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The deaths of Roald Amundsen and the crew of the Latham 47

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ABSTRACT. On 18 June 1928, Roald Amundsen and a team of five men (René Guilbaud, Leif Dietrichson, Albert Cavelier de Cuverville, Gilbert Brazy and Emile Valette) flew in a French Latham 47 prototype aeroplane from Tromsø, Norway, to aid in the rescue of survivors of the crashed airship *Italia*. The party disappeared nearly without trace into the Barents Sea. We shall examine Amundsen's last years, the decision to employ for an Arctic relief mission a prototype aeroplane which had not completed its flight tests, and the evidence that, in deciding to disregard warnings and fly this aeroplane unaccompanied over the Barents Sea, Amundsen took a significant risk that led to his death and those of his crew.

Introduction

In the words of the Norwegian polar explorer Roald Amundsen:

> [T]he greatest factor in the success of an exploring expedition is the way in which every difficulty is foreseen and precautions taken for meeting or avoiding it. Victory awaits him who has everything in order – luck, people call it. Defeat is certain for him who has neglected to take the necessary precautions in time – this is called bad luck [. . .] [O]nly the most careful planning, sound judgment and infinite patience in working out minute details of equipment and of precaution can assure the success of an undertaking in the Arctic. These are the things that provide that invaluable 'margin of safety' which is necessary to overcome the perils of unexpected difficulties and delays (Amundsen 1927: 258, 268–269).

Amundsen has a reputation for identifying and expunging unnecessary risk from his expedition planning. It is therefore strange that he did not take these 'necessary precautions' before his final Arctic flight.

At four in the afternoon of 18 June 1928, the 55 year old Amundsen set off in a French flying-boat, a new prototype model known as Latham 47 (or Latham-Farman 47), together with a crew of five men. The aim was to participate in the rescue of the stranded survivors from the crashed airship, *Italia*. From Tromsø in northern Norway, Amundsen's aircraft flew out alone over the Barents Sea; it was thought that it would arrive at King's Bay (now Ny-Ålesund) on Spitsbergen (Svalbard), later that evening. However, the Latham never arrived. Only a few pieces of the wreckage were ever recovered, and the six men were never seen again. In the words of one modern assessment, 'in an uncharacteristic action for a man renowned for careful planning, [he] took off. It was Amundsen's last act – and a selfless one' (Officer and Page 2012: 159).

Normally fatal accidents are subject to detailed critical analysis, with explanations of how the loss of life could have been prevented. For perspective, six men died on Amundsen's Latham compared with five men on Captain Robert Falcon Scott's much-dissected *Terra Nova* Antarctic expedition of 1910–1913. We would contend that Amundsen's final flight merits similarly close scrutiny, and that the available evidence reveals a different and arguably more distressing tragedy than that suggested by the conventional narrative.

Amundsen's final years and the *Italia* disaster

Since his achievement of the South Pole in 1911, Amundsen's life had not been entirely harmonious. His personal fortune, gained from shipping investments during World War I, had been lost in the *Maud* expedition of 1918–1925, a voyage along the northeast passage emulating Fridtjof Nansen's earlier drift with *Fram* through the Arctic ice. In 1922 Amundsen left *Maud* to seek additional funding and to pursue other projects: by September 1924 he was bankrupt (Bomann-Larsen 2011: 244), and the remaining crew of *Maud* continued without him until the expedition's conclusion in 1925. In that year Amundsen and his American patron Lincoln Ellsworth, together with four other men, made an attempt to fly to the North Pole in two Dornier-Wal aircraft, the N-24 and N-25. After around eight hours Amundsen's aircraft N-25, piloted by Hjalmar Riiser-Larsen, had to make a forced landing on the ice at 87°43′ N, and N-24, piloted by Leif Dietrichson, suffered irreparable damage. All six men transferred to the N-25: after 25 days stranded, they eventually managed to take off in the N-25 and return safely home.

In 1926 Amundsen, Ellsworth and the Italian aeronautical engineer Umberto Nobile organised and led the successful flight of the airship *Norge* over the North Pole, but the achievement was soured by Amundsen's subsequent conflict with Nobile, whom Amundsen believed was claiming too great a share of the glory. Their well-publicised conflict lingered in newsprint long afterwards (Cross 2002: 34) and helped tarnish Amundsen's reputation.

In addition, Amundsen had serious health problems in his later years. Biographer Roland Huntford states that Amundsen had had treatment for 'heart trouble'

(Huntford 2002: 557) and also '[f]or another, unspecified complaint, he went to a doctor in Los Angeles, who used radium and "killed all the stuff", as he blandly wrote to his sister-in-law Målfred' (Huntford 2002: 557). Huntford does not give further details concerning this 'unspecified complaint': however, the reference to radium suggests that this illness was cancer, as in the 1920s radium was being developed as a cancer treatment. The issue of Amundsen's illness is indisputably settled in Alexander Wisting's 2011 Norwegian-language biography, which states that in the spring of 1927 Amundsen had a minor cancer operation [en mindre kreftoperasjon] to remove a tumour from his thigh, followed by subsequent radium treatment in Los Angeles (Wisting 2011: 507).

Perhaps as a result of his illness, Amundsen's behaviour became noticeably unusual. In 1927 he wrote another volume of autobiography, *My life as an explorer* (Amundsen 1927); in it he employed a bitter and antagonistic tone, openly attacked those he considered his enemies, and stated 'I consider my career as an explorer closed. It has been granted to me to achieve what I set out to do' (Amundsen 1927: 224). In a letter of 17 December 1927 Benjamin Vogt, the Norwegian ambassador to London, wrote to Nansen of Amundsen, 'I have to ask myself whether our wonderful compatriot has been mentally broken by these super-human efforts' (Bomann-Larsen 2011: 328). Nansen was forthright in his reply to Vogt five days later: 'Like you I think he is suffering from some sort of mental confusion, a sort of clinical nervous disability which has in fact been evident in many ways' (Bomann-Larsen 2011: 329). According to biographer Tor Bomann-Larsen, Nansen also wrote to the vice president of the Royal Geographical Society, in reference to Amundsen's recent criticism of that institution:

> I do not at all understand Amundsen's behaviour these past years and the only explanation I can find is that something must have gone wrong with him. . . [I]t is my impression now that he has completely lost his equilibrium and that he is no longer responsible for his actions (Bomann-Larsen 2011: 330).

The journalist Odd Arnesen remarks that during Amundsen's last winter and spring at home he lived essentially as a recluse [levde han fullstendig som eneboer], that very few of his friends visited him [ytterst få var de venner som besøkte ham] and that he lived like this in order to rid himself of his debts (Arnesen 1929b: 182). His erratic behaviour manifested itself on further occasions. On 24 May 1928, Amundsen held a gathering to celebrate Wilkins' and Eielson's recent flight over the North Pole (Bomann-Larsen 2011: 337). Amundsen's old friend F.G. Zapffe described how, on that occasion, Amundsen unexpectedly pressed valuables upon him and his wife, saying to Zapffe, 'Now you should take it. None of us knows when the next time could be' [At nu skal du ta det med. Ingen av oss vet når neste gang kan bli] and to his wife, 'Have this, Mrs Zapffe, to remember me by' [Dette skal De ha, fru Zapffe, til erindring om mig] (Zapffe 1935: 183).

Amundsen's previous bankruptcy in 1924 (Bomann-Larsen 2011: 244), had had two unpleasant consequences: a break with his brother Leon, previously his manager and staunchest ally (Bomann-Larsen 2011: 284, 325) and the return of his two young foster children, Camilla aged 13 and Kakonita aged 7, back to the Chukchi settlement at East Cape after only three years in his care (Bomann-Larsen 2011: 316; Bown 2012a: 253–254). Though Amundsen would have a reunion with these children again in Poulsbo, Seattle, and this meeting probably took place in early 1928 (Wisting 2011: 508–509), he never resumed his former 'family life' with them in Norway.

An interesting further aspect was the situation with his newest romantic partner, the Canadian Bess Magids. Amundsen had previously shied away from commitment, choosing married women (Sigrid Castberg; Kristine 'Kiss' Bennett) and ending these relationships abruptly (Bomann-Larsen 2011: 139, 281–282). Magids, though also married, was more persistent: in early June 1928 she left her rich husband and, at the time of Amundsen's departure for the Arctic, was travelling from America to Norway in the hope of a permanent union with the explorer (Bomann-Larsen 2011: 344). Had Amundsen returned safely from the Arctic, it would have been to Magids' welcome and perhaps the prospect of marriage. Considering that at the time he was living frugally (Arnesen 1929b: 182), and that he needed to sell his collection of medals and surrender his latest royalties to settle his debts in June 1928, it is safe to state that Magids would not have enjoyed her previous level of affluence in her prospective new life with Amundsen.

Alongside Magids' decision to leave her husband for Amundsen came the news of the *Italia* disaster. Nobile, Amundsen's erstwhile rival, had organised his own airship expedition to the North Pole: the flight had departed from King's Bay, Spitsbergen on 23 May 1928. Early the next day it reached the pole, but the day after that, on its return, the airship encountered difficulties, lost altitude unexpectedly and crashed to the ice. Upon impact the gondola, containing ten men, had split apart from the balloon; the latter, containing six men, had soared out of sight. Tragically, no trace of it or its inhabitants was ever found. One of the gondola party was killed upon impact, and two of the survivors (including the leader Nobile) had serious leg injuries restricting the party's movement. They possessed a wireless radio, and the *Italia*'s wireless operator sent out regular SOS signals from the day of the crash, 25 May (Nobile 1930: 160), but only on 8 June was he able to make confirmed contact with civilisation (Nobile 1930: 230–231). *Italia*'s absence and probable plight was raised at a public gathering in Oslo on Sunday 27 May 1928; Amundsen immediately pledged his support to aid in the search with the English words 'Right away' (Arnesen 1929b: 195).

Huntford has presented Amundsen as being practically solvent by June 1928: 'For the two years since retiring, Amundsen had been working to clear his debts. He had sold his medals (they were bought by a generous fellow countryman and presented to the nation) . . . "Make me an honest man", he had told his lawyer. The task was almost done' (Huntford 2002: 559). Amundsen was indeed living frugally to get rid of his debts (Arnesen 1929b: 182), but it was only *after* volunteering for the *Italia* rescue mission that he put his financial affairs in order.

Amundsen reportedly declared to his attorney in Oslo that he would soon be going on a mission which was potentially dangerous, and therefore, before departure, he wished to settle his debts and hence proposed to sell his collection of medals and international honours to raise 15000 kroner (Calic 1966: 213). It was this collection of honours which was purchased by the Norwegian businessman Conrad Langaard and presented to the nation: as explained in an article of November 1928 titled 'Captain Amundsen: estate free from debt', Langaard's 'purchase price will defray all the claims against Captain Amundsen's estate and thereby fulfil his wish that he should die free from debt' (*The Advertiser* (Adelaide, South Australia) 22 November 1928: 13). The journalist Arnesen wrote that Amundsen also deposited 7500 kroner from his private means, royalties from his last book, and that this happened before bankruptcy could be finalised [forat konkursen kunde bli gjort op]. As a result, Amundsen's debts were covered 100% (Arnesen 1929b: 183).

Of particular significance in this final conversation with his attorney in Oslo is Amundsen's phrase 'Gjør mig til en fri mann' (Arnesen 1929b: 183), reported in contemporary English-language newspapers as 'Make me a free man' (for example *Milwaukee Sentinel*, 22 November 1928: 1). Huntford has mistakenly translated 'Gjør mig til en fri mann' as 'Make me an honest man': the key word is not 'honest' [aerlig] but 'free' [fri]. Make me a *free* man: such language, together with relinquishing his collection of medals and honours, suggests a somewhat fatalistic attitude.

The phrase 'Make me a free man' also causes one to wonder whether Amundsen was in a frame of mind conducive to matrimony. However, despite his agreement on 27 May to search for Nobile, Amundsen was in contact with Magids by telegraph between 2–10 June (Bomann-Larsen 2011: 344). Evidently he did not dissuade Magids from leaving her former life to travel to Norway. Meanwhile, the Italian journalist Davide Guidici interviewed Amundsen prior to his departure for the north. According to Guidici, when the explorer's gaze alighted upon a model Dornier-Wal it brought to mind 'the hours spent on the boundless Polar pack-ice' (Guidici 1928: 37). Then Amundsen said

> "Ah! If you only knew how splendid it is up there! That's where I want to die; and I wish only that death will come to me chivalrously, will overtake me in the fulfilment of a high mission, quickly, without suffering" (Guidici 1928: 37).

Here Amundsen appears to reveal a certain fatalism, troubling in retrospect.

Fig. 1. The Latham 47 at Tromsø. Note the words 'Latham N°02' on the nose (inset), a visible indication to everyone that this was the *second* prototype, and also the stabilizer float mounted very low beneath the wing (Hovdenak 1934).

Nobile's party in their 'red tent', dyed by the residue from broken altitude balls, had not yet been located by air or ice-breaker. However, the men had broadcast their co-ordinates (though their ice-floe was of course subject to drift). Aviation historian George Simmons states that in the original plan, the Italians would 'make two long-range Dornier-Wals available in which Amundsen and Riiser-Larsen would fly directly to Kings Bay' (Simmons 1965: 145). However, when the Italians delayed, the pilots Riiser-Larsen and Finn Lützow-Holm were sent to Spitsbergen by the Norwegian Prime Minister Johan Ludwig Mowinckel (Simmons 1965: 156), and Amundsen was forced to act as an independent agent. A wealthy Norwegian businessman intervened, and ensured that Amundsen would have at his disposal a French Latham 47 flying-boat. The French government endorsed this plan, and sent with the aircraft four French naval personnel as crew.

Late in the evening of June 16 the Latham arrived at Bergen in Norway. Her crew were the men involved in her flight test programme: Captain René Guilbaud; Lieutenant Albert Cavelier de Cuverville, second in command; Gilbert Brazy, mechanic; and Emile Valette, wireless operator. In addition Amundsen had also secured the services of Leif Dietrichson, pilot of N-24 during the 1925 attempt on the North Pole. Amundsen, with Dietrichson, arrived in Bergen to meet the Latham crew on 17 June; from there all six men boarded the Latham and proceeded to fly approximately 758 miles (1220 km) to arrive at Tromsø (Fig. 1) in the morning of 18 June.

That afternoon Tromsø harbour was host to seaplane crews from Sweden and Finland as well as the French Latham. The Swedish pilot had offered Amundsen the chance to fly alongside his own plane; Amundsen had refused this offer, stating that he had to operate alone.

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The Finnish plane had tried to take off earlier that day, but had been unsuccessful (Zapffe 1935: 190) and after failed attempts both the Finnish and Swedish pilots had decided to wait for more favourable conditions (Hovdenak 1934: 78–79). Hence the Latham was unaccompanied when she took off from Tromsø at 4pm to fly over the Barents Sea. The conditions have been described as 'becalmed' [blikkstille] (Hovdenak 1934: 78, 79), which would have made it difficult for the Latham to achieve sufficient lift. In addition the plane appeared to weigh heavily, and may even have been overloaded; since the supplies and the six men on board would not have been enough for this, it is probable that the plane was fuelled to its full capacity, enough in theory to cover a distance of 4300 km (2671 miles) at a stretch (Rynin 1971: 6–7). Though Gunnar Hovdenak's 1934 report states that the Latham was carrying 1224 kg of aviation fuel, 90 litres of Castrol oil and 10 kg glycerine (Hovdenak 1934: 77), a cargo of 2500 litres of aviation fuel has been suggested (Wisting 2011: 497). Eyewitnesses reported seeing the plane struggle to ascend, and Zapffe expressed his foreboding that she did not seem to be able to manage an altitude of more than 25 metres (Zapffe 1935: 190). The journey between Tromsø and King's Bay was 'about 590 nautical miles' (Orvin 1934: 11) or 1093 km, and should have taken no more than seven hours (Simmons 1965: 171). The Latham should therefore have arrived at King's Bay at around 11pm on 18 June.

The Latham was last seen over the Barents Sea on a northwesterly course, approaching a bank of fog about 40 nautical miles (74 km) from land (Hovdenak 1934: 192). The Latham did not turn back, but made efforts to gain altitude, presumably to fly over the fog: however, this was unsuccessful and, in the words of a witness (in Huntford's translation) 'she ran into the fog [and] disappeared before our eyes' (Huntford 2002: 561). In his 1934 report on Amundsen's last flight Hovdenak would openly wonder why the Latham had made this move, since flying in fog would cause disorientation and hamper the crew's spatial awareness (Hovdenak 1934: 192) and experienced pilots thought the Latham could fly in fog only for an hour at most (Hovdenak 1934: 192). During the Latham's last flight the radio operator Valette sent two messages, received by the Geophysical Institute at Tromsø: at 6pm 'Nothing to report, all's well' [Rien à signaler, tout va bien] and, at a little after 7pm, 'Do not stop listening. Message forthcoming' [Ne quittez pas l'écoute. Communication prochaine] (Bujeaud 2007: 410).

When Italian and Swedish planes arrived together safely at King's Bay on 19 June (Arnesen 1929a: 108) and the French Latham had still not arrived, there was unease but a disaster was not yet presumed. There was the expectation that Amundsen, 'a man of many surprises' (Arnesen 1929a: 111), might astound the world with a dramatic solo rescue: after all, in refusing the Swedish offer of a flight together, Amundsen had stated that he had to operate alone.

It was feasible that Amundsen might have decided to head directly for the red tent, or look even further afield for the men last seen drifting away in the dirigible. One French newspaper stated that Amundsen had declared an intention to bypass King's Bay and head straight towards Cape Leigh Smith (*Le Petit Parisien* 19 June 1928: 1), a point roughly 20 miles south of the estimated location of the red tent (*Sunday Times* (Perth, Western Australia) 10 June 1928: 1). Amundsen had allegedly also stated to 'an intimate friend' that '[Nobile's] wireless group is better off than the balloon men. . . It is the balloon group that needs help most' (Arnesen 1929a: 111–112) and, in an interview published on 16 June, Amundsen had remarked that the range of the Latham would allow them to pursue a route to the east to search for the balloon and its occupants (*Le Matin* (Paris) 16 June 1928: 1). However, on 18 June, Amundsen's good friend Oscar Wisting had boarded the collier ship *Ingeren* in Bergen with the remaining relief supplies to travel to Advent Bay on Spitsbergen: it had been his understanding that he should wait there for Amundsen to travel south from King's Bay, a journey of around 112 km, to collect him (Wisting 1930: 197, 199, 201). There were therefore *three* possible destinations for the Latham: King's Bay, the red tent or further afield on the track of the lost balloon. In which direction had the Latham gone?

Amundsen is quoted as having stated publicly before the flight that this rescue mission would take some time: 'I shall do the trip in fourteen days – perhaps it will take a month' [Jeg skal gjøre turen på fjorten dager – kanskje den vil ta en måned] (Arnesen 1929b: 199). An interview with his nephew Lieutenant Gustav Amundsen confirms that Amundsen had predicted that he would take between 14 days and four weeks (*Aftenposten* (Oslo) 3 September 1928: 6). This seems to have been taken as Amundsen's indication that the Latham would be out of contact for a while: two days after the Latham's disappearance, a report in *Le Petit Parisien* stated that there had been no particular alarm when the Latham did not arrive at King's Bay, as 'Amundsen had predicted a fairly long absence for the Latham' [Amundsen avait prévu une assez longue absence du Latham-Farman] (*Le Petit Parisien* 20 June 1928: 1). This expectation of a significant absence would be consistent with the Latham's having departed with full fuel tanks. The plane had been designed for a non-stop flight of 4300 km (Rynin 1971: 6–7), and departing fully fuelled would allow the crew to take a possible diversion to the red tent or even further afield; *Le Petit Parisien* reported that the Latham would not have exhausted its supply of fuel until midnight on Tuesday 19 June (*Le Petit Parisien* 22 June 1928: 1).

Amid such uncertainty and confusion it is not surprising that efforts to find the missing Latham did not get underway until two days after its departure, when Riiser-Larsen heard the news on 20 June and began an aerial reconnaissance (Goldberg 2003: 69). On 21 June France and Norway sent four ships to start a search at sea (Simmons 1965: 175). The Italian aviator Major

Pierluigi Penzo's rescue efforts for Nobile were diverted to a search for the Latham in the Barents Sea during 23–24 June (Bosco and Stone 2004: 304) but this proved futile.

Meanwhile a possible indication of the Latham's survival was reported by the collier *Marita* upon her arrival in King's Bay. During the voyage, a faint wireless signal had been heard:

> The signals were heard by the coaling steamer *Marita* which came into port today. She said she picked up a faint SOS at 11 o'clock last night. The plane was equipped with wireless but the apparatus could be heard [within] only sixty miles if the machine were at rest on the water. The *Marita* saw nothing of the missing men (*Ogden Standard-Examiner* 24 June 1928: 1)

Although this is reported in the US media as occurring on the evening of 23 June, we think this an error: *Aftenposten*'s report of 25 June states that these signals were heard by *Marita* at 2300 hours on *Friday* evening, which was 22 June (*Aftenposten* (Oslo) 25 June 1928: 1). It is possible that the signals heard by *Marita* were the last distress signals ever sent from the Latham.

Meanwhile the search for the red tent continued. The Italian aviator Major Umberto Maddalena first spotted it on 20 June (Nobile 1930: 258), but there was no open lead of water in which he could land, and his aircraft, a Savoia-Marchetti S.55, could not safely land on ice. As he afterwards explained to the journalist Arnesen, 'I wanted so much to land on the ice, but there were other lives on board the aeroplane besides my own, and I was responsible for them' (Arnesen 1929a: 105). It was the Swede Einar Lundborg who on 23 June was the first to land, in a Fokker land-plane adapted with skis, and he brought Nobile back to safety. The remaining men, with the exception of the scientist Finn Malmgren (who as part of a breakaway party had died sometime in June) were eventually rescued by the Russian ice breaker *Krassin* on 12 July (Nobile 1930: 329–330).

Other expeditions, aerial and naval, continued to search for the Latham, but without success. On 31 August the first piece of wreckage was found by a fishing vessel 10 nautical miles northwest of Torsvåg lighthouse. This was a stabiliser float from beneath the Latham's wing, with its metal struts still attached (Fig. 2). A petrol container, which showed signs of post-flight modification, was picked up south of Tromsø on 13 October. By then, the men of the Latham had been given up as lost.

The received tone of the narrative surrounding Amundsen's final journey is of a heroic, redemptive final act, a kind of self-sacrifice for the succour of an erstwhile rival. However, it is possible to take another view of Amundsen's last flight: an error, arising out of faulty judgement, that was fully preventable and need never have happened. To comprehend the full extent of this error, we must first understand why the Latham was sent north from France on 16 June 1928 in response to Nobile's request for a 'hydroplane'.

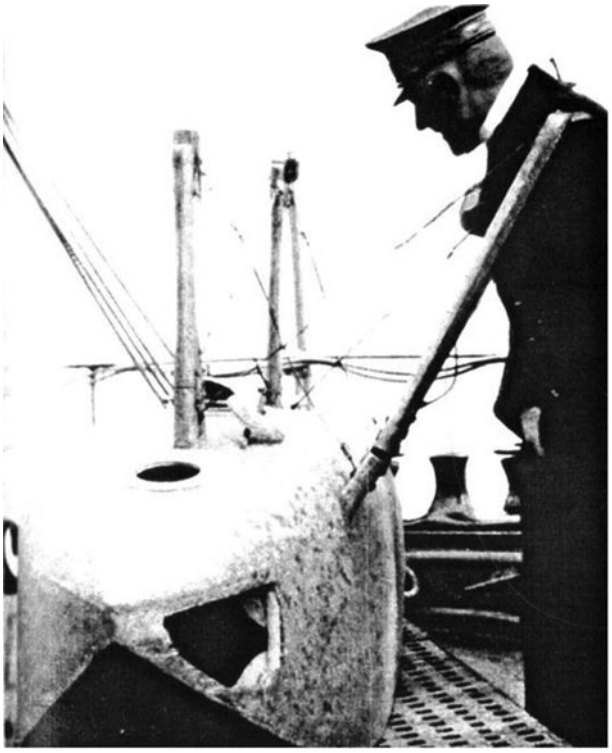

Fig. 2. The Latham's stabilizer float retrieved from the water (Hovdenak 1934).

'You should at once procure a hydroplane…'

Nobile, in his early radio message from the red tent, stated that 'You should at once procure a hydroplane with a considerable flying range' (Nobile 1930: 240). He added, 'The pack here is extremely broken (…) Canals often open, large enough for a hydroplane to moor' (Nobile 1930: 241). In his memoir, after his return with Lundborg he told Penzo of a 'large canal – some 60 yards wide and stretching out of sight – which had opened not far away, soon after the crash' (Nobile 1930: 304). However, this channel must have narrowed or sealed up again afterwards, as Maddalena could find no suitably wide lead in which to land his S.55 during his visit of 20 June.

With this channel in the vicinity and the expectation of the pack-ice melting further as temperatures rose, Nobile specifically requested a hydroplane. However, this does not vindicate the decision to send the Latham: we must establish exactly what Nobile had in mind by a 'hydroplane'. As an Italian aeronautical engineer communicating with the Italian ship *Città di Milano*, he would almost certainly have used the term with either of two flying-boats of Italian manufacture in mind. These were the Savoia-Marchetti S.55 (built in Sesto Calende, Varese) and the Dornier-Wal (built in Pisa). Both of these were strong enough to cope with the hazards of landing on water amid the polar ice floes.

Hovdenak remarks that the Latham's wood and steel hull meant that it could not land upon, or cope well, with ice. To land, the Latham required the presence of a large

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stretch of open water (Hovdenak 1934: 70). The low-hanging stabiliser floats beneath each wing would have added to the pilot's difficulties: the chances of finding clear water, free of ice floes, in that specific vicinity would have been marginal. Amundsen himself was aware of the Latham's limitations: *Le Matin* quotes him as stating that the aircraft could not land on the ice [nous ne pourrons pas atterir sur la glace] and that, if there was no open water nearby, the Latham would only be able to fly over to drop the provisions Nobile requested (*Le Matin* (Paris) 16 June 1928: 1).

On paper, the French Latham flying-boat lined up well against her competitors: she had a range of 4300 km, each of her twin engines was capable of 500 h.p. (the same as Maddalena's S.55) and she could in theory transport a payload of 4000 kg, 500 kg more than Maddalena's plane (Rynin 1971: 6–7). However, in practice the Latham had not only the aforementioned flaws that argued against use on an Arctic mission, but the Latham was also only a *prototype* aircraft (Taylor 1969: 97; Bujeaud 2007: 406) still undergoing flight tests with pilots Guilbaud and Cavelier de Cuverville. Its tested payload was in fact only 3700 kg, and the crew were considering a test with 4000 kg [man tenkte å forsøke den med 4000 kg] (Hovdenak 1934: 71). An inaugural 14-hour round trip had been made to Bizerte in Tunisia (Hovdenak 1934: 71), and a second test flight to Djibouti was being planned when the Latham was suddenly pressed into Arctic service (Bujeaud 2007: 406).

As a type, the Latham 47 had already proved problematic. The model sent to Amundsen was the Latham 47 no. 02, the *second* military prototype, as the first military prototype, the Latham 47 no. 01, had been 'destroyed by fire when its petrol tank exploded on the Seine' (Taylor 1969: 97). The Latham model was finally introduced into French military service in 1929 (Taylor 1980: 722), but withdrawn from service as early as 1930 (Taylor 1981: 162). As such aircraft have an average lifespan of around ten years in service, the Latham's strangely swift decommission (during the economic depression, when financial concerns were paramount) is further evidence of a flawed design. Aside from the Latham's specific problems, subjecting an unproven 1920s aircraft to the extremes of Arctic weather and surface conditions would appear to be folly. As we shall see, the decision to put the craft into Arctic service was probably made by politicians, not by the Latham's pilots.

The S.55 was better equipped for a water landing amidst broken pack ice, as she had strong, all-metal twin hulls, high-mounted wings and no under-wing stabiliser floats. The S.55, however, could not land on solid ice, and Nobile's expectation of wide canals of water near the red tent was overly optimistic. A week later, Riiser-Larsen's surveillance flight of 17 June reported that 'the ice is compact right up to Cape North' [Spitsbergen] (Nobile 1930: 254). In discussions with Penzo after 23 June Nobile had to admit that planes which could land on ice should be tried first of all: '[i]f the planes with skis failed, an attempt might be made with seaplanes' (Nobile 1930: 304).

Penzo's flying-boat, the Dornier-Wal, already had a reputation for use in polar conditions; this was in part due to Amundsen and Ellsworth's North Pole expedition of 1925. As Ellsworth later explained, 'As we had no idea upon what we were going to land, only faith that we would land safely on something, our two all-metal Dornier-Wal planes were equipped for landing either in water or on ice' (Ellsworth 1928: 7). It seems safe to state that a Dornier-Wal had some chance of surviving a landing on ice if a suitable area of water were not available.

The strong metal-hulled S.55 and Dornier-Wal were the models Nobile must have envisaged when he asked for a 'hydroplane with a considerable flying range'. The Latham was unknown to him. Huntford has stated that Amundsen's aim was 'to reach Nobile first and take him off' (Huntford 2002: 561) but in a Latham, faced with a vista of 'compact ice' or with open leads dotted with waterborne ice floes, Amundsen could not have landed to rescue anyone: he would have been confined to mere reconnaissance duties or the dropping of supplies. We shall now examine the circumstances under which the Latham flying-boat was sent to Tromsø.

The Latham 47

Hovdenak, in his 1934 study of Amundsen's last flight, outlines the circumstances for the Latham's involvement in the mission. A Norwegian businessman by the name of Peterson, based in Paris, offered Amundsen a land-plane supplied by the French firm Breguet; otherwise, the French navy might be able to supply a flying-boat (Hovdenak 1934: 68). Amundsen responded that he had to have a flying-boat so, after Peterson had met with the Norwegian ambassador Fredrik 'Fritz' Wedel Jarlsberg and the French naval minister, Georges Leygues, the French Navy agreed to send the new French-built Latham 47 (Hovdenak 1934: 69). Wedel Jarlsberg had reason to be supportive of Amundsen, given that the explorer had honoured his first wife Alice by naming an Antarctic mountain after her ('Alice Wedel-Jarlsbergs Top'). The Latham left Caudebec-en-Caux in France for Bergen, Norway, on 16 June.

Amundsen and his companions Dietrichson and Wisting arrived at Bergen on 17 June to meet the Latham. At 8.20pm that evening Amundsen, Dietrichson and the French crew left Bergen in the Latham: the aircraft landed at Tromsø at 6am on 18 June (Hovdenak 1934: 76). However, Wisting, Amundsen's most loyal lieutenant, did not board the Latham in Bergen with the others. He had stood with Amundsen at the South Pole in 1911, had endured the *Maud* expedition's privations and had seen the North Pole from the air alongside Amundsen on *Norge* in 1926. However, due to insufficient space Amundsen did not take Wisting on this flight. Instead, he ordered Wisting to travel alone by sea from Bergen

to Advent Bay on Spitsbergen and to wait there to be collected (Wisting 1930: 197).

When he first stressed the need for a 'flying-boat' to Peterson, Amundsen may have hoped for a Dornier-Wal. This was his preferred make of aircraft: on 5 June, it was reported that Dietrichson had attempted to persuade Lufthansa to charter a Dornier-Wal for his and Amundsen's use (Goldberg 2003: 31). Now, upon arriving in Tromsø in the morning of 18 June, after a flight of over nine hours in the prototype Latham, both Amundsen and Dietrichson had reservations about this flying-boat's suitability for the task ahead:

> Amundsen did not indeed publicly state that there were details of the machine that ought to have been improved: but neither [Dietrichson nor Amundsen] was entirely satisfied with the type of the motor. They mentioned these things to intimate friends, but they refrained from public statements (Arnesen 1929a: 113–114).

The motor used in this prototype model was French, the Renault 12 Jb (Taylor 1969: 97). More importantly, Amundsen would have seen for himself that the Latham was a prototype, as the words 'Latham N°02', indicating the second prototype model, were clearly visible on its nose (Fig. 1). Hence he should have been aware that the craft was unlikely to have been fully tested. The Latham also had a visible design vulnerability for polar work, compared to the Dornier-Wals Amundsen had used in 1925:

> The Dorniers... featured a duralumin flat-bottomed fuselage with projecting sponsons, or *flynders* to the Norwegians, which helped to stabilize the craft in the water. The *flynders* would tend to be less fragile in icy seas than wingmounted stabilizer floats (Czech 1998)

Unlike the Dornier-Wal, the Latham's design depended on low-hanging stabiliser floats (sometimes misnamed 'pontoons'), mounted under each wing and attached with fragile metal struts (Figs. 1, 2). These wing-floats balanced the craft: if a float broke away on impact with an ice-floe or a powerful wave, a damaged wing trailing in the sea would make a subsequent take-off impossible, whilst the chill waters would hinder the chances of repair. One commentator describes the Latham's recovered stabiliser float as having been 'wrenched from the fuselage with great force' (Cross 2002: 306), perhaps indicative of a rough landing on water. The photograph of the recovered float, with metal struts still attached (Fig. 2), testifies to the ease of its detachment from the wing.

Amundsen had experienced heavy weather in the Arctic during his 1925 escape. The Dornier-Wal N-25 had landed on the sea some distance from the mainland and made its way to shore on 'choppy water' (Bomann-Larsen 2011: 275). Whilst a Dornier-Wal could cope with such conditions, the Latham might not even remain afloat if forced to alight unexpectedly. Amundsen must have considered this before embarking on this mission; he had prior experience of flying in harsh polar conditions whereas the French crew had not.

Fig. 3. A card of the Latham's crew given to Norwegian search parties (Lüdecke 2011).

We must examine the circumstances of the French crew's appointment (see Fig. 3). At the time the Latham was newsworthy, even a symbol of national pride, as she was being prepared for a forthcoming transatlantic flight. Guilbaud's first flight from Caudebec to Bizerte was reported on the front page of *Le Matin* (*Le Matin* (Paris) 27 April 1928: 1). Likewise, when Cavelier de Cuverville accidentally lost three fingers of his right hand in a propeller accident in late May, this too was reported in the French press (*Le Petit Parisien* 30 May 1928: 3). Perhaps the high status of the transatlantic flight is the reason why these men were selected for this misson: the meetings between influential Norwegians (Peterson, Wedel Jarlsberg) and French naval personnel (Leygues, Captain [later Admiral] Jean-Pierre Esteva) (Hovdenak 1934: 69) suggest that the deployment of the Latham and her crew for Amundsen's mission was an exercise in French-Norwegian diplomacy.

The conventional narrative of Guilbaud's appointment is recounted by historian André Bujeaud, who states that Guilbaud was given the mission on 14 June and replied that '*The Italia's* position is not beyond the range of

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my aircraft... I am ready to go' [La position de l'*Italia* n'excède pas le rayon d'action de mon appareil... Je suis prêt à partir] (Bujeaud 2007: 407). He was then ordered to go by the 'ministre' (presumably Leygues) and, with an engineer, Guilbaud made a number of polar modifications (alterations to the motor and other fittings; metal propellers in place of wooden ones) before the Latham flew out two days later from Caudebec-en-Caux on 16 June 1928 (Bujeaud 2007: 407–408).

The conventional narrative also states that Guilbaud volunteered for the mission; in public he expressed no objections. However, alternative narratives exist which argue that he and Cavelier de Cuverville had serious private doubts as to the Latham's suitability. The Norwegian *Aftenposten* published an article on 14 May 1935 titled 'Latham was unfit for a journey across a polar sea' [Latham var uskikket for ishavsferd]. Here the journalist Arnesen states, according to an unnamed source, that Guilbaud and Cavelier de Cuverville were told by Leygues to take the Latham to assist in the Nobile rescue efforts. Allegedly the pilots replied that the Latham was too light for a journey across Arctic waters and that a stronger aircraft was needed to accommodate the equipment and more than two flyers. Leygues then told them that they could refuse this mission, but if they declined then two other pilots would be found. They had to decide immediately: Guilbaud and Cavelier de Cuverville consequently agreed to take the Latham to the Arctic (*Aftenposten* (Oslo) 14 May 1935: 8).

If true, this article casts new light on the French air crew's bravery. As its test-pilots, these men knew the plane's idiosyncrasies; in an emergency they might have a chance of survival, but a stranger to the Latham's controls would have had none at all. Thus, rather than endanger two of their colleagues, Guilbaud and Cavelier de Cuverville agreed to Leygues' ultimatum.

Set against this, an article appeared in the Norwegian newspaper *Nordlys* in September 1928 which gives another version of events: titled 'Was the Latham a doomed vessel?' [Var 'Latham' en dødseiler?], it states that Guilbaud was not even offered the option of refusal, and that he first knew of his mission when he read of it in the newspapers. The article further alleges that Guilbaud hinted in an interview his doubts about the aircraft's suitability, and that French aircraft manufacture was so problematic that some had called these aircraft 'flying coffins'[Flyvemaskinlikkister] (*Nordlys* (Tromsø) 11 September 1928).

Which story is closer to the truth: Bujeaud's official version, Arnesen's tale of last-minute political pressure or the *Nordlys* account stating that Guilbaud was given no option at all? There does appear to have been some irregularity involved with this mission: though the biographer Edouard Calic states that Cavelier de Cuverville independently volunteered for the task, even to the extent of leaving hospital early (Calic 1966: 213), it is difficult to understand why the Ministry permitted this man to fly less than a month after his serious hand injury.

Guilbaud was reported as appearing confident when flying off from Caudebec-en-Caux on 16 June, bidding farewell with the words 'There's no such thing as bad weather... It's in God's hands!' [Le mauvais temps, ça n'existe pas... À Dieu vat!] (Bujeaud 2007: 408). However, the pharmacist Zapffe, Amundsen's old friend and an eyewitness to Amundsen's last hours at Tromsø, testifies to Guilbaud's later concerns about his aircraft:

> 'Guilbaud's statement on the machine before the flight from Caudebec, that it would be death if they were forced to land on the sea, seemed to me discouraging' [Guilbauds uttalelse om maskinen før de fløi fra Caudebec, at det vilde vaere døden, hvis de blev nødt til å gå ned i sjø, hadde også virket forstemmende på mig] (Zapffe 1935: 186–187)

Arnesen quotes Guilbaud as having stated, when the Latham arrived in Bergen, 'If we had had to go down on the North Sea today in a rough sea, we would never have reached land alive' [Hadde vi måttet gå ned på Nordsjøen idag i den høie sjø, vilde vi aldri ha nådd levende i land] (Arnesen 1929b: 197). Hence it would seem that Zapffe is in error as to the timing of Guilbaud's statement, and that Guilbaud said this not before the Latham's first flight from Caudebec, but before her second flight from Bergen. However, the important point is that if even Zapffe knew of Guilbaud's misgivings about the Latham's durability *before* her third and final flight from Tromsø, then Guilbaud must have communicated his serious doubts to Amundsen. Why, given Guilbaud's warning and his and Dietrichson's own reservations about the motors, did Amundsen choose to take the Latham on a solo flight over the Barents Sea? In the next section we shall examine Amundsen's behaviour in his last days, his possible options, and his awareness that this flight might prove fatal.

Amundsen's decision

Why, given the Latham's evident problems, did Amundsen not fly together in formation with at least one other aircraft from Tromsø to King's Bay? Other pilots in Tromsø could have assisted him. Huntford noted that at this point '[t]he Swedish pilot [Sergeant Viktor Nilsson] suggested all waiting a day to make the crossing of the dangerous Barents Sea together' (Huntford 2002: 561) but that Amundsen refused the offer and set off unassisted. Huntford's source is probably the article on the front page of the *Aftenposten* of 20 June 1928, with the headline 'Amundsen refused a joint flight' [Amundsen avslo samflyvning]. The historian Fred Goldberg has translated the key passage of this article into English:

> Amundsen rejected flying together to Svalbard as he wanted to operate on his own — Does he have a trump [card] behind his hand? Ny-Ålesund 20 June. In a talk I had last night with the pilot of *Uppland*, [Sergeant] Nilsson, he mentioned the Swedes had tried to cooperate with Amundsen in Tromsö, to get guidance and help up north, but Amundsen answered

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> that he had to operate alone, as it was very urgent to bring the Italians help (Goldberg 2003: 71)

Amundsen's insistence on operating alone is strange behaviour, as he knew the value of flying in formation in the Arctic: lives had been saved by the decision to take not one but two Dornier-Wal aeroplanes north in 1925. There is no reason to doubt the *Aftenposten*'s report, and the swiftness of Nilsson's response on the night of 19 June makes his testimony credible: at this point Amundsen's fate was still unknown, so it would have been too great a risk for Nilsson to invent a story which Amundsen could subsequently contradict. Furthermore, even if Nilsson had not made this offer, there would still be no reasonable justification for Amundsen's decision to fly out unaccompanied. Given the Latham's evident shortcomings, Amundsen should have insisted on flying alongside another aircraft instead of flying alone.

Nobile, in his 1930 memoir of the *Italia* disaster, states that four aircraft were present in Tromsø Bay on 18 June: Amundsen's Latham (representing France), Nilsson's Junkers-G24 'Uppland' (Sweden), Olavi Sarko's and Gunnar Lihr's Junkers-F13 (Finland) and Penzo's Dornier-Wal (Italy). Nobile then implicitly defends Amundsen's decision to fly alone by stating that every plane present took the same risk:

> I hoped these four planes would take the elementary precaution of crossing the Barents Sea together. But unfortunately the rescue expeditions were acting independently and there was no co-ordination between them; so that each hydroplane crossed that stormy sea alone (Nobile 1930: 255).

However, Nobile's version of events is inaccurate. On 18 June only the French, Finnish and Swedish planes were in Tromsø (Hovdenak 1934: 76). After unsuccessful attempts to fly on 18 June, before the Latham's own take-off (Zapffe 1935: 190; Goldberg 2003: 63), the Finnish plane was taken aboard the collier *Marita* and transported to Spitsbergen rather than fly across the Barents Sea (*Aftenposten* (Oslo) 25 June 1928: 1; Simmons 1965: 171). Meanwhile Penzo, in his Dornier-Wal, arrived in Tromsø after Amundsen's departure, and flew from Tromsø to King's Bay on 19 June (Hovdenak 1934: 190) alongside Nilsson. Crucially, the journalist Arnesen gives an eyewitness account of Nilsson's and Penzo's arrival *together* at King's Bay on the night of 19 June: 'We heard the drone of motors... It was the Swedish Junker, there could be no doubt about it, and a few minutes later Penzo's Dornier-Wal arrived. But where was Amundsen's French craft?' (Arnesen 1929a: 108)

Evidently Nobile was mistaken. There *was* evidence of co-operation between the expeditions: Nilsson and Penzo *did* 'take the elementary precaution of crossing the Barents Sea together'. Had Amundsen waited just one more day, his vulnerable prototype aircraft could have flown alongside their proven and reliable models on 19 June. Given his reported concerns with the Latham's motors, and the life-saving lesson learned by bringing *two* planes to the Arctic in 1925, Amundsen's decision to fly alone on 18 June indicates questionable judgement at the very least.

Amundsen's decision may perhaps indicate something more unsettling. Zapffe's description of his last day with his old friend at Tromsø is revelatory. During the conversation Amundsen remarked that a Dornier-Wal would have been preferable to the Latham (Zapffe 1935: 186; Bomann-Larsen 2011: 347), and Zapffe comments:

> I had an indescribable, unpleasant feeling that something alien lay between us. The open and happy atmosphere which usually characterized our conversations, even when talking about serious matters, this time was absent (...) An interminable silence fell over these our last hours together. I even felt slightly embarrassed – as I would in the company of someone ill, to whom one does not quite know what to say (Bomann-Larsen 2011: 347)

Zapffe wrote at length of a strange fatalistic atmosphere in that last meeting. At one point Amundsen handed Zapffe his broken cigarette-lighter with the words 'Keep this, as a souvenir of this last journey' [Behold det du, som en erindring om denne siste ferd] (Zapffe 1935: 188). When Zapffe offered to have it fixed, Amundsen replied, 'No, I have no use for it' [Nei, jeg får ikke bruk for det] (Zapffe 1935: 188). Finally there is Zapffe's description of Amundsen in the Latham before its departure. 'I shall not forget the expression on his face, sitting astern, something extraordinary and resigned was over him. It appeared that nothing concerned him and yet it was maybe all about him. He sat quietly just looking at me' (Bomann-Larsen 2011: 348).

In the journalist Arnesen's 1935 *Aftenposten* article we read that the French crew had had just two hours of sleep, and that Zapffe's suggestion of a proper rest before departure was disregarded (*Aftenposten* (Oslo) 14 May 1935: 8). In his 1935 memoir Zapffe wrote that he urged the men in vain to wait for a longer rest, and in case the becalmed conditions improved so that the aircraft could have more wind beneath her wings (Zapffe 1935: 190). There was no need to hurry to meet Wisting at Advent Bay: had this been a concern, Amundsen could have afforded to delay the crossing by a few days, as Wisting's collier ship *Ingeren* only arrived in Advent Bay on Sunday 24 June (*Aftenposten* (Oslo) 25 June 1928: 2). In his biography Huntford justified Amundsen's hasty departure with the statement '[i]t was now a race to reach Nobile first and take him off' (Huntford 2002: 561). However, as we have seen, Amundsen's prospects of reaching Nobile and 'taking him off' would have been slender, given the Latham's extremely specific requirements for a safe touch-down.

Huntford states, of the decision to take the Latham across the Barents Sea: 'By now Amundsen knew that his machine was unsuited to her task; so did Leif Dietrichson, his Norwegian companion, and Captain René Guilbaud, Latham 47's commander. The aircraft was overloaded and too weak for the Arctic. They all knew that to go on was foolhardy, but they had gone too far to turn back'

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(Huntford 2002: 561). Huntford's statement has the effect of parcelling out responsibility to Amundsen, Dietrichson *and* Guilbaud: if all were aware of the Latham's unsuitability, then all bore blame for the disaster. In Guilbaud's case such an implication is unfair, since he had no freedom to refuse. As Guilbaud stated in an interview, they were on an official mission: 'Our mission is to take on board the Norwegian explorer Amundsen, who will guide us in our searches over the polar regions' [. . .nous avons pour mission de prendre à bord l'explorateur norvégien Amundsen, qui nous guidera dans nos recherches au-dessus des régions polaires] (*Le Petit Parisien* 16 June 1928: 1). Furthermore, Amundsen was responsible for bringing all five crew members on the plane even though one, Cavelier de Cuverville, was an obvious candidate to be left behind due to his recent serious hand injury. Less than a month after the traumatic amputation of fingers in a propeller accident, his right hand would have had only limited use.

Why was Cavelier de Cuverville's presence judged necessary on the final flight? Arguably he helped support Guilbaud on the Latham's flight from Caudebec to Bergen, but on 17 June an experienced polar flyer, Dietrichson, was present in Bergen to take over from him; Guilbaud, as the pilot familiar with the Latham's controls, would still have been responsible for the crucial tasks of taking off and landing. Had Cavelier de Cuverville been sent from Bergen together with Wisting by sea to Advent Bay, or left behind at Tromsø, the Latham would have had a lighter load and the crew more room in which to operate. Hence Amundsen allowed an incapacitated man to take up space and add extra weight on the Latham's flight across the Barents Sea. Even if Cavelier de Cuverville had asked to come, or if Guilbaud had specifically requested his presence, as Calic suggests (Calic 1966: 214), Amundsen as leader should have had the strength to state that he was strictly superfluous to requirements.

The question naturally arises of whether the Norwegians and the French could understand each other. We can find no primary evidence to suggest difficulties: it is most likely they had sufficient English to communicate. Obviously, if the language barrier had posed a serious problem, this would have been a *further* reason not to take the plane out. The decision to suspend the mission, however, was not in the hands of Guilbaud, Cavelier de Cuverville, Brazy and Valette. As naval personnel officially representing France, these four men were under military obligation to follow Amundsen's orders. They presumably also trusted that Amundsen, their polar guide, would not expose them to exceptional risk.

Dietrichson's participation is harder to understand, especially as the journalist Arnesen states that neither Dietrichson nor Amundsen 'was entirely satisfied with the type of the motor' (Arnesen 1929a: 114). Furthermore, the biographer Jan Østby states that Dietrichson, an experienced polar pilot, did not trust the flying-boat. It was too heavy in appearance, had uncertain manoeuvrability in a polar sea, and its wing-floats were positioned too low and could easily be buffeted against waves or ice floes (Østby 1942: 203; Calic 1966: 213). As the leader, Amundsen was the one who chose whether the flight should depart or not, and it was Amundsen who decided to leave (Zapffe 1935: 189). Dietrichson ultimately complied.

There seems little doubt that Amundsen desired a heroic death. 'I wish only that death will come to me chivalrously, will overtake me in the fulfilment of a high mission', he has been quoted as stating in an interview (Guidici 1928: 37) and Ellsworth stated that 'the end, no doubt, was as he himself would have wished it, for Amundsen often told me that he wanted to die in action. He could not bear the thought of any other way' (Partridge 1953: viii). However, what about the other men? Dietrichson was 37: his *Times* obituary states that he had been hoping to take part in Commander Richard E. Byrd's prestigious forthcoming expedition to fly to the South Pole (*The Times* (London) 4 September 1928: 17). Guilbaud was 37, an officer of the *Legion d'Honneur* (Bujeaud 2007: 399) who was planning to make a transatlantic crossing in the Latham (Simmons 1965: 166–167; Bujeaud 2007: 406), a feat that, if successful, would have assured him a Charles Lindbergh-like status in France. In view of his injury Cavelier de Cuverville, 35, had only a marginal chance of accompanying Guilbaud on his transatlantic flight, but he possessed an aristocratic background and solid naval record which could have helped him find other fulfilling work. Valette was 27 and Brazy was 26, both married with children (Hovdenak 1934: 74) as was Dietrichson. With the exception of Cavelier de Cuverville's recent injury, these men were physically healthy. None of them had a compelling motivation to wish to die in a blaze of glory.

Given that they wished to live, why did the French crew not refuse to fly? Photos taken of this crew from an hour or so before their departure show them apparently relaxed and smiling, as seen in the 1999 documentary *Frozen heart* and other sources (for example Gynnild 2002: 77). These smiles have been taken by some observers as evidence of the crew's confidence in the Latham: however, appearances can be deceiving, and it should be remembered that these servicemen represented their nation abroad and were under considerable pressure to follow orders. (In our opinion there is a tragic modern parallel in the 1986 US *Challenger* disaster. Due to a number of deferred launches, the shuttle crew were aware of potential problems: the widow of one crew member testified afterwards to her husband's private concerns (Everett, 2006), yet the cameras recorded the crew smiling as they boarded their fatal last flight.)

The important question is why Amundsen, the leader of his own independent mission, felt the need to continue. Huntford's view is that at this point Amundsen 'had gone too far to turn back' (Huntford 2002: 561), but in fact at this point Amundsen had crossed no Rubicon. He

had certainly been given an unsuitable plane. However, unlike the French crew, Amundsen was not operating under military orders from his government: he could have refused to take out the Latham on the grounds of common sense. He could have argued that it would have done no good to go north in the wrong kind of aircraft. By doing so, he would be adding the strong possibility of further casualties to an already fraught situation.

Furthermore, Amundsen was not Nobile's sole source of aid. Amundsen was aware that many other parties from different countries were all eager to reach the red tent. Nobile's memoir states that as early as 10 June the survivors in the tent heard a radio message that help was on the way (Nobile 1930: 241) and that on the next day, 11 June, they heard fuller details of the forces massing to come to their aid: a 'Swedish expedition, with three aeroplanes and a base-ship'; the ship *Hobby*, with two aircraft and two dog-teams; Maddalena's hydroplane; Penzo's aircraft; a 'Russian icebreaker' with two aircraft ('one a bimotor that has a long flying range'), and 'another large icebreaker' ready to leave (Nobile 1930: 242). Further people, aircraft and ships were subsequently added to the roster: as red tent survivor Franz Behounek wrote, not since the Franklin tragedy had so many come to the aid of a shipwrecked polar expedition (Behounek 1929: 182). With such numbers involved in the hunt for stranded men in a known location, it was not strictly necessary for Amundsen to jeopardise his own life and those of five other men by taking a potentially hazardous prototype flying-boat across the Barents Sea.

Of course Amundsen would have faced serious embarrassment had he refused to go. His spontaneous promise of assistance for his former rival had won him a resurgence of national affection. To renege on it with a truthful explanation would probably embarrass his French sponsors. Refusal might have triggered media attacks, something Amundsen had previously experienced after the *Maud* expedition (Simmons 1965: 41) and found hurtful and angering (Amundsen 1927: 117–118). Huntford stated that 'to a friend [Amundsen] confessed that he could not face a repetition of the jeer of cowardice raised after his first attempt at an Arctic flight' (Huntford 2002: 560). Arnesen acknowledged that that public expectation and extensive media coverage placed considerable pressure upon Amundsen: '[He] knew well what would be said had he not got away: "Oh-ho, he is funking it – that is not like him!"' (Arnesen 1929a: 114). Amundsen's most recent biographer Stephen Bown has written that 'Amundsen had played the showman for so long now that he could not back down; he had to keep acting for the crowd' (Bown 2012a: 321).

However, in our opinion, Amundsen's decision to fly cannot be excused by citing possible humiliation. The lives of his five crew members should have weighed more heavily than any other consideration. After all, Maddalena explained why he did not attempt a landing near the red tent in his unsuitable S.55: '[T]here were other lives on board the aeroplane besides my own, and I was responsible for them' (Arnesen 1929a: 105). It is a pity that Amundsen did not have the same thought in the forefront of his mind. Guilbaud and Dietrichson had expressed strong reservations about the Latham (Arnesen 1929b: 197; Zapffe 1935: 186–187; Østby 1942: 203; Calic 1966: 213–214), and neither Dietrichson nor Amundsen trusted the plane's motors (Arnesen 1929a: 114). From his gift of the lighter to Zapffe and the remark about having no use for it (Zapffe 1935: 188) Amundsen appears to have been aware that there was a significant chance they would not return.

On the flight itself Amundsen had one final chance to turn back, when faced with a wall of fog 40 nautical miles (approximately 74 km) from land. Hovdenak suggests that perhaps the decision to continue was a bold impulse to forge ahead instead of returning to Tromsø empty-handed (Hovdenak 1934: 193). The fog, in fact, would have provided a perfect reason for Amundsen to turn back. Flying into fog was obviously dangerous, and there was no shame in turning back or taking precautions. After all, when Maddalena had encountered thick fog on 16 June near Bear Island, halfway across the Barents Sea, he turned his aircraft around and flew approximately 600 km back to his original embarkation point of Vadsø, Norway (Goldberg 2003: 56). When on his second attempt on 17 June Maddalena encountered the same thick fog at the same location, he *again* returned to Vadsø rather than risk his plane's safety (Goldberg 2003: 59).

We do not know who was flying the Latham when it headed towards the fog. Though Amundsen held a pilot's licence (Gynnild 2002: 22), he would not have been permitted to fly a military aircraft: one of the military pilots must have been at the controls. However, if Amundsen gave the order to fly towards the fog, it is unlikely that his companions would have disobeyed someone of his stature and authority. After all, Guilbaud had been told that Amundsen would guide them in the polar regions (*Le Petit Parisien* 16 June 1928: 1). Had Amundsen given the order for the Latham to turn around and go back to Tromsø, the crew could have rested and had the company of Nilsson's aircraft the next day. However, this final chance to avoid disaster was missed: the Latham flew into the fog and was never seen again.

Why did Amundsen refuse to wait? Hovdenak speculates that it was Amundsen's hearing the news at 12.15pm that day of Maddalena's departure from Vadsø to King's Bay which spurred him on in a kind of race (Hovdenak 1934: 78). What is clear is that other aircraft were getting ever closer to the red tent. On 17 June Nobile reported seeing two planes in his vicinity, searching (Nobile 1930: 254). These were Norwegian planes flown by Riiser-Larsen and Lützow-Holm. Amundsen would have known perfectly well at this point that the survival of the men of the tent would not have depended on his efforts alone. Flying out alone on 18 June, one day ahead of the other pilots at Tromsø, would give Amundsen only a slender chance of being the first amongst many to drop supplies to Nobile and his men.

Flying together with at least one other plane was the obvious safest option. It would probably have lessened or even negated Amundsen's chances of being first at the red tent, but should the prototype Latham experience serious difficulties the consort might have been able to rescue Amundsen's crew. Even if the accompanying aircraft could not have effected an immediate rescue, a prompt radio alert with co-ordinates of the accident could have led to timely rescue efforts on the Latham's behalf.

Contemporary reports of the disaster stressed that the plane probably broke apart in the sea or turned over soon afterwards, and that the Latham's crew could not have survived for long (*The Times* (London) 27 September 1928: 11; Hovdenak 1934: 204); that is, their suffering was brief. This story was probably intended to spare the feelings of the relatives. There is sad evidence that the Latham survived its forced landing in the sea on 18 June and that the crew made efforts to repair damage to the aircraft. The petrol container found on 13 October showed signs of post-flight alteration:

> An attempt had been made to stop it with a wooden bung, hastily whittled into shape with a knife. Probably, once the accident was a fact, the crew had made a valiant attempt to substitute an empty petrol tank for the broken wing float. It was alleged that the seaplane's second-in-command had witnessed such a solution successfully applied during an earlier accident (Bomann-Larsen 2011: 356)

An article available on the *Aftenposten* news website, 'Witnesses to the polar drama' [Vitner om polardrama] shows the petrol container: the modifications are in fact three large square apertures cut into the sturdy metal side (*Aftenposten* (Oslo) 21 June 2008). This must have taken considerable effort: these modifications appear to indicate an attempt to attach the petrol container to the wing to replace the lost stabilizer float. Cavelier de Cuverville had in fact witnessed this solution on a previous sortie, in which it had saved the aircraft (Hovdenak 1934: 204). The petrol container is evidence for the Latham having landed essentially intact, with the lost float apparently the only obstacle to regaining altitude, and both plane and crew in stable enough condition to attempt repairs. It is likely that the sea, or weather conditions, prevented the Latham from regaining altitude: on his 18 June flight from Vadsø, Maddalena had been forced into an emergency landing on the sea near Bear Island for repairs, and had reported that it had been difficult to rise into the air again due to a strong swell (Hovdenak 1934: 191). When the efforts of Amundsen's party to start again proved unsuccessful, they would have had no choice but to wait for rescue.

We must return to the story of the collier *Marita*, which claimed to have heard faint SOS signals during her Barents Sea crossing: these signals were heard on the evening of 22 June, four days after the Latham's disappearance. This would indicate that the plane was essentially intact after landing, with sufficient power to operate the wireless. The plane contained relief supplies for the red tent: 20 kilos of pemmican, 20 kilos of chocolate, 1 large box of oat biscuits, a shotgun with 100 cartridges, and approximately 100 units of cooking fuel (Hovdenak 1934: 76). With these, and the bottles of drinking water and sandwiches brought for the flight (Hovdenak 1934: 77) the men could survive for some time. From the evidence of the modified petrol tank we know the downed Latham must have drifted in the Barents Sea after a forced landing, the survivors waiting for assistance which never came. The signals heard by *Marita* on 22 June suggest that these men may have waited for help for up to four days, if not longer.

Had the Latham been flying alongside another aircraft at the time of its forced descent, the consort could have alerted the mainland to the accident upon arriving at King's Bay. Survivors could conceivably have been picked up by a ship traversing their regular shipping lanes. If *Marita* was within range of the Latham's radio signal (a range specified as 60 miles, according to the media (*Ogden Standard-Examiner* 24 June 1928: 1)), then the Latham was at most only 60 miles (96.5 km) away: around 5 hours' journey, assuming a collier's average speed of 10 knots (18.5 km) per hour. As it was, on the night of 22 June *Marita* sailed on. If the signals it had heard were indeed the Latham's last distress calls, *Marita* had no awareness of the Latham's location and thus no way of rendering assistance.

Amundsen left no contingency plans for rescue should he encounter difficulties, and no fixed plan of action. The 'man of many surprises' (Arnesen 1929a: 111) had left everyone in the dark as to his intentions. On 20 June Riiser-Larsen received a telegram from the Sysselman [governor] at Spitsbergen, 'Amundsen... has not yet arrived here. Do you know Amundsen's plans? Or do you know if Amundsen has flown directly to the search area.' To this Riiser-Larsen responded, 'Do not know Amundsen's plans' (Goldberg 2003: 69). No-one knew Amundsen's probable route, which seriously hindered rescue efforts when the Latham disappeared.

When Penzo was diverted on 23 June from assisting the red tent to look for the Latham (Goldberg 2003: 81), he could find no trace. All other searches proved similarly fruitless. One possible explanation for the plane's near-complete disappearance can be found in the sad fate of yet another Latham prototype: whilst the first military prototype, Latham 47 no. 01, perished in flames on the Seine, the first *civilian* prototype, designated Latham 47 P, was 'destroyed by heavy seas during trials' (Taylor 1969: 97). It seems fair to conjecture that the second military prototype Latham would also have been vulnerable in heavy seas, and that one severe storm at sea would have been sufficient to destroy the aircraft and end her occupants' lives.

In the final section we shall cite those writers who have expressed reservations regarding Amundsen's last flight, and offer our own hypotheses for Amundsen's regrettable final action.

Conclusion

Though the most common reaction to Amundsen's last flight is approbation, some writers have dared to portray it as less than wholly heroic. The novelist Saul Bellow, in his Pulitzer-winning 1975 novel *Humboldt's Gift*, uses imagined scenes of Amundsen's refusal to listen to the French pilot's advice, and the subsequent disaster, as a source of twisted comedy (Bellow 2007: 181, 461). The psychologist Per R. Anthi suggests possible self-destructive motivation:

> Identifiable flotsam from the lost plane indicated that his wish for a rapid death had been fulfilled... Some analysts would perhaps assume that his longing to die in the Arctic was determined by an underlying death instinct... I shall leave such speculative questions open (Anthi 1999: 1003)

Neither Bomann-Larsen's 1995 biography of Amundsen nor Stig Andersen and Kenny Sanders' 1999 documentary *Frozen heart* openly addressed a theory of self-destruction, but both offered evidence, specifically Zapffe's testimony, to suggest the possibility. Other modern historians have also expressed reservations: Caroline Alexander briefly examined the Latham's last flight in a recent article on Amundsen, concluding that '[u]nder modern scrutiny, the accumulation of errors is foreboding' (Alexander 2011: 135), whilst in his 2011 biography Alexander Wisting writes that Oscar Wisting, the man who did not board the Latham in Bergen in 17 June, later expressed a belief that by sending him by sea to Advent Bay Amundsen, known as 'the chief' [Chefen], 'had wished to spare him from throwing his life away in this meaningless play to the gallery' [Chefen hadde villet spare ham for å kaste bort livet i dette meningsløse spill for galleriet] (Wisting 2011: 519).

Though the biographer Bown does not tackle the theory of Amundsen's self-destruction in his 2012 biography, he considers the issue in a later interview and points out that, if this were the case, the five other crew members would not have been complicit: 'It was the type of death Amundsen claimed to have wanted: in action, in the frozen regions... I think Amundsen truly did want a glorious and frightening death in the Arctic. Throughout his life he had repeatedly put himself in these situations and claimed that he wanted to die in action. I doubt that this was the case with the other young men who were with him in the doomed airplane' (Bown 2012b).

Huntford also addresses the theory of Amundsen's possible self-destructive impulse, though without the criticism implicit in Bown's interview. In his biography *Nansen* (1996), Huntford states 'Amundsen had disappeared over the Arctic during the summer whilst trying to relieve the Italian airship commander, Umberto Nobile' (Huntford 2010: 663). Shortly afterwards, he notes 'Amundsen had been a sick man. He had had radium treatment in America. It was perhaps an exit half-deliberately chosen' (Huntford 2010: 664). Huntford's mention of Amundsen's previous cancer treatment, followed by the statement that his last flight was 'perhaps an exit half-deliberately chosen', appears to imply a certain causality between Amundsen's cancer and his final flight.

In *Scott and Amundsen* (1979) Huntford remarks of this last flight that Amundsen 'would only have been unhappy if he had gone on. His end was worthy of the old Norse sea kings who sought immolation when they knew their time had come. It was the exit he would have chosen for himself' (Huntford 1979: 577; Huntford 2002: 562). Nansen himself compared Amundsen to the old Norse sea-kings [de gamle norske sjøkonger] (Wisting 2011: 524) in a valedictory speech on 24 October 1928, using the reference to pay tribute to Amundsen's strength, courage and willpower. However, Huntford juxtaposes this 'old Norse sea kings' comparison with the phrases 'sought immolation', 'when they knew their time had come', and 'the exit he would have chosen for himself'. To the best of our knowledge Huntford has not yet criticised Amundsen for his final flight, an action Huntford himself has described as 'perhaps an exit half-deliberately chosen', which resulted not only in Amundsen's death but those of five other men as well.

By any standard, Amundsen's decision to take out the Latham with no support from other aircraft was poor judgement. Assessed by Amundsen's own strict standards of 'victory' versus 'defeat' (Amundsen 1927: 258), the Latham's last flight falls in the latter category, as the 'necessary precautions' to give the best chances of survival were not taken. Amundsen could have taken any one of four definite actions to increase his chances of survival. He could have refused to take out the Latham; he could have chosen to fly alongside another aircraft also headed for King's Bay; he could have confirmed his planned route, destination and estimated time of arrival, so that search parties would have a solid idea of where to look for the Latham if she vanished; and, when faced with fog, he could have ordered the plane to return. He took none of these precautions. Given the evidence, only three interpretations of Amundsen's actions seem possible.

The first interpretation is that Amundsen genuinely believed that a prototype aircraft which had not completed its flight tests was capable of assisting in Arctic relief efforts, and that he had sincere faith, despite Guilbaud's and Dietrichson's objections, that the Latham was so invulnerable that there was no need to make the 1093 km journey alongside another aircraft for protection. If so, he ignored experienced counsel and made a serious misjudgement that led to the deaths of five men and himself.

The second interpretation is that others' misgivings as to Amundsen's mental state were well-founded, and that Amundsen was not fully *compos mentis* when he chose to take out the aircraft. Perhaps in normal circumstances he would have seen the danger and either refused to fly or ensured that he flew alongside another aircraft, but his ill health led him to disregard warnings. A temporary mental imbalance may have impaired Amundsen's ability

to make a deliberate, reasoned choice. If so, his last flight should be seen as a tragic accident, not as heroism.

The third and bleakest interpretation is that Amundsen, whose star had faded and whose health was poor, saw in this flight his opportunity to take his exit from the world. We will never know what was in Amundsen's mind on 18 June 1928; though certain of his statements, as quoted by Arnesen, Ellsworth, Guidici and Zapffe, suggest a discernible fatalism, it can be argued that these accounts were given *after* his death and that the writers' memories may perhaps have been retrospectively coloured by the dramatic nature of his ending. However, Amundsen's neglect of the 'necessary precautions' is evident, and this third interpretation would explain why he disregarded indications of the Latham's unsuitability, refused Nilsson's offer to fly alongside him, left no confirmed route with the authorities before departure and allowed the aircraft to fly towards the fog. If this was deliberate, then Amundsen cannot have considered the rights or wishes of the five other men on that aeroplane.

In conclusion, we consider that the tragedy was set in motion by the provision of an unsuitable aircraft, but that ultimate disaster could have been averted had Amundsen taken clear and easily-implemented precautions for the safety of himself and his crew. Indeed, Amundsen would have done well to cite publicly the safety of his companions, as Maddalena did, to justify a refusal to fly. At best, the Latham would only realistically have been able to drop supplies; given the many others involved in the *Italia* rescue efforts, Amundsen's aircraft was far from being Nobile's only hope of relief. If Amundsen believed he was duty-bound to cross the Barents Sea to assist Nobile, then he should have chosen to fly out alongside at least one other aircraft even at the cost of one or two days' delay. Tragically, he did not do so. It is therefore our belief that the true heroes of the Latham tragedy were Guilbaud, Cavelier de Cuverville, Brazy and Valette, French servicemen who did their duty to their country, and the Norwegian Dietrichson, who gave Amundsen his support one last time.

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