice. Had it been possible, he thought reindeer (as used by Nenets people) were a superior draught animal in the polar regions. In this sense, the use of ponies reflected the fact that Nenets transport methods developed in response to local conditions. Indeed, most Nenets communities migrated with their reindeer herds, moving between summer and winter pastures. The explorers, in contrast, were seeking to move towards specific geographical features. In the case of Jackson, in particular, the use of ponies as transport animals did not necessarily imply a lack of interest or reflect a lack of appreciation for Indigenous transport skills. Instead, it was largely a product of the practical difficulties of moving animals that were not fully domesticated. Scott and Shackleton's choice of these animals was a direct product of Jackson's experiences (partly conveyed through Armitage). British polar explorers' transport plans were thus shaped by the relative mobility or immobility of different Arctic transport methods.

Conclusions

This paper has developed an understanding of British polar exploration by showing the ways that Jackson drew on the knowledge of Arctic peoples. In some areas, his journeys in the Arctic in 1893 played an influential role in debates about diet, clothing, and transport in the late 19th and early 20th centuries. These relationships were cemented and expanded by the Jackson-Harmsworth Expedition. Jackson was particularly influential in three areas: showing other British explorers the importance of fresh meat; ensuring they looked to the Russian Arctic for dogs; and encouraging British Antarctic explorers to use ponies as transport animals. British Antarctic explorers drew less on Indigenous Arctic clothing, due to their reliance on man-hauling and the fact there were no polar bears in Antarctica.

Other explorers, like Amundsen, were more successful at appropriating Indigenous skills than Jackson. In part, this was because they spent considerably longer periods living with Arctic communities. Jackson's own stay at the Arctic was quite short and hampered by his poor linguistic skills. Other explorers, like Scott and Shackleton, drew on his ideas and purchased animals from Indigenous communities without learning how to use them effectively. Jackson's inability to appropriate some of the Indigenous techniques he encountered also reflected the

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difficulties of transporting them to other contexts. He found that reindeer—a key method of transport in the areas he travelled—could not easily be moved to a different environment. This problem had knock-on effects on how he used fur clothing. Amundsen, meanwhile, travelled in areas where dogs were the main means of transport. These animals were far easier to move to and use in a different environment because meat was generally available in both Antarctica and the high Arctic. Dogs could also eat other dogs.

This paper has shown the importance of recognising the diversity of Indigenous people within the Arctic when discussing their contributions to European-led expeditions. There was not one uniform set of Arctic skills that explorers could learn. The variety of techniques was a product of both cultural diversity and the varied environmental conditions that different Indigenous groups lived in. Techniques useful in one part of the Arctic might not work in another—let alone in Antarctica. Here, though, one of the problems for researchers is that explorers' prejudices often prevented them from fully or accurately describing the Indigenous communities they depended on. In drawing on such sources, even well-intentioned modern researchers who are trying to emphasise Indigenous people's contributions may end up lumping Indigenous Arctic peoples together.

We should also recognise that explorers could not appropriate everything. This is an important point, as literature that has sought to recover the relationship between Indigenous people and European-led expeditions has often focused on incidents where explorers successfully deployed Indigenous knowledge, ideas, and skills. What sometimes gets overlooked are forms of Indigenous knowledge that were less easy for outsiders to appropriate—but no less valid or important because of that. We should study explorers' failures as much as their successes.

Much of the Arctic knowledge British Antarctic explorers used was mediated through individuals like Jackson, Armitage, and Koettlitz. Consequently, the engagement of more famous British Antarctic explorers with these ideas was often indirect. Proving the influence of Indigenous ideas on other explorers is also complicated by the fragmentary archival evidence available—and by the limited ways that Jackson wrote about Indigenous communities. It is impossible to know whether Jackson's Arctic knowledge was disseminated in less formal ways, such as through conversations with other polar travellers. Explorers might also fail to acknowledge that they were drawing on Indigenous ideas, for instance, in relation to ideas about scurvy and diet. Nevertheless, it is possible to show that Indigenous knowledge probably influenced their decision-making.

Jackson's use of such knowledge shows the diversity of opinions within British exploration in the late 19th century. Indeed, it is notable that the three men most keen to adopt Indigenous techniques—Koettlitz, Armitage, and Jackson—all came from non-naval backgrounds. As this shows, British explorers did not have a monolithic attitude. Some, particularly those from outside the naval tradition, were more amenable to adopting Indigenous techniques. But, as we have seen, different views did not necessarily reflect less prejudiced views about Indigenous people.

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