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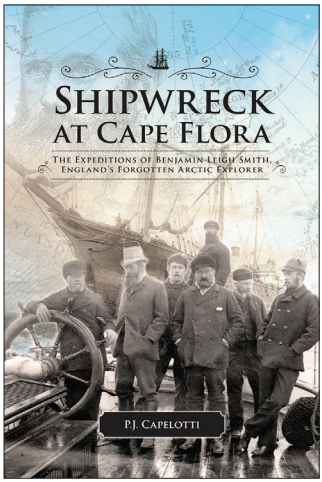

SHIPWRECK AT CAPE FLORA:
THE EXPEDITIONS OF BENJAMIN LEIGH SMITH, ENGLAND'S FORGOTTEN ARCTIC EXPLORER
P.J. Capelotti

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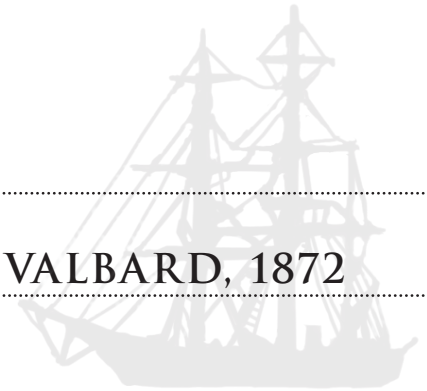
3

EXPEDITION TWO: JAN MAYEN AND SVALBARD, 1872



General Ludlow recorded Leigh Smith's homecoming comments, dramatically relating that the expedition had been surrounded by ice and casually adding that they had gotten out "all right."[1] Leigh Smith must have gone into greater detail during another visit about a month later, as the General recorded that the expedition had killed numerous polar bear, reindeer and seals. Still one more month on, in late November, a letter arrived from Barbara saying that "she was busy making drawings of the *North Pole* from Ben's sketches."[2]

The good feelings were marred somewhat by a snipe in the pages of the literary magazine *Athenæum* just before Christmas. The General writes in his diary that the journal indicated that Leigh Smith had reached lat. 81°13′ N "the highest lat. as yet observed on board ship." The anonymous *Athenæum* writer continued: "We would however like to see this confirmed as whalermen and merchant captains generally are not altogether very particular about the accuracy of those observations."[3]

It was a bitter first taste of the life of a public figure, and forever afterwards Leigh Smith was determined to avoid it altogether. As for his extended family, he presented them with haunches of reindeer meat for their New Year's celebrations, and reindeer and polar bear and seal skins to warm them throughout the Sussex winter. The General appreciated the gifts, but in a fair caution hoped that what he called Leigh Smith's "hobby" would not carry him "too far, i.e. into risks that may be fatal."[4]

By the spring of 1872, Benjamin Leigh Smith was forty-four years old and had an exemplary private expedition to the Arctic behind him. He was determined to lead a second exploring expedition to the Arctic in the

summer of 1872, in part to continue to restore British credibility in Arctic exploration. As his 1873 expedition companion H. C. Chermside writes, with Leigh Smith's 1871 expedition to Svalbard, "the old [British] zeal … for Arctic discovery has been maintained by the private enterprise of English yachtsmen."[5] This echoed contemporary feeling, as expressed in a newspaper article anticipating Leigh Smith's return from the Arctic in September 1872, wherein the writer remarks "that if no public expedition of great pretensions is being carried on here, at least the enterprise of one Englishman is on the alert."[6]

More importantly, he sought to further the impressive oceanographic and geographic research of his first expedition in the summer of 1871. Much of this work, such as the bathymetric survey of Vestfjorden or the addition of thirty-three new place names to the maps of Nordaustlandet or the defining of the eastern limits of Svalbard, was largely straightforward and non-controversial.

His startling and counterintuitive recordings of deep-sea temperatures from 1871, however, had led Leigh Smith into something of a scientific controversy. These data suggested a variance of as much as 9° F between surface water temperatures and warmer currents 400 fathoms below the surface, "a fact so extraordinary," according to his 1872 scientific companion, a Royal Navy captain by the name of John C. Wells, "as to lead scientific men to assume that this, our assertion, is so contrary to the laws laid down by modern savans [*sic*], that they do not declare that the statement we made was impossible to be received."[7] It was primarily for this reason – a search for new data to support the radical 1871 observations – that Leigh Smith determined to sail *Sampson* once again into the Arctic.

Leigh Smith had encountered other, more applied, problems during the 1871 cruise. Only two of his all-Norwegian crew spoke any English and Leigh Smith's journal evinces no desire on his part to learn Norwegian, even as he clearly admired Norwegian women. Wells put the crew selection down to a "mistaken theory," an apparent belief that Norwegian whalers and sealers alone possessed the requisite knowledge to get a sailing vessel safely into and out of the Arctic. This, Wells writes, was a mistake, especially when *Sampson* encountered ice-free water north of Svalbard in 1871 and had a chance to reach the Open Polar Ocean he and many others believed lay just beyond the edge of the polar pack ice. But

"the superstitious fears of these curious people overcame every attempt to prosecute a voyage so well begun, and our friend [Leigh Smith] was most reluctantly compelled to relinquish an opportunity of sailing into the sea whose very existence is denied by some…."[8]

In this, however, Wells was in error, and not only because Leigh Smith would have discovered no great polynia had he been able to sail farther north. On the day of his farthest north, it was already September 11th, and Leigh Smith himself recorded in his journal that the seas at the edge of the polar pack ice were building dangerously. Fortunately for all on board, *Sampson* did not sail any further north where she would have been trapped and forced into an overwintering for which neither the ship nor anyone on board was prepared. Leigh Smith had already avoided a similar fate earlier in the expedition, when *Sampson* rounded Nordaustlandet near Kapp Leigh Smith, and he wisely decided against attempting a circumnavigation of the entire archipelago fearing the ship would be frozen in for the winter.

As for the possibility of an open water polynia near the pole, it seems incredible that Wells still clung to this notion as late as the 1870s. The British antiquary Daines Barrington had suggested in the 1770s that a polar sea free of ice existed just beyond the ice barrier north of Spitsbergen, and numerous nineteenth-century naval expeditions paid a heavy price testing its possibilities. Elisha Kent Kane had given the idea perhaps its biggest boost in the 1850s. Yet, as Clive Holland has written, "in matters concerning the North Pole, and especially the 'Open Polar Sea' beyond it, the ability of otherwise rational men to delude themselves was remarkable."[9]

The other problems with the Norwegians that had presented themselves when *Sampson* returned to Tromsø made Leigh Smith determined to avoid similar cultural confrontations in 1872. He thought this could be achieved by signing on sailors from Hull, supplemented by sea-hunters from the Shetland Islands. According to Wells, he himself was given only two days to answer Leigh Smith's invitation to join him in the Arctic to collect the summer's plan of oceanographic data in the form of soundings, dredging, ocean temperature readings, and measurements of currents, which suggests that he may not have been the first choice for the assignment. Yet he took to it with enthusiasm, and echoed Chermside's

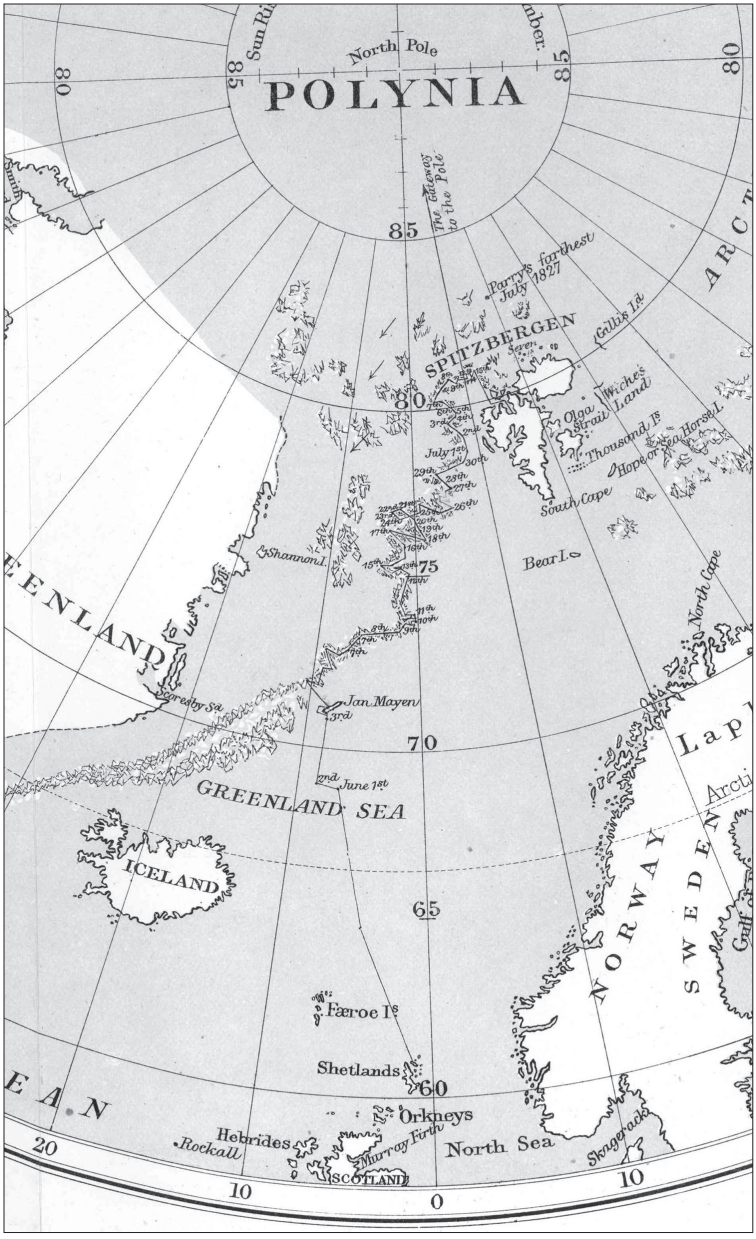


Fig. 17. Chart of Leigh Smith's progress from England to Jan Mayen along the edge of the polar ice to Svalbard (from Wells 1873).

lament about the state of official British polar exploration. "For many years past the English Government has relaxed its efforts, and the lead is being taken by other nations, such as the Germans, Swedes, Norwegians, Russians, and Americans."[10]

Leigh Smith's plan for 1872 was to first explore Jan Mayen, the island Lord Dufferin had only briefly touched on, and then sail back to Svalbard. But the luck that had followed him in 1871 was nowhere to be found in 1872. While he managed to conduct a memorable reconnaissance of Moffen Island and his crew caught far more seals than in 1871, unfavorable ice conditions first altered his course and then damaged *Sampson* so badly it was beached for repairs at Wijdeforden and almost wrecked.

The summer of 1872 would be partially redeemed by a brief meeting with the great Swedish explorer Adolf Erik Nordenskiöld, during which a bond was formed between the two men with fortuitous benefits for Nordenskiöld's Swedish Polar Expedition the following year as it struggled to escape the north coast of Svalbard. But in the end Leigh Smith was forced to make for England in September, without sailing nearly as far to the north or east as during his first Arctic expedition. These developments would eventually lead him to reconsider his use of a sailing ship as his primary exploration vessel in the Arctic.

For Wells, his main scientific task was clearly the deep-sea oceanographic research Leigh Smith required to support his surprising data from 1871. The strategy was to replicate the 1871 cruise a closely as possible, with *Sampson* attempting to sail further north toward the pole before retreating south and east around Kapp Leigh Smith and then the whole of Svalbard. But as he had learned during his first cruise, Leigh Smith knew that no Arctic expedition could adhere to any strict timetable. This approach, one that seemingly made a virtue of necessity, nevertheless eluded most of the expeditions that voyaged into the Arctic in the nineteenth century, including the one Leigh Smith would meet north of Svalbard in 1872.

The expedition left Hull on May 13th and ran directly into north winds that forced *Sampson* to shelter at Edinburgh for a day. The heavy seas delayed the expedition's arrival at Lerwick in the Shetland Islands until May 26th, where "somewhat old" charts forced the vessel to scrape her way through the narrow, rocky north entrance.[11] While the ship was

re-supplied and more crew members added, Leigh Smith and Wells hiked seven miles in a driving rain to locate the ruins of the then-275-year-old castle of Patrick Stewart at Scalloway.

Lerwick seemed a busy place to Wells. As *Sampson* readied her departure, two hundred locals were in the process of emigrating to North America. The carpenter and four additional sailors from the Shetlands brought the total expedition to seventeen, and Wells noted the "formidable array of whaling and sealing weapons" they would use to fill the forty-ton water tanks on board with seal and whale blubber for the return trip.[12]

On May 28th, *Sampson* again put to sea and, accompanied by occasional numbers of fin and bottle-nose whales, made for Jan Mayen. Leigh Smith seemed determined to avoid the main cause of the 'revolt' of his Norwegians in 1871, namely the failure to secure any real profit from the voyage. Wells noted that the crew busied itself with overhauling the whale boats, sturdy vessels constructed of pine and sheathed in zinc to protect them from contact with the ice floes *Sampson* would be working around. He watched them stow four whale lines of 960 yards apiece in each boat, followed by lances and harpoons with fixed handles (for whaling) and detaching handles (for seals and walrus). At the bows were swivel guns for throwing a ten-pound harpoon twenty yards.

On June 3rd, *Sampson* anchored off Maria Muschbukta on the northwest coast of Jan Mayen.[13] Leigh Smith and one sailor went ashore to explore the area around the bay, the first British explorer to set foot on the island since William Scoresby, Jr., in August of 1817. Wells and another sailor ascended the ridge a mile north of the bay, gathering botanical specimens along the way.

Wells sought to reach the eastern slopes of the island, but the rough going over snow-covered volcanic scoria and cinders made that impossible. He returned to the beach via the Nordlaguna, which was still ice-covered, and joined Leigh Smith in throwing stones at bird colonies nesting in a "pyramidal rock [that] shot up into the air about 1,200 feet above us," a reference to the appropriately described Fugleberget near Nordlaguna.[14] The temperature of both air and water hovered around 32° F.

On the beach was a treasure-trove of flotsam and jetsam: glass floats from Norwegian herring fishermen; Siberian driftwood; masts of merchant ships; remnants of whale-boats "everywhere lie shattered on these

sands."[15] Like Scoresby, Wells noted the *teredo*-infested wood and concluded that it had drifted across the Arctic from some northern coastline where warmer climate and water temperatures allowed for the existence of the wood-boring mollusks.[16] These early indications of the Trans-Polar Drift Wells identified simply as "some ocean current."[17] The sailors gathered some of this wood in order to make coffee early the next morning and then, not wishing to be caught on this exposed shore by a storm, were off quickly, the coffee and other supplies brought ashore testifying to Leigh Smith's preparations for such a possibility.

When they awoke five hours later, June 4th the bay was still calm, so Wells and Leigh Smith were again rowed ashore by two sailors.[18] Leaving the sailors to watch the small boat, Leigh Smith and Wells ascended the ridge once again until they could see the ocean to the south, as well as "two craters marked upon the chart."[19]

Seeing Beerenberg (Mount Beerenburg) free of clouds, they ascended a part of the way to the top of the world's northernmost active volcano. From this vantage they "were rewarded by the discovery of a hitherto unnoticed crater, whose position we carefully noted."[20]

After ten hours, they returned to the small boat and then to the ship, where they reluctantly decided that the lack of a suitable anchorage at Jan Mayen precluded a closer survey of the island. *Sampson* was soon beating her way north and west and within a few hours had reached the edge of the polar ice. Trending north-northeast along the edge of the pack, the hunting began in earnest. As Wells occupied a series of ocean stations, the Shetlanders killed and processed two whales and 250 seals, a vast increase over *Sampson*'s 1871 haul around Svalbard. It was enough, apparently, to satisfy the crew, who would receive half-a-crown for every ton of oil they returned to Hull.[21]

For a week after the exploration of Jan Mayen, *Sampson* edged in and out of the polar pack while the Shetlanders slaughtered everything within reach of their harpoons. Then, Wells writes, it was time "to return again to the somewhat dry demands of scientific inquiry."[22] Sailing northeast from Jan Mayen to Northwest Spitsbergen, Wells occupied fourteen ocean stations, twice the number from 1871. Most of these soundings were taken between 100 and 200 fathoms and, like those of 1871, showed a slight but definite increase in the temperature of the ocean from the surface to

depth. In addition to the single station, single observation stations, Wells on June 18th adopted a technique of recording temperatures at several depths at one station. This produced a result, over four of six such stations, of a steady increase in ocean temperatures from the surface to the maximum depth, including the final station on July 12th that showed the extraordinary (and almost certainly false) temperature reading of 64° F at 600 fathoms off Amsterdamøya. But the anomaly only served to emphasize the pattern: deep-ocean temperatures around Svalbard were warmer that the temperatures at the surface. Warmer waters were flowing into the area and affecting everything in their course, from the weather to the ice.

The first station, made 170 nautical miles from the polar pack, was no doubt a test of the surveying gear, as no further stations were made for two weeks. When the sampling commenced in earnest, *Sampson* was cruising at the edge of the pack ice. As *Sampson* maneuvered into the ice, searching for a lead to the north, Wells had varying levels of success in his data collection. His notes from June 15th, that he only "had time to sound in 50 fathoms,"[23] offer a glimpse into the logistical challenge of deploying a single sampling wire from a sailing vessel surrounded by large floe ice.

On June 18th, Wells recorded the largest temperature difference yet, when the thermometer recorded 33° F at the surface compared to 48° F at 200 fathoms. On the 20th, he began to record his temperatures from beneath the lower surface of the ice (six fathoms down) and again the results were the same: colder surface waters supplanted by increasingly warmer waters at depth. On July 7th, Wells dredged up an unusual species of starfish which he used to suggest that the warm waters were not of volcanic origin, a natural supposition given *Sampson*'s cruising area near the volcanoes of Iceland and Jan Mayen.

By July 10th, with the crew "required elsewhere," Wells was forced to end the soundings.[24] He and Leigh Smith made one final sounding, the anomalous data of July 12th. As for this almost absurdly high reading, Wells himself writes that it was "remarkable."[25] But they did everything they could to discount instrumentation error. He writes that Leigh Smith himself "carefully registered" this station, checking the thermometer both before and after it was deployed overboard.[26] Leigh Smith, apparently aware that this particular reading would raise eyebrows, had the

1872.	Station.	Lat.	Long.	Depths in fathoms	Temperature.			
					Air.	Surface.	Min.	Max.
June								
1.	1.	68° 52′ N.	6° 40′ W.	600	42°	37½°	30°	37½°
13.	2.	75 6 N.	2 30 W.	100	36	31	28	35
15.	3.	75 7 N.	3 48 W.	100	36	32	28	35
				50	..	31	29½	32½
17.	4.	76 13 N.	2 22 W.	100	34	31	29½	34
18.	5.	76 3 N.	0 10 E.	150	35	33	30½	40
				200	..	33	30½	48
19.	6.	76 21 N.	1 5 E.	150	35	32	30½	32
				250	..	32	30½	39½
20.	7.	76 35 N.	0 3 W.	6	34	33	30	33
				25	..	33	30	35
				150	..	33	30	39½
22.	8.	76 41 N.	2 10 W.	150	35	32	29½	39½
27.	9.	77 18 N.	5 0 E.	25	37	34½	32	34½
				250	..	34½	32	39
July								
1.	10.	78 20 N.	7 2 E.	6	36	36	33	36
			,,	600	..	36	33½	36½
6.	11.	79 54 N.	6 34 E.	6	35	34½	33	34½
				12	..	34½	33	35
				25	..	34½	33	37
				50	..	34½	33	37
				200	..	34½	33	40
				Bottom				
7.	12.	80 4 N.	5 12 E.	600	37	34½	31½	39
10.	13.	80 23 N.	9 0 E.	12	35	31	28	31
				50	..	31	28	31½
				Bottom				
12.	14.	80 32 N.	9 50 E.	600	36	31	28½	64

Fig. 18. Chart of ocean stations conducted by Sampson in 1872 (from Wells 1873).

thermometer checked after the cruise by its designer, L. P. Casella, who found it working properly.

Earlier in the year, Leigh Smith had given a similar set of deep-ocean sounding instruments to the Scottish whaler David Gray (1827–1896), captain of the Peterhead steam whaler *Eclipse*. It is a mark both of Leigh Smith's generosity and his scientific objectivity that he was willing to subsidize the collection of an independent series of ocean stations in the Arctic. Between April 13th and July 3rd 1872, *Eclipse* made nine stops to record oceanographic data using Leigh Smith's donated equipment. Wells added these to the fourteen made by *Sampson* for a total of twenty-three ocean stations recorded by the two vessels in 1872. Most of the *Eclipse* soundings were made between 200 and 400 fathoms, on a northeasterly line running from Greenland to Norway.

Grey's recordings on *Eclipse*, made when the vessel was as much as 90 nautical miles inside the ice pack, showed the same trend as those recorded by Wells from *Sampson*. Deep-sea temperatures were higher than those at the surface. It was increasingly evident that a complex warm ocean current was at work in the high Arctic. Wells himself could not identify the source of this current, though he was mistakenly convinced that it was not a northern extremity of the Gulf Stream. In fact, it is exactly that, and now known as the North Atlantic Current or, at even more northerly latitudes, the North Atlantic Drift.

As the title of his book, *The Gateway to the Polynia*, suggests, Wells thought it more than likely that there was a "stream of warm water coming from the north" that originated at or near the North Pole.[27] Combined with Leigh Smith's 1871 observations of open water east of Nordaustlandet and north of Rossøya in Svalbard, as well as his ocean stations south of Svalbard – with their suggestion of potential inversion layers of warmer polar waters – Wells clearly supported Petermann's notion that the polar pack might surround an open sea at the pole.

If he was incorrect regarding the source of Leigh Smith's warm deep-sea current, Wells was correct in assuming that further research would have several advantages. Not the least of these was a greater understanding of how ocean currents influenced the weather of northern Europe and more generally throughout the northern hemisphere. The specific research technique he suggested, that of an expedition of circumpolar navigation

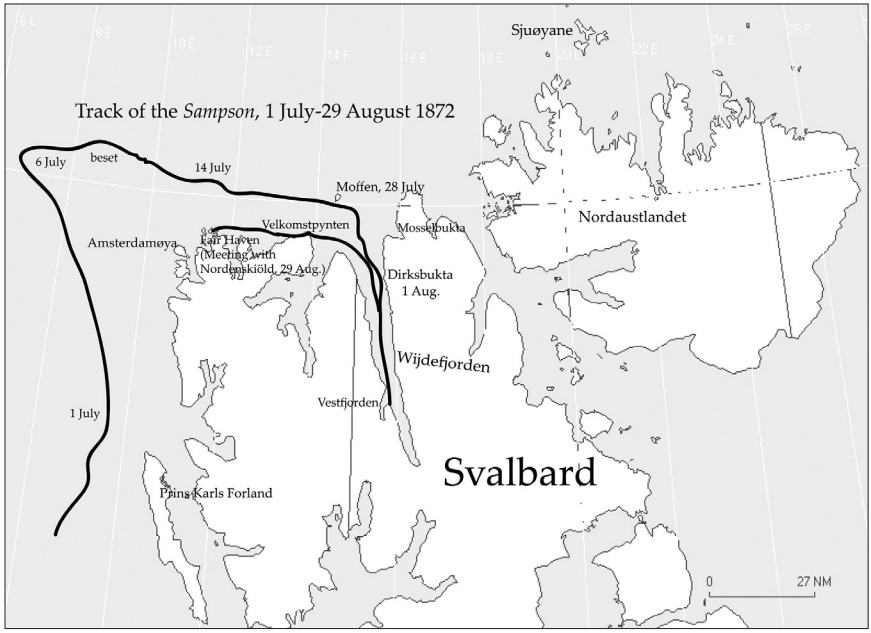


Fig. 19. Track of the Sampson, *July 1–Aug. 29, 1872.*

that would collect not only depth soundings but also dredge up marine organisms from the bottom of the Arctic Sea, was soon to be taken up by Leigh Smith in Franz Josef Land and by Fridtjof Nansen in the polar basin itself.

For almost a month, from June 23rd to July 17th, *Sampson* probed the edge of the ice field. The ship was beset twice, the first time for three days beginning on June 23rd at lat. 76°42′ N. Approaching Prins Karls Forland on July 1st, a heavy collision with submerged ice carried away the ship's false keel. On the 6th they were beset again at lat. 80°18′ N and for five days carried north with the ice to lat. 80°30′ N. The harpooners often went ahead of the ship and shifted the ice aside manually, a technique Wells admired but thought best handled by a proper steam vessel. When the wind shifted around to the west and a lane of open water appeared, the expedition could finally break out to the north and east.

If the ice conditions permitted it, Leigh Smith hoped to stop at the circular, lagoon-centered Moffen Island. From there he would seek out the Swedish expedition under Adolf Nordenskiöld, which was thought to be constructing an advance base somewhere in the Sjuøyane for an expedition to the pole the following spring. Wells was convinced that had *Sampson* possessed steam-power the previous year, when it sailed to lat. 81°25′00″ N, she could have punched through to the open sea he thought lay just beyond the ring of pack ice. But the lack of steam and "the superstitious fears of the Norwegian captain and crew" had prevented what 1872's "English crew … without the least fear of failure" would certainly achieve.[28]

Sighting Moffen on the 28th, one of the small boats was lowered. The crew rowed ashore only with great difficulty, as the low-lying island was twice lost to their line of sight, causing detours of eight nautical miles amongst the scattered ice floes. The charts were not helpful either. The single break in the lagoon that was shown on Wells's chart on the northern side of the circular island they found instead on its western edge. In the meantime the fog lifted and *Sampson* called back the shore party so the sea-hunt could continue.

After a few days of chasing walrus, Wells and Leigh Smith returned to Moffen, this time to its eastern edge, where Wells claims that they collected specimens of Terek sandpipers (*Xena cinerea*), and then stepped across and around a tremendous slaughterhouse of walrus remains from previous hunting expeditions.[29]

Wells writes that they then spied an enormous skull of a whale, partially embedded in the shingle and far away from the water's edge. As they approached they saw that it was in fact an entire skeleton, with the other bones gradually disappearing into the shingle and flotsam and jetsam that wind, current, and ice had accumulated along the lagoon's berm. The fact that the skeleton was intact would suggest that this was the skeleton of animal that might have beached and died on the island naturally and had then been raised along with the surrounding shingle as a result of glacio-isostatic uplift, rather than an animal killed and hacked to pieces by whalers.[30]

A sketch of the whale in Wells's account gives fantastic dimensions to the skeleton and steep, volcanic crater-like slopes to the island itself.

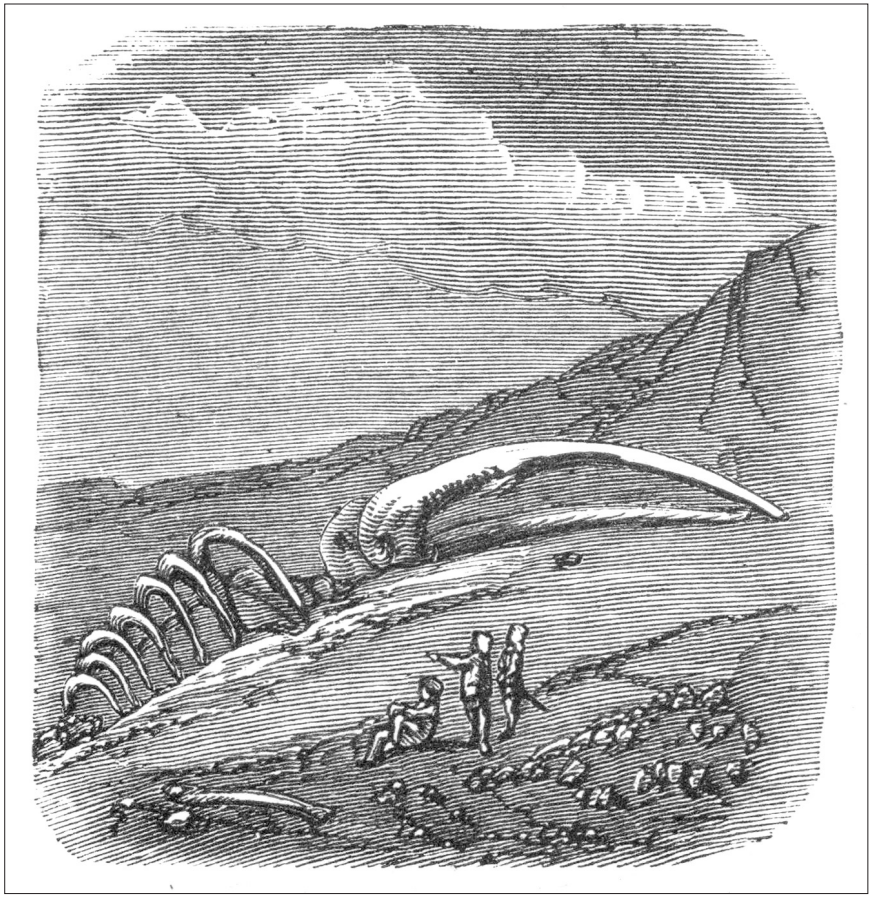


Fig. 20. The Moffen Island whale skeleton (from Wells 1873).

As they closely examined it, Wells and Leigh Smith saw that the skull was covered with inscriptions "recording the many visits to the spot by Norwegian and other whalers."[31] These notations would almost certainly have included the names of these vessels and the years of their visits to the island.

Such an artifact constituted a unique glimpse into the archaeology of sea-mammal hunting around Svalbard in general and into the natural and human history of the unique and now-protected micro-environment

of Moffen itself. It recalls Melville's description of a large whale skeleton used as a temple on the fictional island of Tranque (Melville also knew his Scoresby, and referenced his measurements of Greenland whales and even the "Leviathanic Museum … in Hull, England [now the Hull Maritime Museum]," the English port from which *Sampson* sailed.)[32]

Unfortunately, Wells, who earlier used four pages to describe a fly in his cabin, expends less than a paragraph on this extraordinary palimpsest. Or, as Melville exhorted all who might encounter such an all-encompassing creature, "to magnify him in an archæological, fossiliferous, and antediluvian point of view."[33] Wells did not record the names or arrival dates of a single vessel carved into the whalebone. Perhaps because of its size and the challenge of excavating the stony shingle of Moffen Island, Leigh Smith did not see any simple way to recover it as he did with so many other fossil specimens on his five Arctic expeditions. No such artifact has been recorded in the extensive scrimshaw collections of the maritime museum in Hull.[34] Even though such bones (especially the jaws, which were used as archways throughout the British Isles) had been a staple return of the Hull fisheries, by 1872 the industry had been in decline for some time.[35] Leigh Smith did bring a complete whale jaw back to East Sussex, where it eventually became the entryway to the tennis courts at his family home at Scalands and where it still stands today.

Leaving Moffen to continue their pursuit of walrus, *Sampson* was again pinned down by ice and her keel further damaged. After several failed attempts at sea to remove the broken timber, the vessel began to take on water. When *Sampson* pulled alongside a vessel that Wells identified as the whaler *Norsel Jack* out of Tromsø, its skipper advised Leigh Smith to run to Gray Hook (Gråhuken) and beach the ship for repairs in Wijdeforden. It was a place Leigh Smith knew well from the previous summer. It was where *Sampson* had paused in the fjord so the crew could find fresh meat and water and Leigh Smith could survey the area before the return journey to Norway.

Reaching Wijdefjorden on August 1st, 1872, with *Sampson*'s pumps working overtime, the ship stopped briefly in Dirksbukta,[36] a small bay now long closed off by sanding up and called Dirk's Point (Dirksodden), before anchoring off an uncharted island that Wells gave the unfortunate name of Gilles Island. One would have thought that Leigh Smith would

have warned him away from any such confusion or connection with the long-sought Commander Giles Land.

While the crew rowed ashore in search of a suitable area to beach the ship, Wells and Leigh Smith explored the surrounding area. Wells was alternately enthralled by "this charming coast-scene" and depressed by the "vast mountain sides … destitute of green places [and the] melancholy and solitary plains."[37] As with other expeditions on the verge of collapse, the bleak surroundings combined with their inability to keep their ship afloat led the men to begin "to inquire with ourselves into the enigma of human existence."[38] Freed from the comforts as well as the constraints of civilization, Wells writes that their "health was at its best: we breathed more freely; we enjoyed everything."[39]

On the third day in Wijdefjorden, *Sampson* was brought close ashore on a high tide and then beached. But even then the source of the leak could not be located. Sealskin coated with tar and oakum was nailed over the likeliest spot, and the ship shoved back into the icy fjord.

By August 7th, with the ship stuck in the northward-drifting ice, Wells and Leigh Smith rowed ashore at another unmarked spot to inspect a small wooden hut they measured at twelve feet by eight.[40] Wells described it as having a fireplace of clay and rough stones, with two rough stone benches for furniture. Outside the door stood a cross marked with an inscription in Russian and the name and date of the last inhabitant. Recounting that whaling and sealing crews had often made use of such structures to survive after a shipwreck, Wells writes that he and Leigh Smith "were careful not to injure [the huts they visited in Wijdefjorden], never knowing how soon they may be required for the reception of some fellow-seaman."[41] It is a rare example of an expedition deliberately *not* pilfering a site in the Arctic.

In the eighteen days *Sampson* drifted amongst the ice of Wijdefjorden, Leigh Smith and Wells were rowed ashore several times and managed to shoot thirty-six reindeer. On August 11th, they hiked to a body of water near Dirksbukta that Wells called Salmon Lake, a fairly large body of water today called the Salmon Lake (Lakssjøen). Looking forward to an afternoon of fly-fishing, they were much disappointed to find the lake frozen over, a sharp reminder of the advancing season.

On August 13th, despite the leaky ship and the approaching fall, Leigh Smith held a council and took a decision to make one more try for the north. That afternoon they killed a single beluga whale, and then stood by and watched two Norwegian sloops trap and kill seventy-eight more by using nets fastened between their vessels and the shore. A few days later, Wells and a Shetlander named Magnus made an eight-hour climb to the top of a peak that gave out a view spanning Wijdefjorden and Isfjorden. If this account is accurate, the ice must have carried *Sampson* deep into Wijdefjorden, where it perhaps took refuge in Vestfjorden, the only place from which such a hike and view would have been possible.

Freed at last from Wijdefjorden on August 18th, *Sampson* made a final and brief attempt to force her way to the north. Before long, ice streaming from the northeast forced the ship to take refuge behind Velkomstpynten, where the anchor was broken. *Sampson* was soon joined by three more fishing sloops and two steam vessels, all seeking shelter from the worsening conditions. Further attempts to hold the ship in position resulted in one of the small boats capsizing.

On August 24th, *Sampson* reached across Raudfjorden and then, on the 29th, Fair Haven, where the ship stopped in Fowl Bay (Fuglefjorden). There, Leigh Smith found Adolf Erik Nordenskiöld and the twenty-two other members of his Swedish polar expedition already at anchor on board the steamer *Polhem*. Wells described the expedition leader as "a very pleasant man advanced in life" though Nordenskiöld, at thirty-nine, was five years younger than Leigh Smith.[42] Both were from prominent, educated, and wealthy families and enjoyed thereby a significant amount of shared social status.

Leigh Smith received Nordenskiöld and others from *Polhem* on board *Sampson* "with great kindness, and next day himself visited the vessels of the expedition."[43] Nordenskiöld was waiting for a re-supply of coal from two support ships, the *Gladan* and the *Onkel Adam*, that had yet to make their appearance, and Wells noted that Nordenskiöld's planned starting point in the Sjuøyane was still a long way off and it was late in the season.

Nordenskiöld had already been warned a week earlier by the captain of a Norwegian steam-powered fishing vessel about the ice conditions north and east of Fair Haven.[44] Leigh Smith and Wells added to this warning from their recent experiences in Wijdefjorden.[45] Nordenskiöld ignored

the advice and ordered his convoy to sail northeastward anyway. Wells thought that even if the Swede was successful in reaching his planned jumping off point on Parryøya, he still faced an immense amount of work to ready his base camp before winter proper set in.

Wells observed several prefabricated structures and boats that nevertheless would require considerable effort to reassemble even if the expedition could find suitable ice-free ground for them in the Sjuøyane.

> We noticed the materials for three of these huts – a dwelling consisting of four sleeping-rooms, fourteen feet by thirteen; a long room for the men, twenty-two by fourteen; a central room nineteen by twenty-two; and a kitchen twenty-two by sixteen.… [The boats] were light and exceedingly strong, double in structure: one portion was made of the fine wood of the willow, the second layer of ash.… The journey was to be commenced on the first of April, 1873, and the provisions were sufficient to last until the first of July, by which time they hope to have accomplished this long meditated journey to the northern Pole of the earth.[46]

Wells seemed satisfied by Nordenskiöld's plan to use reindeer driven by Laplanders to pull the boats north since the expedition could kill and eat the deer as they showed signs of exhaustion, and then take to boats to make the final distance across the open sea he was still convinced they would find around the North Pole. As he reviewed Nordenskiöld's plans, with their clear echo of Parry's 1827 polar expedition, Wells reiterated his belief that a steamship was the only effective way to reach the pole. And if such a vessel were caught in the ice, Wells argued, it would merely "drift south, at the rate of about six miles each day" until it returned to the 'gateway to the polynia' north of Svalbard.[47]

The two explorers parted from one another on August 30th, but not before Leigh Smith promised Nordenskiöld that he would return to Svalbard early the following summer and call in on the Swede for news of his polar expedition. Soon thereafter, Nordenskiöld sailed east and discovered that he was not able to penetrate further than Mossel Bay (Msselbukta), where *Sampson* had recently called. There, all three ships of the

Fig. 21. Sampson *parting from Nordenskiöld's expedition (from Wells 1873).*

Swedish expedition were caught by surprise and frozen in for the winter. Instead of a crew of less than two dozen supported by a single vessel, Nordenskiöld was suddenly faced with feeding sixty-seven people from three ships over the long course of a Svalbard winter, along with the crews of several Norwegian hunting *jakts* knocking on his door. The following June, his plight largely ignored by his own government and with all but one of his reindeer escaped, Nordenskiöld would find himself very glad of Leigh Smith's promise.

As for Leigh Smith, his somewhat disappointing summer concluded with visits to Kings Bay (Kongsfjorden) to collect specimens of marble, Green Harbor (Grønfjorden) to collect fossils, and Prins Karls Forland for some dredging work. Then the expedition sailed for England. *Sampson* returned to Hull on September 26th.

Leigh Smith returned from Svalbard in the fall of 1872 without having sailed nearly as far to the north and east as during his first expedition. However, the brief meeting with Adolf Erik Nordenskiöld had nonetheless formed a strong bond between the two men, a bond that would lead

Leigh Smith to seek out the Swedish expedition as soon as he returned to the north coast of Svalbard in June of 1873. In addition, Leigh Smith in 1872 had continued his series of deep-ocean temperature recordings, which, along with the ongoing work of Weyprecht and Payer, continued to lay the foundations of high latitude oceanography.

Over the course of the summer, his continual discussions with John Wells on the merits of using a steam vessel for polar exploration would have a profound influence on his thinking as he began to formulate plans for a new expedition to Svalbard in 1873 and especially for his eventual construction of his own research vessel, the *Eira*.