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# A note on the depots of the 1897 Andrée balloon expedition

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## Research Note

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### Abstract

Recent research suggests that the members of the 1897 Andrée balloon expedition could have survived if they had marched towards the depot at Seven Islands instead of the Cape Flora depot after the forced landing at 82°56'N 29°52'E, and furthermore, that they reasonably should have done so given what they knew about the ice drift in the area. This paper comprises an analysis of the expedition's depots based on a review of original sources, and the results elucidate Andrée's initial decision to march towards Cape Flora. The Seven Island depot was not yet laid when Andrée departed in his balloon, and the information he had at the time indicated that it was highly uncertain that depot could be laid at all. Moreover, he knew it might be difficult to find the depot even if it had been laid since no exact position for it could be determined in advance. If he arrived at the Seven Islands without being able to obtain supplies there, Andrée knew he would have to continue all the way to Nordenskiöld's old hut in Mossel Bay. Cape Flora, on the other hand, was certain to offer both supplies and shelter.

## Introduction

After less than three days in the air, the Swedish engineer Salomon August Andrée, together with his companions Nils Strindberg and Knut Frænkel, made a forced landing with the hydrogen balloon *Örnen* (*The Eagle*) on 14 July 1897 deep in the Arctic pack ice northeast of Svalbard at 82°56'N 29°52'E. They had departed from Danes Island in the northwest part of the Svalbard archipelago hoping to reach the North Pole and continue over to the other side of the Arctic where they could land safely in Alaska, Canada, or Russia (Andrée, 1895). However, hydrogen leakage from the balloon forced them to abort their journey before having covered even a third of the straight-line distance to the pole (Andrée, Strindberg, & Frænkel, 1930). All three expedition members eventually perished on the desolate White Island east of Svalbard during their failed attempt to return to civilisation.

From the recovered Andrée diaries, reviewed in the very first issue of *Polar Record* (Wordie, 1931), it became clear that Andrée, Strindberg, and Frænkel had spent a week on the landing site organising their supplies and equipment before they began a march towards a depot at Cape Flora in the southern part of the Franz Josef Land archipelago. After two weeks, they realised that they could not overcome the westerly ice drift they experienced, so they changed course and began marching towards their other depot at the Seven Islands, in the northern Svalbard. However, the speed they were able to maintain with their heavy-laden sledges was insufficient, and when the ice they were travelling on began to break up and drift south, they eventually ended up on White Island in early October 1897. Their last camp with their remains was not found until 1930.

The dramatic aspects of the Andrée expedition—the balloon journey, the march over the ice, and the reasons why all expedition members died after only a few days on White Island—have been thoroughly analysed in the literature. On the other hand, the prelude to the expedition, its supporting structure, and the aftermath have been dissected by scholars to a far less extent. There are two obvious reasons for that. First, the central drama, and therefore the main public interest, naturally focused what happened to Andrée and his men after they disappeared in the balloon. Second, the fact that most of the primary sources are in Swedish makes it cumbersome for much of the polar history community to scrutinise the material. Important details are therefore sometimes lost in contemporary studies of the Andrée expedition when secondary material, sometimes already interpreted in several stages, forms the basis for analysis. Hence, increased focus on original sources may help us create a deeper understanding of some aspects of the expedition.

This note aims to shed light on Andrée's initial choice to march towards Cape Flora after the landing at 82°56'N 29°52'E. Recent research shows that the expedition members could have survived if they had marched directly towards their depot at Seven Islands to take advantage of the southwesterly ice drift in the area, and that Andrée himself was aware of this ice drift (Lantz, 2018). So, why did they choose to march towards Cape Flora instead of the Seven Islands, even though they knew it would be very difficult to overcome the ice drift? The

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recovered diaries reveal absolutely nothing on the topic, but several possible reasons have been put forward as speculations or suggestions in the literature. These include a larger depot at Cape Flora, the fact that Nansen had shown that it was possible to survive a winter in the Frans Josef Land archipelago, the scientific value of the less explored area there, ignorance about the ice drift, sheer hubris, or even a prolonged suicide (Andrée et al., 1930; Lantz, 2018).

As this paper will show, a crucial reason for Andrée to choose Cape Flora as his initial target was probably the fact that the Seven Island depot was not yet laid when he departed in his balloon 11 July 1897, and that the information he had regarding the ice conditions at the time indicated that it was highly uncertain if the depot could be laid at all. Furthermore, Andrée knew it might be difficult to find the depot even if it had been laid since no exact position for it could be determined in advance. Hence, even if he was able to reach the Seven Islands, it was very likely that he would have had to continue another 130 km to Mossel Bay to obtain supplies. Cape Flora, on the other hand, was certain to offer supplies in larger quantities and shelter of a better quality than he could ever hope for at the Seven Islands depot. The core problem, of course, was that they needed to get there.

### The depot at Cape Flora

The location of the Cape Flora depot at 79°57'N 50°05'E in the southwest of Northbrook Island was well known, because the British explorer Frederick Jackson had already been based there for several years in prefabricated huts during his Jackson-Harmsworth Expedition 1894–97 when Franz Josef Land was surveyed (Brice, 1896; Jackson, 1899). Furthermore, British yachtsman and explorer Leigh Smith had previously spent a winter there in a makeshift hut after his barquentine *Eira* was shipwrecked in 1881 (Capelotti, 2013; Credland, 1980). Earlier in the same year, Smith had also erected a storehouse with supplies at Bell Island about 20 miles west of Cape Flora (Capelotti, 2013). In other words, Cape Flora was a relatively safe place known to feature a solid infrastructure for someone who needed to spend the winter of 1897–98 in the area.

To lay his depot at Cape Flora, Andrée took advantage of Frederick Jackson's steamer *Windward* that was scheduled to voyage there during the summer of 1897 to extract Jackson and his crew. When *Windward* left London on 10 June, it carried all the supplies intended for Andrée's depot, including a folding boat (To Bring Jackson Back, 1897). The ship arrived at Cape Flora on 22 July, that is, the very same day Andrée began his march over the ice towards that destination. The goods sent by Andrée and intended for the depot comprised eighteen packages along with the canvas boat and a cask of paraffine, but in addition, Jackson left in his camp large quantities of various supplies from his own expedition, including food, fuel, a rifle with ammunition, tobacco, and whiskey (Jackson, 1899). Jackson intended these supplies primarily for Andrée, but also thought that they might be useful for castaways or other explorers in distress. Everything was stored safely inside the various huts in the camp.

When Jackson left Cape Flora in the *Windward* on 6 August, he was planning to survey the seas northwest of Franz Josef Land, with the particular aim to empirically reject a hypothesis about the existence of land—Giles Land—at about 81°30'N 36°E that German geographer August Petermann (1872) had put forward. On 8 August, Jackson had been able to manoeuvre to a point about 10 miles off the supposed coast, where he met impenetrable ice.

Hence, he could not definitively dismiss the idea of land slightly farther north, but the soundings he made gave no indication of nearby land (Jackson, 1899). On that very day, the distance between the *Windward* and the members of the Andrée expedition on the ice farther north was probably less than 30 miles. Of course, neither party knew that.

### The depot at the Seven Islands

The depot at the Seven Islands was laid by the small steamer *Express*. German journalist Theodore Lerner led a small party of fellow Germans (Lenz, Violet, and Meisenbach) who had chartered the *Express* for a hunting excursion in the northern Svalbard during the summer 1897. The details of the excursion, which includes the depot journey to the Seven Islands, were published by Meisenbach (1898). This section of the paper relies largely on Meisenbach's account, which seems to never have been published in English.

The *Express* was not initially scheduled to be involved in the Andrée expedition logistics, but when the ship arrived at Andrée's base at Danes Island in late June 1897, Andrée asked the Germans to lay down a depot of supplies for him at the Seven Islands. Meisenbach responded that they would do all they could to fulfill his wish but emphasised that the current ice conditions made a journey to the Seven Islands impossible. Meisenbach was knowledgeable, because the Germans had already failed twice to even reach the small island Mofsen, located in the northern part of Svalbard about one degree of latitude south of the Seven Islands. The *Express* was certainly no icebreaker. On the contrary, Meisenbach (1898:128) described his first experience of the ship as “a nutshell that did not seem very trustworthy”.

The *Express* left Danes Island for a hunting trip on 3 July and did not return until 17 July, only to discover that Andrée had departed in his balloon almost a week earlier. Most of Andrée's crew had already gone back home, but there was a letter left for the Germans requesting they transport the prepared supplies to the Seven Islands and lay down the depot. The depot should be deposited “as far north as possible” (Andrée et al., 1930:74). For this purpose, they departed in the *Express* a few days later. They reached Walden Island, the southernmost part of the Seven Islands, on the morning of 23 July, only to find landing impossible because of the ice. They tried to push farther north to the west of the islands and managed to do so even though there was plenty of drift ice. At half past seven the same evening, they were finally able to reach the western side of Ross Island, the northernmost island in the Seven Islands archipelago.

The depot laying commenced immediately after arrival. The supplies to be cached consisted of one drum of petroleum and several heavy boxes with food. It was hard work to relay all the supplies over the steep cliffs to a sheltered place on the western part of Ross Island, but the depot was finally laid and secured around midnight. It was marked with two signal rods planted to be visible from the north, and the path from the rods to the depot was indicated with red paint on the ground. After taking a couple of photographs, the Germans left Ross Island without further delay in the *Express* to continue their hunting excursion.

### Other depots

Two other depots had been secured for Andrée. First, a large cache of supplies, primarily tinned food and ammunition, had been left at the base at Danes Island, safely stored in the nearby “Pike's house”

(Andrée et al., 1930). Second, Nordenskiöld's 1872–73 hut at Mossel Bay was visited by the Germans in the *Express*, at Andrée's request, in order to assess the existing supply of food there. The hut itself was in acceptable condition, and 25 barrels of food (primarily flour, biscuits, and grain) in good condition were found inside the hut, which the Germans reported back to Andrée when they returned to Danes Island on 1 July (Meisenbach, 1898).

## Discussion

During the week Andrée and his men spent on the ice after the forced landing with the balloon, they had time to thoroughly consider their position. They had brought the most recent map of the area available (Bartholomew, 1897), on which the distance to Cape Flora seemed only somewhat longer than the distance to the Seven Islands. There were no other realistic alternatives.

We know for a fact that they chose to go towards Cape Flora, but we do not know the rationale behind that choice. Their recovered diaries reveal nothing on the issue. Was it because they saw it as the obvious option? At least Andrée himself seemed to think so. On 31 July, when they had been on the march for about a week and a half, Andrée wrote in his diary (Andrée et al., 1930, p. 403) that they “were going to continue east for some time, as long as it made at least some sense”, even though they had already discovered that the ice in the area seemed to drift westwards faster than they could march eastwards on it. Hence, at that point, they must have been really committed to Cape Flora as their goal. But was it because they had actively preferred Cape Flora, or was it because they had actively rejected the Seven Islands?

On the surface, it may seem that Cape Flora simply was the better option in comparison. In terms of straight-line distance, Cape Flora was somewhat farther away than the Seven Islands, but it was a known location where Andrée could be certain to find supplies as well as solid huts to see them through the polar winter. In addition, he knew they would find land *en route* to Cape Flora, when they reached the western shores of Franz Josef Land. Andrée also knew that the depot at Cape Flora would be much larger than the planned depot on the Seven Islands. In fact, there were even more supplies available at Cape Flora than Andrée was expecting because Frederick Jackson had left his surplus there. Yet another aspect that may have spoken in favour of Cape Flora is the fact that the enigmatic Giles Land was implied on their map close to the straight line between their point of departure on the ice and Cape Flora. By marching that way, they might have hoped to empirically solve the long-time mystery of that place.

However, an important, perhaps even decisive, aspect may have been the fact that Andrée knew it was doubtful that the Seven Island depot had been laid at all. The Germans in the *Express* had already reported difficult ice conditions in the northern Svalbard seas, and they, as tourists rather than fellow explorers, could not be expected to risk their ship and their lives in an attempt to lay a depot that, from their perspective, probably would be wasted anyway. Furthermore, during the balloon journey, Andrée himself observed plenty of sea ice a good distance south of the latitude where the Seven Islands were located that would be difficult for a ship such as the *Express* to cope with. The ice

is also clearly visible in the photographs taken from the balloon by Strindberg.

Moreover, even if the Seven Islands depot had been laid, Andrée could not at all be certain to find it. The Germans had been requested to lay it as far north as possible and to plant signal rods that would be visible from the north to attract attention. But as the name implies, the Seven Islands archipelago consists of seven islands, of which three are relatively large, and several islets and skerries in addition. If the depot had been laid so that Andrée could not spot it as he approached, it would be difficult for him to know where to look for it.

Finally, there was no known solid shelter at the Seven Islands, merely an unlikely depot in an uncertain location. Hence, even if Andrée would succeed in marching over the ice to the Seven Islands, he would most likely be forced to continue all the way to Nordenskiöld's hut in Mossel Bay—a fact that his diary notes show that he was aware of. On 29 August, when they had marched towards the Seven Islands for a few weeks, after finally giving up the hope of reaching Cape Flora, Andrée wrote in his diary (Andrée et al., 1930, p. 431) that “a late autumn journey towards Mossel Bay would probably be required”.

To conclude, it seems likely that Andrée initially rejected the Seven Islands, leaving him with a march towards Cape Flora as his only option, rather than actively choosing Cape Flora as one of two viable alternatives. When he finally realised, after a couple of weeks on the march, that it was impossible to overcome the westerly ice drift, Seven Islands became his only option even though he hardly expected to find anything there. Nevertheless, as Lantz (2018) has shown, Andrée's understanding of the ice drift in the area should have made him aware that it would most likely be impossible to march eastwards, and hence, that the Seven Islands, in fact, was the only feasible option in the first place.

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