

Cover story: Revealed: how oxygen and obfuscation kept the conquest of Everest a British affair

*The conquest of Everest, 50 years ago, was a great British achievement. But if not for some crucial mistakes and deft political manoeuvring, the Swiss might have got there first. Peter Gillman reports*

Hillary and Tenzing. The names of the men who were first to set foot on the gently-rounded snow dome that comprises the summit of Everest are enshrined as one of the epic partnerships of human exploration. Yet it could so easily have been Tenzing and Lambert.

Raymond Lambert was a 35-year-old Alpinist from Geneva who had lost all his toes to frostbite and climbed in shortened boots. He and Tenzing Norgay, then 38 and taking part in his fifth expedition to Everest, came tantalisingly close to the summit a year before the British-led triumph of May 1953. The pair went higher than any previous climbers and turned back within sight of the south summit, just 285ft further on.



*Ed Hillary and Tenzing Norgay in 1953 – the year of their triumph*

That they failed so narrowly resulted from two crucial mistakes, one of which — their choice of oxygen sets — haunts the Swiss even now. Jean-Jacques Asper, who took part in the Swiss attempt of spring 1952, says that with the right oxygen equipment, 'I am sure we would have succeeded.' To the British, wondering whether they would be going to Everest the following year, news of the Swiss failure came as a profound relief. 'We were biting our fingers like mad,' says George Band, one of the 1953 team. Sir Edmund Hillary, who was awaiting the news in New Zealand, comments: 'When I heard from London that they hadn't been successful, I was pretty happy about it. That meant there was the chance for us.'



*Tenzing with Raymond Lambert (left)*

Asper describes the competition between the British and the Swiss as a 'war', particularly as the British had used all their diplomatic leverage in Asia to keep other nations off the mountain. But the story of the rivalry has some profound ironies, and an honourable resolution. The British gleaned lessons from the Swiss failure that were vital in their own success. But the Swiss handed the information over voluntarily, as an act of solidarity among mountaineers. And when the British touched down at Geneva on their way home, the Swiss were there to toast them with champagne.

The British had always regarded Everest as their preserve. During the Victorian era, they had mapped it, established that it was the world's highest peak, and named it after the irascible, punctilious Indian surveyor-general, Colonel George Everest. One of the first to consider climbing it was Francis Younghusband, the leader of the military mission to Tibet at the time of 'the great game', the battle between the great powers for supremacy in the region. In 1904, after the Dalai Lama's allegiance to Britain had been secured, Younghusband — a prominent member of the British Alpine Club — sent two of his officers on an unofficial reconnaissance to report on the feasibility of climbing Everest. They had a clear sight of the mountain from 60 miles to the north and told Younghusband that its northeast ridge offered a practicable route.

British attempts to climb Everest began in earnest after the first world war. The Alpine Club and the Royal Geographical Society set up the Mount Everest Committee, whose first chairman was Francis — now Sir Francis — Younghusband. Seven expeditions were dispatched to Tibet during the 1920s and 30s, coming within 1,000ft of the summit on four separate occasions. They included the fateful attempt by Mallory and Irvine in June 1924, which almost certainly ended when they turned back from the summit somewhere above 28,000ft, dying in a fall later that day.

After the 1924 failure, the committee learnt that the Swiss were planning an attempt for 1925 or 1926. Some 25 top Alpine guides had been recruited, and there was news too of a German bid. The committee was outraged. Not only had two British climbers given their lives to the mountain, but the British were planning a new attempt. The British, Younghusband declared, 'should have priority, in view, among other things, that her countrymen lay at or near the top'.

The committee did its best to block the Swiss and German attempts. Requests to the Dalai Lama to allow expeditions were routed through the colonial government in India, and the committee appealed to the undersecretary of state for India 'not to assist' any other expeditions. 'Since the Mount Everest Committee have not relinquished their attempt to conquer the mountain,' wrote the secretary, Arthur Hinks, 'but are fully determined to organise a Fourth Expedition at the earliest possible moment, they would be very sorry to see any other party take advantage of the preliminary spade work which has been done and attempt to snatch the final victory.'

Ironically, Britain's carefully nurtured relationships with the Tibetans and its plans for an expedition in 1926 collapsed through a series of diplomatic gaffes. Chief among them was what became known as the affair of the dancing lamas, when the expedition's photographer, John Noel, brought back a team of Tibetan monks to perform musical concerts in Britain. The Tibetan government took offence, and also objected that one of the expedition's surveyors had gone into territory excluded from the government permit.

It was not until 1933 that the British cajoled the Tibetans into allowing another attempt. Meanwhile, the frustrated Europeans continued to press for their own chance. In the summer of 1929 the German climber Gunter Dyhrenfurth — who later adopted Swiss nationality — engineered a meeting with General Bruce, leader of the British expeditions of 1922 and 1924, who was on holiday in the Alps. Dyhrenfurth's son Norman relates that his father hoped to persuade Bruce that other nations should be allowed a turn. 'It didn't happen. Everest had become a British mountain. They were ruling in India, they had the political know-how and the introductions to the Dalai Lama. And nobody else did.'

The Germans switched their attention elsewhere, making attempts on both Kangchenjunga — the third-highest peak — and Nanga Parbat, the ninth. Even now they did not escape the committee's baleful influence. The colonial government in India had agreed to inform the committee about any other country's plans to climb in the Himalayas. When the committee learnt in 1935 that the Germans were planning a second attempt on Nanga Parbat, it asked the Indian government to ensure that the Germans did not poach any porters the British wanted for that year's Everest bid. It is a further irony that, having maintained their monopoly over the mountain for two decades, the British should have failed so many times. The last attempt before the second world war, in 1938, did not even reach the previous high points.

The British revived their interest soon after the war ended. The Himalayan Committee — successor to the Mount Everest Committee — first met in 1947. One of the keenest to resume the struggle was Eric Shipton, the inspirational if mercurial figure who had taken part in all four British attempts during the 1930s. At first, Shipton and the new committee assumed they would continue the approach from the north, through Tibet. But the region was in the grip of momentous political change. India was partitioned in 1947, and the Chinese communists invaded Tibet in 1950, closing it to outsiders. At the same time, Nepal, which had previously excluded foreigners, decided to open its borders. In 1951 it gave the British permission to send a reconnaissance expedition to Everest in preparation for a full-scale attempt the next year.

The six-man team, led by Shipton and including a New Zealand beekeeper named Edmund Hillary, arrived at Everest at the end of September. The great problem of an

attempt via Nepal lay in the Khumbu icefall, an unstable mile-long river of ice that blocked the approach from the south. Previous climbers who had seen it from afar, including Mallory, believed it was impassable. The reconnaissance group pushed through the icefall, doing their best to ignore the dangers from its tottering ice pinnacles and groaning crevasses. They reached the top of the icefall at the end of October, but their progress was halted by the most monstrous crevasse, seemingly bottomless and up to 300ft wide. Beyond it stretched the great frozen valley that Mallory had named the Western Cwm. That led to a 4,000ft ice climb to the South Col, the last staging post before the summit 3,000ft above. Although Shipton and his team did not attempt the crevasse, they set off home confident they had prepared the ground for a 1952 attempt



*Khumbu Icefall with black triangle of Everest summit beyond*

When they reached Kathmandu they heard the devastating news that the Swiss had obtained permission for an attempt in 1952, thereby pre-empting any British attempt. 'We were a bit disappointed,' says Sir Edmund Hillary mildly. 'I didn't even know that the Swiss had been asking for permission. It was a bit of a surprise.'

The Swiss climbers had asked their diplomats to sound out the Nepalese government in Kathmandu, and were gratified to discover that the Nepalese felt they owed no allegiance to the British. The Swiss had planned an attempt on Cho Oyu, an unclimbed 8,000-metre peak close to Everest. But finding the Nepalese so compliant, they asked permission for Everest instead. The Himalayan Committee was thrown into consternation. In desperation, they suggested to the Swiss that they make a joint attempt. The Swiss seemed interested and, a few days after Christmas, Basil Goodfellow, the secretary of the Alpine Club, flew to Zurich.

There was an inauspicious start, the Swiss pointing out that they had wanted to climb Everest since 1926 but had always been thwarted by Britain's influence in Tibet. They also reminded the British that they had asked if one of their climbers, Rene Dittert,

could join the 1951 reconnaissance team. The British had turned them down on the grounds that it was a strictly British affair — only for them to invite the two New Zealanders, Hillary and his colleague Earl Riddiford. That had in fact been a whim of Eric Shipton, done without consulting his colleagues, but the barb struck home.

Goodfellow felt that the British had a strong bargaining chip in Shipton and his team's knowledge of the icefall. The Swiss now made a remarkable concession, suggesting that they should take six climbers from each side. But negotiations broke down over who was to lead the expedition. The Swiss wanted their nominee, Edouard Wyss-Dunant, to be overall leader, with Shipton and Dittert sharing control on the mountain. Goodfellow countered by proposing that Wyss-Dunant should lead the expedition to base camp, with Shipton taking charge after that. It was a bid too far for the Swiss, who said they would go ahead by themselves.

Goodfellow reported: 'It was clear from [the Swiss] manner that, in spite of statements of complete equality, they wished to remain the dominant partners.' However, in a remarkable example of what the Swiss still call 'le fair play', Shipton travelled to Zurich in early January to hand the Swiss information and photographs of the icefall. Before the Swiss set off, the Himalayan Committee, at Shipton's request, sent them a good-luck telegram.

The Swiss team, consisting mostly of climbers from Geneva, arrived at Everest base camp on April 20. After making impressive progress through the icefall, they reached the crevasse that had stopped the British. The youngest member of the team, 25-year-old Jean-Jacques Asper, volunteered to try to cross it at its narrowest point, where it was about 15ft wide. 'I was young and enthusiastic,' he says. He was also motivated by remarks attributed to the British after their failure to overcome the crevasse. 'The English said the Swiss would not be able to climb it either.' This was, he adds, 'war'.

Asper first attempted a difficult manoeuvre known as a pendule, aiming to swing from one side of the crevasse to the other. When that failed, he was lowered onto a bridge formed by jumbled blocks of ice some 65ft down. With the chasm yawning beneath him, he crossed the blocks and climbed the sheer ice wall on the far side. 'It was very, very difficult,' he says. He and his colleagues constructed a bridge by lashing together three wooden ladders to enable the others to cross. Within a week, the Swiss had traversed the virgin snows of the Western Cwm and reached the foot of the ice slopes leading to the South Col.

They now faced a choice of route. To the left rose a giant rock rib that they dubbed the Geneva spur; to the right, the west face of Lhotse, with a glacier blocking its lower slopes. Although Lhotse seemed to be at an easier angle, the Swiss feared the glacier would present a replay of the Khumbu icefall. 'We chose the spur because the glacier seemed too dangerous,' says Asper. But climbing the Geneva spur was far harder than the Swiss had anticipated, and the terrain too steep to place an intermediary camp. After almost three weeks of difficult and dangerous climbing, the Swiss had still not reached the South Col.

The climbers' struggles were aggravated by another mistake. The atmosphere at the summit of Everest contains one-third the amount of oxygen as at sea level, and it was believed that climbers could not survive at such an altitude without supplementary oxygen. The pre-war British climbers had been equipped with oxygen sets, but they

were so awkward and heavy that most preferred to climb without them. Although they went to 28,000ft and more, the final 1,000ft seemed to be the critical barrier. For advice on oxygen, Wyss-Dunant, the Swiss leader, had turned to Professor Oscar Wyss at Geneva University. Wyss was a neurophysiologist with no special expertise in oxygen equipment. He plumped for an American system developed for USAF pilots and miners. The Chemox system, as it was known, generated oxygen from potassium peroxide. Whatever its merits, the sets had one overriding advantage: they weighed around 14lb, in contrast to the 30lb sets carried by the British during the 1920s and 30s.

The equipment had one striking flaw. The climbers took so much effort to inhale the oxygen that they could only do so while at rest, bringing minimal benefit. 'There was so much resistance that you couldn't walk while you were using it,' recalls Asper. In addition, the sets had a rigid plastic mouthpiece that made it impossible for the climbers to look around as they climbed. Worse still, these drawbacks only became apparent once they were at the mountain, because the sets had not been thoroughly tested in Switzerland.

Compounding these difficulties was the dehydration factor. Many pre-war climbers had complained of a terrible thirst, which proved to be the outcome of the acute dehydration caused by exertion at high altitude, with all its debilitating effects. The Swiss intended to make drinks by melting snow, but they had taken solid-fuel stoves that burnt too slowly to maintain an adequate supply. They had hoped to launch their summit attempt after establishing a camp on the South Col. But with their supplies dwindling and the weather seeming to turn against them, they did so from the foot of the Lhotse face.

For his lead pair, Wyss-Dunant had teamed his most renowned Swiss climber, Raymond Lambert, with the strongest Sherpa, Tenzing Norgay. Lambert had a formidable reputation, not least because he had continued to climb despite losing all his toes — and parts of some fingers — after being caught in a blizzard in 1938. He told the British mountaineer and photographer Alf Gregory that climbing was easier afterwards: his specially adapted boots were stiffer because they had no toes. 'When you stand on a hold,' he said, 'you know exactly where you are.' As for Tenzing, making his fifth visit to Everest, following three with the British in the 1930s and one with a maverick Canadian, Earl Denman, in 1947, he had priceless experience of the mountain.

Lambert and Tenzing, with five other climbers, reached the South Col on May 26. They found it a desolate place, stripped of snow by a raging wind that compelled them to crawl on all fours, 'clinging to the earth like insects,' Lambert later wrote, as they pitched their tents. The next day, the wind had eased and Lambert and Tenzing, with two companions, set off up the final 3,000ft of the southeast ridge, taking turns to inhale oxygen. At around 27,265ft — almost halfway to the top — they decided to stop for the night. Since they had just one tent between them, the second pair returned to the South Col, leaving Lambert and Tenzing to make the final push.

They had a wretched night, racked with cold and thirst, but in the morning continued their ascent. Although the wind was strong, the snow was firm and they made steady progress. But as their strength dwindled, they inexorably slowed and, around midday, finally came to a halt at about 28,200ft, just 835 vertical feet short of the summit.

Although they could see every detail of the route to the intermediary south summit, they knew they had run out of time to get to the top and back. Without exchanging a word, they turned and headed back to the South Col.

When the dispirited Swiss climbers reached the monastery of Thyangboche, three days' trek below Everest, they were surprised to find a group of British climbers waiting for them. While the Swiss had been on Everest, the British had been attempting Cho Oyu, the peak the Swiss had originally planned to climb. Although the British had given up a long way below the summit, their purpose was to carry out a series of equipment and physiological tests for an attempt on Everest in 1953, in the event that the Swiss failed.

Alf Gregory, one of the expectant group, remembers the tension before they learnt the outcome of the Swiss attempt. 'It was Tenzing who told us. 'We were all relieved.' Gregory also remembers that Shipton was curiously unwilling to inquire into the reasons for the Swiss failure, as if to do so would be an intrusion into private grief. Gregory climbed a nearby hillside with some of the Swiss to obtain a view of Everest, finding it bathed in sunshine. The Swiss clearly regretted they had not waited for the weather to improve before making their attempt. 'Ten days too soon,' one remarked.

If Shipton was reluctant to press the Swiss, one man was not. That was Griffith Pugh, a visionary physiologist who had been enlisted to the Everest team and had gone to Cho Oyu to conduct the key physiological trials. Having analysed the use of oxygen by the British before the war, Pugh concluded that their flow rates had been set too low to gain any benefit beyond supporting the weight of the equipment itself. He also believed that dehydration had been a crucial factor in the pre-war failures, recommending that the British consume at least eight pints of liquid a day. After the Swiss returned home, they agreed to meet Pugh in Zurich. Pugh questioned them closely on a range of issues, including the weather, hygiene, food and drink, tents, clothing and their use of oxygen. The Swiss answered his questions and showed him their oxygen equipment. Pugh drew up a six-page memorandum highlighting the Swiss blunders over their route to the South Col, their inadequate stoves and shortage of liquid, and their selection of oxygen equipment.



*Lhotse Face, South Col to the left*

Even now the British could not relax. By the time Pugh met the Swiss in Zurich, a second Swiss attempt, following the summer monsoon, was under way. Although the British believed the Swiss had less chance in the post-monsoon season, when the weather was likely to be worse, they braced themselves for bad news. The Swiss sent a fresh team of mostly German-speaking climbers, although Lambert and Tenzing were still selected. They took improved oxygen equipment, but at first persevered with the Geneva spur until the death of a Sherpa porter, killed by a falling fragment of ice, persuaded them to switch to the Lhotse face. They established a camp on the South Col, but savage weather, with temperatures plunging to 50 degrees below zero, prevented them from making a serious summit attempt, although Tenzing did climb a short way up the southeast ridge. 'It was very cold and windy,' says Norman Dyhrenfurth, a member of the autumn team. (As a Swiss-American, he led the successful first US ascent of Everest in 1963.)

Once more the British awaited the news from Nepal. The expedition had a new leader in John Hunt, an army officer who had taken over after the Himalayan Committee decided it wanted a more dependable and organised figure than the unpredictable Shipton. Hunt and several team members were testing equipment in the Swiss Alps when Swiss radio reported the autumn attempt had failed. Alf Gregory heard the news in a hotel bar and returned to tell Hunt in his tent. 'A smile came over his face,' Gregory recalls, adding that Hunt was not the most demonstrative of men. Other members were less restrained. 'I'm afraid we very much hoped they wouldn't get to the top,' says Mike Westmacott, another of the six surviving members of the 1953 team.

As before, the Swiss were gallant in defeat, inviting Hunt and his deputy, Charles Evans, to Zurich to hear the lessons of their failure. 'It was very nice and friendly,' recalls Norman Dyhrenfurth. The British were interested in the Swiss route up the Lhotse face. 'We told them our experiences and showed them our pictures,' says Dyhrenfurth, who adds that the Swiss also told the British where to find some spare oxygen canisters. He was especially impressed by Hunt. 'After I met him, I was sure they would succeed.'

The British took two types of oxygen equipment: the closed-circuit system proved unreliable, but the open-circuit system worked almost faultlessly when Hillary and Tenzing made their summit bid. The British maintained their fluid intake by making constant brews on their Primus stoves. The topography of the ever-shifting Khumbu icefall had changed, so that they had to find a new exit into the Western Cwm. But they followed the Swiss line up the Lhotse face, consolidating their camp on the South Col before Hillary and Tenzing went for the top.

The British profited in other ways. Just as the Swiss had found, they would have been hard pressed to mount a full-scale expedition in 1952. Without that breathing space, Griff Pugh could not have tested his theories on Cho Oyu, and they would have had to take more rudimentary oxygen equipment. Secondly, the Swiss had removed the mystery from much of the route. The British knew that the key sections were feasible, with only the final 800ft being uncharted terrain.

That advantage was embodied in the presence of Tenzing Norgay, who was appointed head, or sirdar, of the Sherpa contingent and identified by Hunt as a potential summit climber. None of this is to minimise the importance of Hunt's careful planning and

logistics, the climbers' ability and courage in finding a way through the Khumbu icefall, their tenacity in pushing up the Lhotse face in the teeth of ferocious weather, or the determination and technical skill of Hillary and Tenzing as they ventured into the unknown.

There was one more act of friendship from the Swiss, following the British success. The victorious team made their last stop before arriving at Heathrow on July 3 at Geneva, where they found the Swiss climbers had gathered to greet them. 'They were waiting in the transit lounge with champagne,' Alf Gregory recalls. 'They were smiling and offering their congratulations. It was absolutely fantastic.'

The British were equally generous in response, Hunt telling the Swiss that they should be accorded 'half the glory'. Asper says the British deserved their success, particularly as it was the culmination of 30 years' effort, with other nations waiting in the wings with permits if they failed. 'I was very pleased,' Asper says. 'Otherwise it would have been the Germans or the French.'

end

