DAVID LEATHERDALE

Edited transcript of a recording of David Leatherdale interviewed by Chris Eldon Lee on the 26th October 2012 during a BAS Club reunion. BAS Archives Ref AD6/24/1/192.

Transcribed by Joanna Rae, 3 May 2019, edited 14 May 2019 (case of title)

Transcriber's notes

David uses 'and' and 'so' as linking words – I have excluded many occurrences.

'You know' and 'sort of' are also common filler phrases, which I have often excluded

I have used … to indicate longer hesitations or a few disjointed words as David gets his thoughts together

Superscript numbers refer to explanatory notes at the end of the transcript.

Edited transcript

[00:00:00] Lee: This is David Leatherdale, interviewed by Chris Eldon Lee on the 26th October 2012.

Leatherdale: David Leatherdale. I was born on the 6th of October 1947 and that was in Hammersmith.

[00:00:18] Lee: So you've just turned 65.

Leatherdale: I've just turned 65, yes.

[00:00:22] Lee: What was your first awareness that there might be a place on the planet called the Antarctic?

Leatherdale: Well, I suppose aware of it at school. I was … it must have come up in geography. But I was aware, you know, as a pilot, that there was an Air Unit down there and they were flying Twin Otters and that was the interesting sort of flying that rather appealed to me, though that wasn't … obviously you have to get trained so … that sort of came up later that I was aware of that.

[00:01:05] Lee: What were your early flying jobs?

Leatherdale: Well …

[00:01:07] Lee: Before FIDS

Leatherdale: Well [laughs]

[00:01:09] Lee: [laughs] In a nutshell

Leatherdale: In a nutshell…well…My ambition was always to join the Air Force. My father was a navigator ... in the Pathfinders [1] during the War and he stayed in afterwards. And he's still alive.

[00:1:22] Lee: Good

Leatherdale: And I thought it would be a challenge. It was something that I thought would be interesting, something that I'd like to do. So that's what I was sort of aiming at when I was at school. But I had to re-think it. I can't remember which year it was now, but it must have been when Harold Wilson became prime minister, I think, and the new Labour government cancelled all the new aircraft including the TSR2 and the supersonic version of what became the Harrier and at the same time Rhodesia declared independence and there were calls for the RAF to go and bomb the Rhodesians and … up until then … it had never occurred to me that my… what I felt was right might be different from what the Government felt was right, but I suddenly realised then that I couldn't join the services – I wouldn't be prepared to do something like that. Not only that I wouldn't want to do it but that I'd have to do it in antiquated aircraft. So…well… a school friend of mine, his father was a pilot with KLM. He was Dutch, he'd come over during the war and settled over here, so I was speaking to him and he said 'Why don't you go for civil flying?' So I did and by that time BEA and BOAC, the national corporations, ran a training college and I was lucky enough to get a place there and that's really when I started, or got a thorough training. I'd already done what they called a flying scholarship as an RAF cadet through the school I was at, you get a private pilot's licence after that, but that was the first professional type of training.

[00:03:24] Lee: Aged about 20?

Leatherdale: Less than that. I was a bit more like 18 I should think. 17 or 18 yes.

[00:03:35] Lee: So it was your intention to fly big planes?

Leatherdale: Yes, yes. And it was my intention really to fly with BOAC, because I could see that … it's going to be a challenge to start with and that's satisfying but after a while I can imagine it's going to become less of a challenge and less interesting, the work side of it, but being long-haul with BOAC you'd be down the line for several weeks but then you'd have several weeks off and I thought when you got back to the UK, I thought that might work quite well, you know when the novelty wears off, then I could you know, go private flying and do other things in that period. But it didn't work out quite like that because … as I said … the college was run jointly by the two corporations, they weren't competing with each other, one was Europe, one was intercontinental, and when my course graduated it was BEA that was short of pilots so I was sent to BEA, which, at the time I wasn't too happy about, but in retrospect actually it's a much better … I am digressing rather from the Antarctic!

[00:04:44] Lee: No, it's important

Leatherdale: [laughs] OK. But with BEA you actually get a lot more handling. All the aircraft were three crew or more in those days – most of them are two crew these days, which is possibly where some of the problems come from 'cos your first job might be as co-pilot on a large aircraft, whereas there you'd start off with two other people on the flight deck anyway, and move on to the two crew aircraft later on, when you're more experienced. But I went to the Trident fleet and that's three crew, three pilots, the sort of radio engineers and … well … it was European so we hadn't carried navigators for a long time, and the third pilot would operate the flight engineer's panel 'cos a lot of it was automated so you'd get quite a lot of handling because it's doing short-haul hops, you know, perhaps several flights a day – Birmingham and back twice, I was based at Heathrow, and that sort of thing. Double Brussels. Not that exciting but lots of …

[00:05:56] Lee: Landings and take-offs

Leatherdale: Landings and take-offs, which is the important thing because that's the tricky part and what you need.

[00:06:04] Lee: You applied to BAS quite early in your career…

Leatherdale: Yes

[00:06:07] Lee: And I wonder why?

Leatherdale: Well I was out of work at the time, I think, I can't quite remember exactly when it was, and I'd actually applied around that time to FIGAS, in the Falklands, they were flying Beavers at the time, and I thought that sounded interesting too. I'd been … not flying – well flying privately, because it hadn't worked out with BEA, but I'd been flying privately to keep my licence going for about five years.

[00:06:42] Lee: In a Cesna?

Leatherdale: Cesnas and little Pipers and things. I was living in Finland for most of that time and doing it over there, and when I came back my basic commercial licence was current but not my instrument rating, which is what you need to fly public transport. You need to be able to fly in bad weather and … or even in good weather, just to maintain a course along an air way, you've got to be able to fly accurately on instruments and you need to keep in practice for that and you're checked every six months. And it's done on a twin-engined aircraft so a very expensive business if you're not actually earning money, so that had sort of expired. And I got a job [laughs] in the one sort of flying where it's not necessary because you don't fly in bad weather and you don't fly in air ways is scenic flying, pleasure flying, and I got a job doing that at Skegness. [Both laugh] I spent a season up there and I thoroughly enjoyed it, flying the small aircraft again, they were using Austers, and, quite a demanding aeroplane, but satisfying again. But the company behind that was a spraying company and I … didn't really realise that we did any spraying, aerial spraying, in this country. They had a pilot leave that season, two actually,

and they asked me if I'd be interested in joining them as a full time spray pilot. And I liked the company and the aircraft were, a bit like BAS actually, really well turned out and maintained and so I decided to give it a go. It's like so many things, when you actually do it you find it's completely different to all your preconceptions and, again, I found it a very satisfying thing to do. There's a lot to think about, you aren't using airfields, you've got to make up your own mind about whether somewhere is safe to land and how long – there isn't really a runway – but how much take-off distance is available and what load you can get out with, you're watching the weather all the time, all these things, and I did that for about thirteen years. I was thinking it was time, perhaps, to move on, but the regulations changed then anyway ... because … there was a lot of anti-spraying … sort of propaganda about and of course aerial spraying has a very high profile so the responsible companies were pulling out. So then I did a couple of years with the desert locust control organisation. That was based in … well, the aircraft were based in Nairobi but most of the work was up in Sudan, Ethiopia, Eritrea.

[00:09:52] Lee: But you'd applied to BAS before that?

Leatherdale: Yeah. Sorry going back to that, that was when I was …

[00:09:55] Lee: That's quite alright. My job is to …

Leatherdale: Yes [laughs]

[00:09:59] Lee: That's quite alright. Tell me why you applied to BAS in the first place and what happened.

Leatherdale: I applied to BAS when I was doing the pleasure flying at Skegness so I really didn't have … very many hours behind me. …. There's two ways of getting the licence – you can do an approved course, which is what I did at the College of Air Training at Hamble, I think then it was about two hundred and fifty hours, or you can be an instructor and then you could get seven hundred and fifty hours and then you could apply to get your commercial exams and things, so I didn't actually have very many hours behind me because I'd been on the approved course. Obviously, I'd built them up but then, after that … I think that was probably why. I had flown Twins as part of my training but anyway… obviously it didn't meet their requirements, I didn't get an interview.

[00:10:53] Lee: So you didn't get interviewed? Do you remember who interviewed you?

Leatherdale: I didn't get interviewed. No, no … I didn't have the requirements they wanted.

[00:11:02] Lee: You didn't even get an interview. But by the time you'd done all that crop-dusting work, it sounds like that was very akin …

Leatherdale: Yes, very akin…

[00:11:04] Lee: …to the Antarctic demands.

Leatherdale: And the work in Africa as well.

[00:11:12] Lee: So how come you applied again then?

Leatherdale: OK, I'll skip a little bit 'cos … when I came back from Africa [laughs] my instrument rate was still … I'd never renewed that, I got a job pleasure flying again down at Land's End [laughs], which was much more exciting – much more scenic – than flying around Lincolnshire, well the Lincolnshire fens anyway, and I was there for 10 years. I moved on - I did the pleasure flying for one season and then I moved on to the Islanders, which is full public transport. I did renew my instrument rating. And while I was there, we had quite a few pilots just coming in, getting experience, P1 experience, captain's experience, because it was single crew operation, just a little eight seater, well 10 seater but eight passengers, and one of these chaps I was talking to him about …

[00:12:14] Actually in fact we did get a Twin Otter as well because we wanted something a bit bigger but it's got to have a good short field performance because the airfield on St Mary's is very small and … anyway, one of these pilots that was working us – he just stayed for a season - he knew, in fact had been to school with, the chief pilot of BAS at that time, which was Lee Proudfoot, and he put me in touch with Lee 'cos, talking about it, this other pilot said the 35 year rule thing must have gone a long time ago because there was one pilot who he knew very well was coming up to 60, which was the retiring age for BAS.

[00:12:59] Lee: So BAS used to have a rule about being 35 or under?

Leatherdale: Yes, for everybody, not just pilots.

[00:13:03] Lee: Oh, right. So that had gone out the window.

Leatherdale: Yes, obviously.

[00:13:06] Lee: Because of legislation I suspect.

Leatherdale: I don't know. Maybe they found it wasn't necessary. I mean, people imagine Scott and everything, and think it's really tough and hard, living down there. Well, obviously it was in the early days and for a lot of the people who will be here probably [transcriber – ie at the reunion]. But when they built Rothera it was really quite a comfortable place to be living and you'd got a fairly large fleet of aircraft by then so you'd always got backup … and safety… usually there's going to be somebody who can come and get you if things don't work out. So probably for that reason they're less concerned … Obviously they want people to be fit but the age side of it…

[00:14:00] Lee: So you applied again?

Leatherdale: I applied again, yes. Unfortunately it was chief pilot Lee who was one of the two pilots who were leaving, but anyway he let me know...it took a few years because pilots… there's only a small pilot force and at that time anyway they weren't changing over very often

and so you could only go when there was a vacancy. But anyway, yes, he left and he put me in touch and I applied and was taken on.

[00:14:29] Lee: So tell me about that interview. What do you recall? This is about 1997, '98?

Leatherdale: Yes, yes it would have been '98 because it was a real rush. Obviously I was working at the time, down at Land's End, and so I was quite busy and they head off South in October. I think the interview was in August…I mean I was already flying the Twin Otter but obviously the equipment in the BAS Otters is different …and you probably know with BAS, whatever you're doing, you have to do the rope-climbing course and the first-aid course, all these things, which are necessary so it's a bit of a rush to … In September I went to conference and was busy with that so that it was a rush really.

[00:15:44] Lee: Did you have any special training for working in white-out, ice conditions?

Leatherdale: Do you mean flying in those conditions?

[00:15:54] Lee: Yes. I mean handling a plane in the Antarctic, I guess, must be different from handling it at Skegness so did they send you on any training courses in 1998?

Leatherdale: No, no, anything like that is done down there. In some ways it's not so different… A difference between the work we do down there and what, say, a regular airline pilot or even air taxi pilot might be doing in this country, is that we don't land on runways. Now a runway gives you a very good visual perspective of how far out you are, how high and where you're coming in, so you've got none of that. You're looking at a broad white expanse, except at Rothera, we have got a runway there, but generally speaking, you don't have that …those visual clues to sort of guide you in and on to the surface. However, the sort of flying I'd been doing, certainly with the spraying, with the work out of Land's End, which was a grass airfield, some work I'd done at the same time for Logan Air up in the Highlands and Islands, again grass fields, and grass fields in poor weather conditions, drizzle on the windscreen, you can't see anything very much, there may be runway markers but there's no runway as such so you have to develop a technique for … seeing as much as you can, and getting as much information, and judging your height as you get close to the ground, perhaps by looking out the side window or keeping an eye on the altimeter when you're trying to look out ahead, especially when it's drizzling and aircraft like the Islander, it's a twin-engined aeroplane, so you don't get any slip stream from a propeller on the nose clearing rain off the screen. In fact you don't normally when landing anyway, 'cos it's throttled back, but you do when you're taking off with a single-engined plane. So actually that's quite similar to … landing on a flat sheet of white.

[00:18:05] But what we do is, if we know that the surface – going back to Antarctica now – is good, then we can land, and we do practice it in white-out conditions - I mean, white-out usually refers to sort of blowing snow but it's not that, though I suppose it would work in that, but the thing you've got to watch out for down there is you can have absolutely perfect visibility, you can see the horizon a hundred miles away as clear as anything, but you've got some cloud above you and it's just throwing a shadow down on the snow and you actually cannot judge your distance – height – above the surface by looking out of the window, whereas anywhere in Europe

you can, even on a grass airfield when you get really low you see the blades of grass. It just gives you that little bit of warning before you flare to land. And you don't get that down there under those conditions and the only way you can deal with it is actually go back onto instruments, flying instruments, and the people who come unstuck have forgotten that and they think 'cos you are used to being able … you don't have to consciously look for it, your height above the ground, it's a sort of peripheral thing almost… it's there all the time, and if you can't see that detail in the ground, let's say in England, it's because you're not close to it, you're up high, but down there you can be right on it and still see no detail. You don't get those warning messages and that's the biggest thing you have to watch out for. But you can land in those conditions as long as you know. And we've got radar altimeters in the aircraft so they give your height above the surface, a normal altimeter's giving you your height, it's a pressure instrument, it's giving you a height above mean sea level. It's no good if you're trying to land anywhere that isn't at sea level [laughs]. But you've got the radar altimeters. We've got two radar altimeters 'cos it's really important down there to have that information. So if you come on to those, and you simply bring the aircraft slowly down in the landing attitude, nose up, speed back, flaps down, just slowly until it touches the surface and, because you're not landing on a runway, it doesn't really matter where you land. So we do practice that and … obviously that would work even if you couldn't see anything at all. It would work in fog, though we don't really get fog down there, but it would work in blowing snow so we practice that, but it can only really be practiced down there. It's got to be practiced over a snow surface because you're landing on the skis. So we do that, but that's done down there and we practice that before we go out into the field.

[00:21:05] Lee: Did you ever miscalculate a landing?

Leatherdale: Well, no because in fact there was only once that I actually found myself having to land like that and we do try to avoid that sort of situation. When we go out, either somewhere we haven't been to before or even somewhere we have been to in a previous season – but we treat everywhere as new at the beginning of the year 'cos conditions can change during the winter when we're not there…. Obviously the weather is important. While we're down there we have a forecaster from the Met Office down there working alongside us. We only go to somewhere initially if we're pretty sure it's going to be clear, clear of cloud because that's the problem, it's the shadows of the cloud. If it's a clear sky then you do get the detail in the snow when you're down on it. You get high contrast, it's a contrast problem really. And so those first trips out at the beginning of the season to our regular depots, which first we go and check what they're like and a couple of areas not too far from Rothera where the surface is usually good. So we'll check those out because if we come back and the weather has gone down at Rothera that's somewhere where we now know the surface snow is good and we can land there using the techniques I described if necessary. So we go out in absolutely clear skies, or at least we try to arrange that our destination is going to be clear, if it's not clear we don't try to land. We have return fuel so we can get back to somewhere you know you can land and re-fuel….

[00:23:05] Let's say you're putting a field party in, perhaps a geology party, just two people, a geologist and a GA, field GA. You'll make several trips 'cos they're mobile, they'll have a skidoo each, at least one sledge each, all the camping equipment, food, boxes to put their rocks in and all that stuff. So you'll take the people in on the first trip, with their living gear. They have to get the tent set up, they have to get on the radio back to Rothera to make sure the radio is

working, until they've done that we can't leave them there. And then we'll go back and get the other loads, and throughout the season – they could be out for several months - they're probably moving around, we'll take them fuel and maybe we'll need to move them a big jump to somewhere else but, once they are there, they can now report on the weather, the visibility. We've already checked the surface and also what we'll ask them to do is…they'll have, depending on how big a party it is, but geologists will certainly have jerrycans, fuelling for the skidoos and for the camping stoves and things, and so we ask them to set the jerrycans out in a line across the snow where it's safe to land, you know where it's a good surface, and that just gives us that visual reference under those bad conditions – bad contrast conditions – it just gives us something to line up on and an impression of whether you're high or low on the approach.

[00:24:47] Lee: I mean the weather in the Antarctic is not always brilliantly sunny and clear skies so that must limit quite a lot the days you can actually fly?

Leatherdale: It does, it does. It's the one thing that does limit us. So we don't fly every day. We're usually scheduled to fly every day. The day starts with a weather briefing from the meteorologist, I think it was about 7 o'clock, at Rothera. No, I think it was 8, I got up at 7. Of course he'll have got up much earlier, 'cos obviously you haven't got all the weather stations like you have in north America or here, so he can only really go from satellite images … Once we've got people out in the field, they do have little weather stations with them and they'll be reporting back, but certainly at the beginning of the season he doesn't have that information.

[00:25:49] Lee: How frustrating is it when you can't fly for several days?

Leatherdale: You know, it could be frustrating but it's something you live with. You've got to be the sort of person that doesn't get too frustrated by that. You know that's part of the job. I mean, there are other things which are much more frustrating.

[00:26:08] Lee: Such as?

Leatherdale: [Laughs] Well I did touch on that …

[00:26:17] Lee: Tell me what you can.

Leatherdale: Yes, alright. The aircraft are all registered in the Falkland Islands, there are sort of historical reasons for that, and it was also the Falkland Islands are the reason why we have a sort of gateway into the Antarctic so …and the ships are registered there too, and the Falklands are a British Overseas Territory. So the actual certificates of air worthiness and things like that, the documentation for the aircraft, is issued by the office in the Falklands, which is really one person, 'cos he doesn't have necessarily much technical knowledge of aircraft. I'm not sure what the background of the guy that was doing it when I joined was, but he knew who to ask so it's all done under the auspices of the CAA.

[00:27:06] Lee: The Civil Aviation Authority?

Leatherdale: The UK Civil Aviation Authority, yes. But the actual responsibility lies with, I suppose, the Governor of the Falklands. Anyway … because of the way we're operating, we're operating the aircraft at a slightly higher maximum take-off weight than would normally be the case for public transport operations, for instance, and obviously the conditions we're operating under, you know, you can't have all the fire cover and everything that you'd have with an air liner, operating out of a big airfield, … I mean we carry explosives sometimes for the seismologists, lots of things, and we need a permission to do each of those things and these are issued by the office in the Falklands. Any change you want to make to the aircraft, because some have specialist roles – one can take on all the airborne geophysics survey equipment, you know the aircraft is full of this stuff and antennae on the outside; one has some meteorological sensing equipment and stuff. So everything that's non-standard needs a permission and the sort of expertise to say 'yes, this is a safe thing to do' would come from the CAA. The guy in the Falklands would contact the CAA, he's got the contacts there to say 'is this OK?' and they'd normally say 'yes' or they might say 'no, we're not happy with that, you'll have to change this' but that worked well. It also meant that we could get an answer quite quickly. Anyway, a few years ago, the CAA decided to set up a department specifically to administer the Overseas Territories. I think they were saying that some places, like the Cayman Islands, I think, were actually starting to operate airliners, you know, the whole thing has to be different then. But we had so much interference then because we're not an airline and the issuing of the certificates of air worthiness each year - because they're renewed each year - and that sort of thing, were then moved back to the CAA in London and the business about us flying slightly over the normal weight – well under actually the limit for the aircraft in manufacturing terms, the military fly them at much higher weights.

[00:29:55] I mustn't digress too much, but basically civil aircraft – certainly public transport aircraft and we're not public transport, our aircraft are all flown privately – but we want to follow public transport safety rules as far as possible and one basic thing is that you'll never go in an airliner with only one engine, is that the aircraft must be able to lose an engine and continue with the flying and the worse time to lose an engine is on take-off 'cos you're at maximum weight and close to the ground [laughs] and slow. So there are conditions when we wouldn't be able to do that, particularly on the ferry flight. … In order to get across the Atlantic, across the Southern Ocean, Drake's Passage and that sort of thing, and even *en route,* we put two large tanks in the back, in the cabin of the aircraft, which puts us over-weight. So we have a dispensation to fly like that, obviously no non-essential aircrew in the aircraft and the system must have a means of dumping that fuel quickly to get the weight down should we lose an engine. And this was all done and these tanks and things approved by the CAA at the time but again when they set up their own department they weren't happy with that, and it delayed things. They just took their time… We have to be down there, it's a short season, I say six months away from home but really it's only five months, but it's less than that really because you've got to get people back in before the end of the season, you can't leave everything 'til the last minute, they're out in the field, 'cos we have to come back, it's getting dark at night, it's getting windy and cold, and we can't stay down there much beyond our departure [date].

[00:32:08] Lee: So at one point I think the aircraft were all sitting in the salt air at the Falkland Islands rusting away, weren't they?

Leatherdale: Yeah, it was terrible. I brought the first two, well obviously I could only fly one aircraft, but I bought the first pair up to Stanley on the way home in, this would be the beginning of March, and we got a message from Head Office not to proceed any further for the moment while they sorted this out because this office in this new department of the CAA had written to the Falkland Islands Governor, telling him the aircraft were un-airworthy, which was nonsense! …And they don't have any authority - at that time, the permits were still issued by the Falkland Islands. But we took legal advice on that and that was that while the insurance company, although the CAA don't have the authority to…

[00:34:15] Lee: ground your planes

Leatherdale: ground our planes, if we were to fly them and there was an incident, the insurance might be invalid and all sorts of things. So we stayed down there for a week, because they only thought it would only take a day or two to get this sorted out – it was a paperwork problem – but it didn't and in the end we were flown back. And then of course, normally when we come back after a season, you know, we're sort of on leave but we weren't then, we were on standby to go and get the aircraft back, 'cos no one imagined it would take very long. But it came to Easter and I like to go away for Easter, it's the first time, so I did say, 'really, can we just have Easter off at least?' and so they said 'yes'.

[00:33:57] Lee: Did you suspect a second agenda from the Civil Aviation Authority? That there was something you were up to that was affecting BAS, even though BAS was innocent?

Leatherdale: No…I didn't suspect that, I just thought they were incompetent, they didn't have the experience. They didn't have … the experience to use any judgement over what we were doing. They're used to airliners. I mean, our aircraft were operating a bit heavier and they get a much more thorough check during the summer months when they're out - back … well, here when I joined them, but since then in Calgary – they go for their maintenance – than a regular airliner would. We change parts like the suspension, the rubber blocks that cushion the undercarriage, because we know it's harder down there, the surface can be quite rough, it's not all soft snow, in fact very little of it is and you get these hard ridges on the sort of icy surface …

[00:35:11] Lee: So you don't think the Civil Aviation Authority were trying to make their mark in the world and BAS was an easy target?

Leatherdale: Oh yeah, well they might well have been doing that, yes. … A sort of political thing? Yes, I thought you meant perhaps … just targeting BAS. But, no … I'm quite sure that was going on, yes, because we're a government agency and although the aircraft are technically operated from the Falklands they are, from our point of view, British aircraft, they come back here …

[00:35:44] Lee: Tell us about the Otters you were flying. Were they ancient machines?

Leatherdale: No, no.

[00:35:50] Lee: The design is fairly old though, isn't it?

Leatherdale: It's a '60s aircraft. But the aircraft that I flew most, because I took on all the airborne geophysics flying, and that particular aircraft was one of the very last ones made, which I think was late in the '80s. Our aircraft, actually, do very low …

[00:35:18] Lee: mileage

Leatherdale: [laughs] well, you know, I was going to say mileage – they fly very few hours in the year compared with one that's in airline operation. We're typically flying 500 hours a year which – I mean a fair bit of that is the ferry flight down there and back – and that's very low … So in terms of overall hours they're low, certainly the newer ones, I'm not sure about the oldest one - AZ – how low that would be. But there's lots of things about them – they're not pressurised aircraft so you haven't got the problem of a fuselage with a limited life, like Comet problems and things like that. The wings are not cantilever wings, it's not one structure going right through supporting the wings, they've got struts on. These sort of things, they need inspecting every year, but basically the thing can go on for a long time.

[00:37:23] Lee: When you were doing your airborne geophysics survey, which you did until you retired, what was different about that? Was the airplane adapted to do special work?

Leatherdale: Yes, it was.

[00:37:35] Lee: Tell me about the work you were doing.

Leatherdale: We had three sets of equipment which we carried in the aircraft. We wouldn't necessarily have them all in, but usually we would. I think the most interesting for me was the ground penetrating radar, although it's actually ice we're penetrating. And the idea of that is to map the terrain beneath the ice, because the ice is flowing down all the time towards the coast but parts of it are flowing rather faster than others. And we want to understand why that is and obviously these days there are very important reasons we want to be able to predict what effect rising temperatures will have on ice flow and movements and breaking up. So you need to have a thorough understanding of the mechanics of ice movement and part of that is the shape of the terrain beneath the ice. So because you get sort of rivers of ice and, like the Rutford Ice Stream where we did quite a lot of work, is quite steep, it's like a river valley beneath the ice.

[00:38:48] Lee: U shaped?

Leatherdale: Yes, well probably U shaped rather than V shaped, but, yes, there is a channel, if you like, but you can't see it … but we can map it. It's a bit like an echo sounder reading that you get but it's radar not sound.

[00:39:06] Lee: So were you having to fly in very strict lines?

Leatherdale: Yes, yes … It's a bit like going back to spraying then 'cos you think 'how boring, flying straight lines, up and down all the time' but it's a challenge, you know.

[00:39:19] Lee: Does it come easy?

Leatherdale: No, you've got to concentrate 100% all the time. We don't have autopilots in these aircraft and I don't think an autopilot would hold to that sort of accuracy anyway. But it's sort of a bit of a compromise – for the radar mapping you want to be pretty low over the ice so that the maximum power is straight into the ice, you're not losing power before it even gets to the ice – if you're too close it bounces off the top of the ice, because it's powerful stuff … It was all renewed … during the period I was with BAS and the new equipment could go down through 4,000 meters of ice.

[00:40:10] Lee: But if it bounced back could it affect your flying?

Leatherdale: No, no, it's purely an electronic sort of thing. The problem …

[00:40:15] Lee: You made some recommendations on adapting the aeroplanes to help with that kind of work.

Leatherdale: Yes… One of the things I found was that when you're trying to steer an absolutely straight course was that … you're using the compass, which is a gyro compass, for your heading reference, you're not flying a magnetic heading as such because the variation down there changes so much that you'd be flying curves if you were doing that, but we've got a GPS so that basically you use the GPS for your guidance but then … the little changes you have to make all the time I was taking off the fly compass, but … you've got the thickness of the needle on that and the markings, and actually that can – and quite often the sun casting a shadow – and all these were making it difficult …

[00:41:26] Lee: to read

Leatherdale: To read, exactly, so you did your best. And I felt the newer instruments that the aircraft have these days, which are basically little television screens - there's no parallax[2], you haven't got one bit in front of another, casting shadows or anything, and they … get their information from other sources as well – would be better and I could fly more accurately with that.

[00:42:00] Lee: Did BAS listen?

Leatherdale: Well, there was money involved. [Both laugh]. Basically, no they didn't … until we got a new chief pilot and he took it on board. He came up with me and I demonstrated the problem and he pushed for it and we did get it and it made a big difference. I mean, the first time I went up, I was able to hold a line to within four meters. The scientist who was with me, and who had been with me before … he was always with the airborne geophysics, he was very surprised, I was very surprised actually.

[00:42:42] Lee: My understanding of it is that with the arrival of that new chief pilot, who I think we can name, can't we?

Leatherdale: The new chief pilot is Alan Meredith, yes.

[00:42:50] Lee: Yes - that pilot quality was tightened up quite a lot around then.

Leatherdale: Yes, yes.

[00:42:54] Lee: There were, shall we say, some departures from the pilot pool. Is that correct?

Leatherdale: The departures had already happened really when Alan came.

[00:43:03] Lee: What was going on? Why were people being relieved of their duties?

Leatherdale: Well, the thing with flying down in this kind of environment is that there's no one there to keep an eye on what you're doing, you're out by yourself most of the time. …So you do need to be the sort of pilot who can be trusted to sort of not go beating things up in the aircraft and that sort of thing.

[00:43:34] Lee: So discipline?

Leatherdale: Discipline. Just self-discipline really. Certainly when I joined the company … the new chief pilot at that time, 'cos he joined as well as I did, there were three of us joined that season, he joined as new chief pilot. I mean I hadn't wanted to be chief pilot, because I didn't really want to be involved with things back here during the off season so I joined as a line pilot and another friend, also funnily enough a Lincolnshire spray pilot in the past, although I knew his name we worked for different companies and I hadn't met him before but … Obviously I have an interest, but I do think that sort of background is good for flying down there.

[00:44:22] Lee: Who was that?

Leatherdale: Les Kitson.

[00:44:25] Lee: So you all joined at the same time?

Leatherdale: Yeah.

[00:44:30] Lee: And by the time you joined you felt that discipline was ok?

Leatherdale: No, no, this was when I first joined. … [redacted] there were a lot of things going on which really shouldn't have been. [redacted] and [redacted] came along and there was quite a different atmosphere then.

[00:45:05] Lee: Do you have a kind of flying brain? I mean, you watch these World War Two films and it's all 'jolly old chaps together' in the nissen hut, telling jokes and so on and then as

soon as they're in the air they are completely different characters, they're absolutely straight as a die and very very highly concentrated. Did you find that in your flying?

Leatherdale: No, not really, no, I think that's a Hollywood type thing. I would say that the two pilots I'm talking about probably did have that attitude, they were certainly quite heavy drinkers and smokers and things. I won't say they were drinking while flying but that sort of attitude did carry on in the air.

[00:45:40] Lee: The wild west gung ho?

Leatherdale: Yes, very much so, yeah.

[00:45:43] Lee: Whereas your attitude was different?

Leatherdale: Yes, yes. It's not professional and it's not really safe in that environment.

[00:45:52] Lee: So in your case, do you find yourself adopting a different mantle when you got behind the controls?

Leatherdale: No, no, you know, I'm not that sort of a person. And most of us weren't down there because, as I say, I don't think that's the kind of pilot you want in that environment.

[00:46:10] Lee: Most pilots seem to have plan B up their sleeve if anything should go wrong.

Leatherdale: Yes, yes always.

[00:46:15] Lee: Tell me a bit about that.

Leatherdale: Well … I've already touched on it in a way when I was describing when you go out to put a field party in, the weather might not be good when you get there, so you've got to have something in mind. Now some of the trips we were making were taking people across to our other station at Halley. Now we can't do that direct unless we have a ferry tank in and if we have a ferry tank in then we can't carry passengers, you know, or freight. If we want to position an aircraft over there that's alright. If it's a medivac, then we can put the ferry tank in, but for normal operations we can't, so we have to re-fuel at least once on the way and for this reason we try to put in some large depots, field depots, on the Ronne Ice Shelf, sort of half wayish. We'd normally go down to Fossil Bluff first and then top up the aircraft with fuel there and then head across to the Ronne but we're going to have to land somewhere. Now we've got more than one depot, or we had then … so you needed … to be familiar with where these were. You'd try to check the weather on them but you can only do that from the satellite images. But you'd also look, you know, if it's clear, but clear for how far? If it's just a little hole that's no good. On the other hand, if there are some, one or two, patches of cloud around then it might be that one finishes up over there but basically everything's clear, you know you can land somewhere else, I mean there won't be any fuel there, but you can just land and wait til things have changed. So you need to have an overall picture but it's going to be several hours later when you get there. It could be five hours or more so things change.

[00:48:13] I went to Halley once and … really just Halley itself was in blowing snow, you know, you couldn't see anything there, it was just the last little bit, so I … went back about half an hour and landed on the ridge, on the plateau above Halley and we spent the night there, in the tent, and just waited for the weather to clear. … I knew there was a possibility of Halley going out but I knew that there were places that were clear and where I could land on the way. So it's that sort of planning. And ultimately, you know, if you do run short of fuel, and you haven't got enough to get back anywhere, are there going to be places I can land that I can be sure will be clear or one of these areas I was talking about where we might of - that's more in terms of coming back to Rothera – where I could land even if the weather wasn't clear, I could land safely. And then, obviously, if I'm low on fuel, someone's going to have to bring me fuel. It's that sort of thing.

[00:49:30] Lee: So did you ever have any close calls, David?

Leatherdale: No, not really. [Both laugh] … The only time that I was annoyed was [redacted] … I was trying to position the aircraft to start a survey, and we'd been waiting, I don't know, we'd been delayed quite a lot by the weather down there – it might even have been several weeks, it would certainly be two weeks I think. Anyway, he decided to step in and sort of headed off down there in his plane to put some of the equipment in and then called back and said it was ok there, and it really didn't look ok on the charts and things, but the forecast for the next day, for the first time while we'd been waiting, was good, you know, and I would have waited another day. I felt that was the safe thing to do. [redacted] – so I did take the aircraft down. And it's the only time I've had to land in zero visibility conditions … Especially with the survey plane, I was always … particularly careful with it because this was right at the beginning of the season, if that plane's damaged, that survey's finished, one of the others can't stand in. It was then that I thought, 'Well, I can't carry on like this, I shall have to leave. I'm not going to fly … with this sort of hanging over you all the time'. But in the end, as I say, I wasn't the only one who was unhappy and this other pilot handed in his notice and … he'd been there for some time, he was a longer serving pilot than I was. And back at Cambridge … the other pilots were unhappy as well.

[00:52:05] Lee: Was there a delegation?

Leatherdale: Yeah, well we were all down at Cambridge - we do go there in the summer sometimes to do some courses and things – and [redacted] had just handed in his notice and it was decided – well, the management got wind then that people weren't happy, because normally we don't see them, we're not in Cambridge normally and … [redacted]

[00:52:45] Lee: Did you feel that not being in Cambridge was a handicap? That you weren't really in touch with the top brass?

Leatherdale: It certainly was to start with, because I didn't know people in Cambridge, because … my sort of joining was a bit of a rush. I'd been up there for interview so I'd met Gerry but that was …

[00:53:04] Lee: Gerry Nicholson?

Leatherdale: Gerry Nicholson. But I didn't really know anybody there and everywhere I've worked before has either been a small organisation or – well, they've all been, recently, small – well, even Isles of Scilly Skybus I knew all the directors because I was flying them backwards and forwards all the time. But in BAS I didn't, not then. Of course I came to, especially when people come down South and you chat to them. And of course they don't know me, so they wouldn't know whether what I'm saying is an accurate version of events or not.

[00:53:39] Lee: You were involved in one medivac when a Royal Navy Lynx helicopter was downed[3]. Tell me about that please.

Leatherdale: … I said that we need to put in large fuel depots on the Ronne Ice Shelf, really to support the aircraft ferrying people backwards and forwards between Halley and Rothera. It's too far realistically for us to actually fly fuel down there from Rothera. You have to put in depots on the way to get there and you burn an awful lot of fuel and take up an awful lot of time just to get a few drums all that way out. And probably about half the flying we do is just flying fuel around anyway. But on the Ronne you can sometimes get there with the ships. So what we try to do is, … well, it's the *Shackleton* these days, will take drums of fuel, but she can't put them ashore, she's got no way of getting them on to the plateau, so it was HMS *Endurance*, the Royal Navy, she has two Royal Navy Lynxes and whenever possible, which wasn't very often, but we'd try to arrange it that both ships got there together and then they'd fly everything ashore with the helicopters. They wouldn't fly them more than, I think it was, four kilometres or something but that would get them off the ship and on to the ice and then we'd go down with the aircraft and we'd fly them a bit further inland usually, or to where ever we wanted them.

[00:55:18] So it was an operation like this and … the ships hadn't been able to get as far as we'd hoped, though that wasn't relevant to what happened. But the helicopters had been flying – they put the drums in a cargo net under-slung, perhaps four or five drums at a time, and they'd finished, they'd just put the last load in … while they were doing this we don't handle them, they look after themselves, and … the Royal Marines had a camp there, and they were handling the cargo and taking the nets off, all that sort of stuff obviously, and that was all handled by them. And it was really unfortunate, that last flight, the helicopter just going back to the ship for the last time, picked up some … of the remaining guys on the ground. You're on the edge of the plateau there so there's a sort of down hill slope down to the Weddell Sea, which is mostly covered in ice but the ships had found a passageway through it, so you could see them, it was absolutely clear, but the cloud had come over. We did have - because we were there for a while – a drum line. I did say jerrycans for the field party but when we've got the 50 gallon drums which is what we normally carry fuel around in, in quantity, then we'll use those. They're black and they stand out very well. The Navy pilot, I guess he could see the ship, and took off down the slope and got beyond the drums and he just caught the surface and it sort of rolled over … somersaulted and broke up. And fortunately, I think there were four on board, I'm not sure, but

two of them were fine, and the pilot was quite badly injured and one other person, although it wasn't as bad as was at first feared, but they needed to be got out. So, this was over towards Halley and all our aircraft, we'd already got an aircraft, at least one, possibly two, over there to handle the fuel. I was actually on my way over with another aircraft and we got to our depot at Fossil Bluff and then we were told to go back to Rothera, which was a bit odd, but they were insistent – they wouldn't say why, people won't say over the radio, you know, what the reason is. We went back to Rothera, put a ferry tank in, and flew directly out to Halley – well, to this site anyway. That gave them another aircraft and they put the casualty on board and flew them back to Rothera and then the Dash 7 flew them up to [pause] Mount Pleasant, I suppose, in the Falklands. Yeah, so it does seem – I mean, we don't have helicopters but there are quite a few helicopters that have crashed down there. I think they have a particular problem with this low contrast thing … the helicopter crews are more used to … everything they do is visual, at least far more than is with us.

[00:58:58] Lee: You worked with other nations, didn't you? Not just the Brits?

Leatherdale: Yes.

[00:59:02] Lee: What was that about?

Leatherdale: Well, with these surveys we've been doing, they're carried out in various places quite a long way from where we are, well I suppose originally obviously the areas around Rothera were surveyed. So I did one which was working around the Jutulstraumen Glacier which is near the South African Base of Sanae, which is quite a lot further round the coast from Halley, so we were over there being supported by the South Africans for about a month and a half. Everyone does things differently and it was really interesting to see them and the scenery is completely different over there, the mountains are a different shape…

[00:59:52] Lee: In what way did they do things differently? One imagines that civil aviation is kind of uniform across the planet now.

Leatherdale: No, I'm not talking about that, I'm talking about the running of the Base, not the flying side.

[01:00:02] Lee: What were the significant differences? What did you spot? [laughs]

Leatherdale: [laughs] I shouldn't say really. [laughs] Well, several things really. One … they're quite religious, well some of them were anyway, and they had a church service on base every Sunday. I was there with three or four colleagues, I think, I can't quite remember the number, I'd need to check, but we weren't into church services, so we were up in the base library that day, and after the service the … base commander's secretary, who was a young South African girl, Africaans I suppose, came in and she was chatting and said 'that was a good service', and I said 'what did you like about it?', and she said 'the priest made some very pertinent observations – he was speaking about Job, and Job quoted something, so that it was obvious that Job … that it was relevant to the Antarctic'. So I said 'Well, do you think that Job was really aware of the

Antarctic?' Actually I can't quite remember quite what she said now, but I think it was probably that God would have told him what was going on. That surprised us a little bit. [laughs]

[01:01:46] Lee: Fundamentalists.

Leatherdale: Yes. Also, which was quite amusing was, we were still there after their ship had returned and so they were down to a winter staff of just a few people. It's a big base, it's on … platforms, three platforms linked together on stilts. At the end they've got a heli deck and the generators and things. And after the ship had sailed, they had a sort of a sub-base down near the coast, 'cos this was inland a little way on a nunatak, so some of the people were down there, so there were only two or three people on base and us, and the chef had gone. So during the winter they would cook for themselves and one of the guys cooked this rather nice meal – they had really good food there because it had all come in on the ship, fresh meat and stuff, well obviously frozen by then - and he'd done onion rings, amongst other things – really nice onion rings. And one of the other South Africans, you know, everyone had helped themselves, and this other chap took these onion rings and then left them all, and the chef, the guy that had cooked, was not pleased. So he said "Why did you leave those?" And he said "Well, they're onion rings. I don't like onions". So he said "Why did you take them then?' He said 'Well, I thought they were just a new kind of chip". [laughs] He hadn't seen that cooking before. I thought that was quite amusing.

[01:03:37] Lee: One final point, David, and then we have to wrap up, I'm afraid. You've got some interesting observations on the advent of the laptop in the Antarctic. Did you have laptops onboard or the equivalent?

Leatherdale: Well, certainly, yes, the survey plane did, had computers on board. I always had a laptop. … With the survey flying I used it for planning the flights. … The aircraft had its own GPS, the survey equipment had another GPS or probably two, but … we equipped the aircraft with a hand held one as well which was portable, I could take it in and out, so I used the laptop for planning that. But yes the thing with the laptops really is that they did become very popular on base. When I went down there at the start of '98 we didn't have any sort of satellite internet connections then, we didn't have any satellite phones, well not the little iridium phones, they were big things, and the new accommodation block hadn't been built … so most people were living in the pit rooms, sort of very small rooms with four bunks and a lot of them didn't have windows so the bar was quite a lively place. The bar and lounge – not just people drinking – you know, a place to be if you weren't in your bunk, and we had video nights twice a week. Well, that all changed about the time they built this new accommodation block so people had really good accommodation – two to a room and a desk, and the internet thing came a little bit later than that but laptops were cheap, coming in, and people could watch DVDs and things on their own laptops so you didn't see so many people around. People were in their rooms if they wanted to watch a video. Video nights sort of became quite poorly attended.

[01:05:56] Lee: So the bar in the Antarctic was suffering the same fate as the village pub, was it?

Leatherdale: Yes, yes I suppose it was, though for different reasons. Driving wasn't a problem [laughs].

[01:06:07] Lee: So was that the beginning of the end of the sense of community about the Antarctic bases?

Leatherdale: Well, bear in mind that we were only there during the summer months. I guess it's the wintering teams that have that really strong …

[01:06:21] Lee: cohesion?

Leatherdale: Cohesion. So you perhaps ought to ask what they think. But I just happened to be working there over that period, and then when the internet came along as well people could just sit in their rooms and browse the internet and you really didn't see so many people around the base. But as to how it affected the cohesion of the wintering team, I don't know anything about that.

[01:06:49] Lee: Looking back over your career as a pilot, would you say the Antarctic was the highlight of your career, flying in the Antarctic was special?

Leatherdale: Yes, yes, yes.

[01:06:57] Lee: Special because?

Leatherdale: Because of the nature of the environment… the challenge it presents. You have to be thinking all the time…. If you're flying an airliner, really all the decisions are already made for you, but down there you have to think everything for yourself: assess the landing strip, make sure that you've got something up your sleeve. And of course you're not just flying, you're loading and unloading the aircraft, you're camping, you're fuelling – you're doing everything – digging it out when it gets snowed in [laughs] and doing checks as well. In the field, the minor checks I would do, when I was surveying because – well when we went to Sanae … yeah, we didn't have an engineer with us. When I was …. working with the Italians, we were working right over on the other side of the continent and then I did have an aircraft engineer, one of the Canadians, with me and so obviously he did that, but I didn't always.

[01:08:13] Lee: Fascinating, David. Thank you very much indeed.

Leatherdale: Alright. Thanks.

[01:08:16] ENDS

Notes

1. The Pathfinders were target-marking squadrons in RAF Bomber Command during World War II. They located and marked targets with flares, which a main bomber force could aim at, increasing the accuracy of their bombing. (Wikipedia 2019)

2. Parallax is the apparent displacement, or difference of position, of an object, as seen from two different stations, or points of view (Wikipedia 2019)

3. This accident, on 8 Feb 2004, was reported by a number of media outlets, including MercoPress https://en.mercopress.com/2004/02/09/endurance-lynx-helicopter-crash; BBC News http://news.bbc.co.uk/1/hi/uk/3474297.stm. It is also summarised on UK Military aircraft losses website www.ukserials.com/losses-2004.htm. Five personnel were aboard and three were flown out for medical treatment. No names are mentioned. None I looked at gives as much detail on what happened.

Possible extracts:

00:18:05: Technique for landing in poor contrast or white-out conditions, goes on to explain initial landing site check routine on arrival of BAS planes at Rothera

00:23:05: Method of putting in a field party

00:26:17: Problem with Civil Aviation Authority and air-worthiness certificates

00:53:39: Medivac from Ronne Ice Shelf