

Guardian angel to the Commonwealth Trans -Antarctic Expedition

Rear Admiral George Dufek, US Navy...
the forgotten man of Antarctic exploration



Vivian Fuchs, left, and George Dufek standing alongside Fuch's Snow-Cat a few minutes after the British party arrived at the South Pole on 20 January 1958.

Three men of complex but very different characters met at the South Pole on January 20, 1958 -- Dr Vivian Fuchs and Rear Admiral George Dufek, USN, both veterans of many years Antarctic and Arctic exploration, and Sir Edmund Hillary whose snow and ice experiences had predominantly been in high mountains. In another, more romantic, era all might have been called men of destiny.

Vivian Fuchs, 49, a powerfully built, jaunty six-footer swung down from the leading Snocat as Ed Hillary, 38, broke from our group and walked towards him, calling out "Hullo, Bunny". Although about four inches [1.6cm] taller, Hillary looked tired and rather gaunt, still recovering from carbon monoxide poisoning caused by a faulty tractor exhaust during his dash to the Pole.

Fuchs almost ran to the New Zealander. "Hullo, Ed," he replied. "Damned glad to see you." And the pair shook hands warmly.

Watching, along with me and a small group of assorted newsmen and US naval personnel, was George Dufek, 55, also powerfully built, though stocky and several inches shorter than either Fuchs or Hillary. Dufek had made this meeting possible and yet was the unher-

alded and largely unacknowledged guardian angel to the Commonwealth Trans-Antarctic Expedition.

No one, certainly at that moment, seemed to remember that it was Dufek who had, only two years earlier, been the first man to stand on the South Pole since Scott and his four companions 44 years before.

Or that he and the six United States airmen with him had achieved this by pioneering an extremely hazardous landing – and equally perilous takeoff – in a small but wondrously versatile Douglas DC3 passenger aircraft called Que Sera Sera, adapted by the navy with skis and Jato (jet assisted take off) bottles of rocket fuel.

This, perhaps was the defining moment when the heroic era ended and the great adventure of colonisation of the Antarctic by scientists became a reality

What sort of man was George Dufek?

He had an extraordinary career as an active ship's captain, a submariner, a naval aviator and veteran of two previous Antarctic expeditions, as well as a distinguished wartime career – and whose passion was trout fishing. His wife and two young sons lived “more or less permanently” in Christchurch during his command of Operation Deepfreeze.

For a long time Dufek lived under the shadow of Rear Admiral Richard Byrd, who had stamped his personality and authority, at least in American eyes, over recent Antarctic exploration. George had been with Byrd on his 1939-41 expedition as navigator of the USS Bear and undertook many hours of exploratory flying over the Antarctic continent between Little America and the Palmer Peninsula. Only after Byrd's death in 1957 was Dufek officially acknowledged as commander of all the United States Antarctic programs.

During the war he coordinated the airborne units involved in the invasion of Sicily and Italy, then helped plan the amphibious invasion of southern France. Soon after the war ended he was back in the Antarctic commanding a seaplane squadron attached to Operation Highjump in 1946-47 during which a taskforce led by Admiral Byrd again explored the continent. George made the first flights over the Thurston peninsula and the Bellinghousen sea – the region where Fuchs also explored and later made his Shackleton Base.

Dufek had a swag of military and civilian decorations, among them the Distinguished Service Medal, the Legion of Merit with two gold stars, the Croix de Guerre and Legion of Honor, and even the Andre Medal from the Swedish government. There is a stretch of coastline named after him along New Zealand's Ross Sea Dependency.

But when he retired in 1960 the honour he cherished most was to be appointed director of the Mariners' Museum in Newport News, Virginia, which is dedicated to the preservation and advancement of all the arts and sciences related to the sea. The best thing about the post, George told me in a Christmas card that year, were the great trout fishing streams nearby!

I cherish something Dufek once said, referring to the many achievements – including so many “firsts” – that he and others had realised, and I believe it typifies the man: “It is not the actual doing of it that is difficult. The great accomplishment is the imagination, planning and hard work of the many people needed to prepare for it”.

George Dufek, Ed Hillary and Bunny Fuchs -- three remarkable men, indeed.

Living at the bottom of the World



Two Neptune aircraft being readied on the sea ice strip at McMurdo. Behind them is a Douglas DC3.

The establishment of a scientific station at the South Pole in November, 1956 by the United States Navy -- just three weeks after Rear Admiral George Dufek had made the first aircraft landing there -- was an amazing, audacious, even Herculean accomplishment. Nothing, since the journeys of Amundsen, Scott and Shackleton, had come close in the history of Antarctic exploration.

Yet this great achievement received only scant attention or acknowledgement in a world that was preoccupied with the eruption of a new outbreak of fighting in the Middle East as well as the Hungarian uprising against their communist leaders. Even in the United States, people were focused on the forthcoming presidential election, the uneasy Cold War truce and fears of the newly developed hydrogen bomb, while we in New Zealand and Britain were concerned with our own Antarctic endeavours.

Recounting the events much later, George Dufek was laconic when he described what he called his “quiet victories in the service of knowledge”, although I sensed that he felt that the navy, army and air force personnel comprising Task Force 43 under his command deserved better.

He called the stations they established at the South Pole and elsewhere in the Antarctic “beachheads” which were built and made ready for the “occupying forces” – trained scientists whose only opponent would be the unknown. Philosophical stuff from a lifelong military man!

The second landing at the South Pole was made three weeks later, on November 20, 1956, by two DC3s (R4D aircraft to the navy) which unloaded seven men and eleven huskies. Dufek was, this time, riding in an air force Globemaster that circled overhead until the landing party set up a camp, before parachuting in several tons of supplies: food and fuel, temporary accommodation, a Weasel for powered transport, as well as sledges for the dogs.

It was -61F (-35C) and the advance party, after determining from ground navigational observations exactly where the South Pole was, moved everything eight miles and began the task of building the base. The whole surface, they reported, was compacted snow, not ice, and



Two turnin', two burnin', sixteen pushin', is how pilots described a Neptune's take-off. The pods at the end of the wings housed radar and navigation gear.

firm for walking with footsteps sinking in about two inches. Aircraft skis sunk about one foot. More importantly, they reported that digging was easy and that there was no difficulty in sawing blocks of snow to be melted for drinking, cooking and washing.

Then the massive airlift by Globemasters based in McMurdo Sound began: three flights a day, each dropping about ten tons of supplies when weather permitted. Ten more men were flown in a week later, making only the fourth and fifth landings, and being Americans they took with them three cooked hams for a delayed Thanksgiving dinner.

"Flying in" sounds laconic. In reality it was anything but. The tough little DC3s and, a little later, the Neptune fighter bombers, were often operating above their maximum safety margins in extreme temperatures close to 10,000 feet up – and it called for a supreme effort from the aircraft and all the skills their pilots could command to come through safely.

I've mentioned the hair-raising difficulty we had taking off from the South Pole one year later and ours was by no means an isolated event. On each flight passengers and crew were dressed to expect the worst and aircraft carried survival gear, including sledges, tents, sleeping bags and sufficient food and fuel for crew to make their own way back to safety, along the same route that, at that stage, only Amundsen, Scott and Shackleton had ever travelled.

By December 2, flying and working in temperatures still hovering around -30 to -35C, the population at Amundsen-Scott South Pole station, as they decided to call the base, had reached 24 men. The little permanent village was fast taking shape and only covered tunnels



A United States Globemaster.

linking the buildings still needing to be constructed. Eighteen men, 9 scientists, 9 supporting navy personnel, were to stay for the winter.

Prefabricated sections of the station huts had been delivered and only a year's food supply and a large reserve of diesel fuel remained to be air dropped. And that would be the last physical contact with the outside world they would have until the following summer season began. By the end of February the airstrip on the bay ice at McMurdo Sound would have broken up and all the aircraft departed. It would not be rebuilt until the following October, on new bay ice that formed during the winter months.

When Ed Hillary and I flew in a Globemaster over Amundsen-Scott station on February 17, 1957, air dropping the last of the winter food supplies, the assembled huts, aurora and radar domes were clearly visible from the air and a jaunty orange and black mast with a ball on top, about a quarter of a mile away, marked the position

of the actual pole. In all, about 750 tons of buildings, equipment, fuel and food was dropped in three months from these massive freighters.

Ed had arranged the ride with George Dufek, asking that the Globemaster fly back to McMurdo over the Polar Plateau to the west of the mountain ranges, along the route he proposed to travel the following summer. As a goodwill gesture he took with him a crate of New Zealand eggs which were dropped along with the other food. Later I was able to report that only one egg was cracked, according to the South Pole cook.

As it happened, I was also on the first Globemaster supply flight to the South Pole the following summer, on October 17, exactly eight months later. As we flew low over the station we could clearly see all 18 men standing in the snow, waving wildly in clear, -60F (-51C) weather. What was exciting them, I'm sure, was that we were carrying two large bags of mail, to be airdropped along with fresh food. It also meant that within the next six weeks or so most of them would be going home.

The voice of Lieutenant John Tuck, co-commander of the station, came strongly over the radio: "You are in sight," he cried excitedly. "You are nice and big and beautiful."

The cluster of buildings was still as well-defined as it had been the previous autumn although snowdrifts were beginning to cover them, blurring the outline of the station. Three months later, when Fuchs arrived, the buildings were covered even further. Now, too, we could see the ring of fuel drums taking shape around the Pole.

Our first drop consisted entirely of fuel and landed about a quarter of a mile from the base. The second, containing the mail, fresh food and other "luxury" items was spot-on, indeed nearly landing on the Weasel that was racing out from the buildings to pick it up. Later, after we returned to McMurdo Sound, Lieutenant Tuck reported that all work had stopped for the day as they sat reading letters from home and enjoying a late breakfast of southern fried chicken.

Ed Hillary was, of course, by this time leading his Ferguson tractor train up the Skelton Glacier and Bob Miller, the New Zealand deputy leader who was soon to embark on an epic dog sledging trip, was on board the Globemaster with me to have a fresh look at Polar Plateau conditions. As we peered down at the surface from about 2,000 feet on the return trip, Bob was delighted with what he saw: "That is good snow for sledging," he told me. "It looks good for our dog teams."

How was the South Pole inhabited so quickly?



How had these hardy Americans made a home, at the bottom of the world, during the previous eight months, living in a prefabricated world on the fringe of disaster?

The work program included constant observation of all the IGY studies: glaciology, aurora and airglow, geomagnetism, gravity measurements, ionospheric physics, meteorology and seismology along with recording just what it was like, living at Amundsen-Scott.

They carried out all their work, even though the outside temperature dropped to the lowest ever recorded at that time on the face of the earth ---102.4F (74.7C). At that temperature two men deliberately went outside and walked around for ten minutes to see what effect it would have on them. Well rugged up and wearing face masks, they just reported that, although it was difficult to breath and they moved rather sluggishly, they just felt, well, cold!



A high altitude balloon being released which expanded to enormous size as it rose up to around 24,000 metres before bursting and crashing back to earth. These were essential scientific tools to study the upper atmosphere before high altitude rockets and satellites were developed.

The main living huts were built rather like refrigerators, but designed to keep the cold out, not in. There were no windows, because glass is a poor conductor of heat and in any case, who wants to look out at a landscape that is utterly monotonous and never changing. Heavy doors swing shut automatically and oil heaters controlled by thermostats keep the rooms at a constant, comfortable temperature. Fans provide ventilation.

Recreation was limited, naturally, but there was a measure of civilisation: good food, warmth, films every

night and the absorption of a fascinating job. A small pool table had been airdropped in, along with an extensive library, a good radiogram and long-playing record library to suit all tastes of the time, from Beethoven, I wrote, to Brubeck – hey, this was the 1950s!

There were regular work-out programs. A popular relaxation on mild days was to “take a walk around the world”, which meant strolling briskly the quarter of a mile or so to the ring of oil drums in, perhaps, -20C or -30C weather, and doing a “circumnavigation”. This often provoked a constant topic: how does one tell direction, when every direction is north? Residents of the Pole solve this by making direction a matter of degrees – the degrees of longitude that fan out from “the spot”.

I’ve already mentioned that the ability to phone home, as we know it, was non-existent but the navy had arranged with telephone companies to patch into the amateur radio band, pick up broadcasts and hook them into the regular telephone system. This was a treasured, if not very regular, link.

Perhaps the most fascinating study for the South Pole residents was one they took part in every day – working in the ice mine to dig enough snow to provide for their individual needs.

When we flew down to the South Pole to meet Fuchs we could not help but see, as we approached the station entrance, a prominent notice that reminded everyone, without exception, that they had to collect a parachute bag of snow every day from the ice mine, which would be melted into water. When I was there the mine had already, in one year, reached a depth of 97 feet, angling down at about 18 degrees.

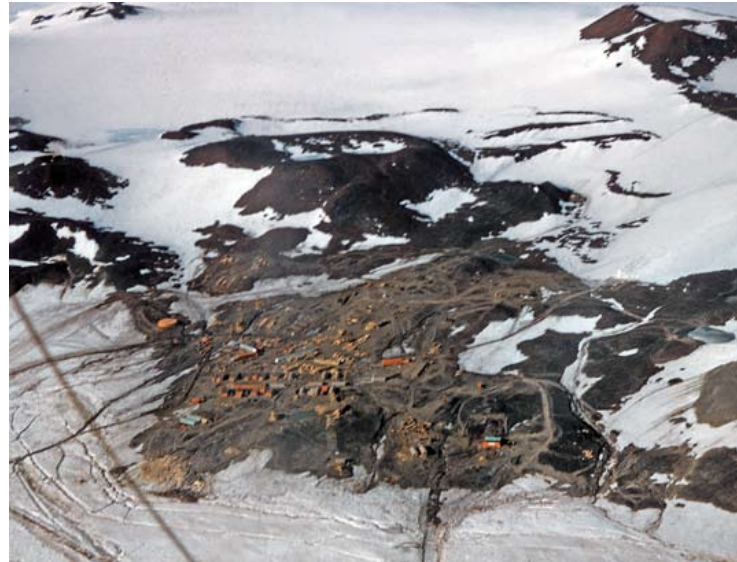
Working at the ice face was exhausting, even though we were all very fit. The slope made both walking down and back again difficult and the temperature was a constant -61F (-50C). It was a breathtaking, chilling chore to chip away with an ice axe, taking about half an hour to fill the parachute bag. The notice also reminded everyone that if they wanted a shower an extra parachute bag had to be filled. I certainly didn’t feel the need to shower and neither did anyone else at the time.

This pit was also where the study of snow stratification took place, with the snow crystals yielding a valuable history of the Antarctic, bacteria and even pollen dust that gave clues to wind patterns and minute traces of ash from volcanic eruptions hundreds of years before somewhere on earth, all of which were radio-carbon tested to determine age.

Fire is always a constant fear, a deadly danger and extraordinary precautions are taken to ensure there will never be an outbreak. Each man is drilled in a particu-

lar task, takes his turn at fire warden duty and there are constant fire drills. When I was staying at the Pole there were two alarms, fortunately both false, but no one grumbled because they knew just how much their lives depended upon absolute precautions.

As visitors, we lived in the small, canvas and steel framed hut, heated by a small oil stove, placed a prudent 100 yards from the main base, which would serve as emergency quarters if the main base were ever destroyed by fire. At that time, there was sufficient food and



Williams Air Operating Facility at Hut Point. Scott Base is a couple of kilometres around to the right.

fuel stored around this hut to last the 18 men about ten months. They would not live comfortably but they would manage to stay alive until help came.

And most of the men, when I was there, had hobbies.

Lieutenant Vernon Hauk, who replaced Lieutenant Tuck as military commander for the second year, grew Californian cotton plants under shelter and in heated soil alongside a miniature garden of cereals and vegetables. He had rigged powerful lights that were switched on and off to simulate day and night.

But to the utter bewilderment of Verne, the cotton seed plants had come through upside down, with some of their roots in the air. His half-serious explanation, when he took me to see for myself, was “this is crazy, mixed up seed from the northern hemisphere! I thought this would help pass the time,” he said, “but this cotton is driving me nuts.”

Some people would think that volunteering to live at the South Pole was pretty mixed up, in itself.

Dufek's pioneering flight

October 31, 1956



Photo courtesy, US Antarctic Program.

The legendary Que Sera Sera, the tough and reliable little Douglas DC3 that made the first landing at the South Pole, piloted by another Antarctic legend, Lieutenant Commander Gus Shinn.

I've already mentioned in an earlier chapter how Rear Admiral George Dufek pioneered a new era of Antarctic exploration by planning and leading the first successful aircraft landing at the South Pole – an extremely hazardous undertaking -- a little more than a year before Hillary and Fuchs reached there.

It is worth recounting in more detail.

A bluff, tough United States Navy seaman, aviator and submariner Dufek had shrugged aside the "heroic era" and opened up a new age of scientific exploration and colonisation.

Less than two years before we arrived, the South Pole was still one of the world's most remote places, left unvisited since Scott and his party reached the South Pole on January 17, 1912, a month after Amundsen and his men, and viewed from the air on just a handful of occasions.

Dufek became only the eleventh man to stand at the bottom of the world – and the first since Scott -- when he stepped from his Douglas DC3 aircraft, called Que Sera Sera, on October 31, 1956, after a landing fraught with peril – and an equally hair raising takeoff -- never attempted previously.

They landed at precisely 8.34pm, Dufek recalls in his book "Operation Deepfreeze" and as he jumped to the hard packed snow "the bitter cold struck me in the face as if I had walked into a heavy swinging door. The temperature was minus 58 degrees Fahrenheit [47C]."

The six crew with him brought the number who had been to the bottom of the world up to a grand total of 17. They stayed there 49 minutes before the pilot, Conrad (Gus) Shinn revved up the engines, which had remained running throughout, for takeoff – and nothing happened! The skis were frozen to the icy surface. Shinn had to fire, successfully, all 15 Jato rocket bottles before the aircraft shuddered free and staggered barely at flying speed into the air.

The tough little DC3 was also variously known by the military as Dakota, C47, Skytrain or R4D.

Equipped with skis and Jato bottles strapped to its fuselage, it could have been designed for Antarctic flying, opening up vast areas.

Since Scott's tragic expedition in 1911-12 there had been little interest in the South Pole, although the American explorer, Rear Admiral Richard Byrd, USN, had led a privately financed expedition during 1928-30 to the Bay of Whales, the site of Amundsen's base from which the Norwegian led the first party to reach the Pole in December 1911. From there Byrd had made the first flight over the Pole, in a Ford 4-AT tri-motored mono-plane piloted by the Norwegian Bernt Balchen, just 27 years before Dufek landed there.

But by Christmas, 1956, only six weeks after Dufek landed – such can be the speed of progress -- colonisation of the Pole was well underway and the “permanent” population had reached 24, including 11 huskies.

They had all arrived by aircraft except for one marine sergeant who dropped in by parachute, using the unlikely excuse that he was testing why some of the parachutes on supplies airdropped by huge Globemaster aircraft had failed to open! For the record Richard J. Patten also tangled in his parachute shrouds but managed to get clear and, unlike the airdropped supplies, landed successfully.

Three adventurers who tried a similar stunt in 1997 were less successful. Americans Ray Miller and Steve Mulholland, and an Austrian, Hanz Rezac attempted the first group sky dive at the Pole but misjudged their height and died when they hit the packed snow before their parachutes opened.

After the initial flurry to establish the South Pole base in time for the official start of the IGY year on July 1, 1957, serious construction continued and exchanges of personnel became routine, if still needing great care.

I don't know whether any records have been kept since those early days, but in any case they rapidly became meaningless.

For a while we intrepid journalists joked a bit about who was “fiftieth or sixtieth” in line at the Pole and who had got out of which aircraft first – almost forgetting about Ed Hillary and his team who had made it the hard way, by land less than a month earlier.

The point was that we were there to witness a truly historic event that was destined to mark the end of the heroic era -- the halfway stage of the first land crossing of the Antarctic.