Oral History of Gerald Kooyman

PAUL DAYTON: It's January 23, 2012 and this is Paul Dayton, and I'm trying to get Gerald Kooyman's memories, and probably I will talk more than he does because I'm so excited about it all.

GERALD KOOYMAN: I'm Jerry Kooyman, and I am looking forward to the questions that Paul asks and setting the record straight.

PAUL DAYTON: Anyway, this is the first oral history of early American Biologists in the Antarctic. I have found a couple other sets of oral histories, one conducted by an erly helo pilot who is a good guy but focused on military personel rather than scientists and another set at Ohio State that seems to exclude biologists. It is almost as though George Llano's legacy has been carefully excluded.

GERALD KOOYMAN: Oh, is that right? Well, probably so. Most of their record would be glaciologists or geologists.

PAUL DAYTON: They were very hostile to Llano, so I wanted to get the Stanford perspective of the early '60s, because I don't think it's otherwise ever going to show up.

GERALD KOOYMAN: That would probably be true to some degree. And that is really kind of sad, too. George Llano, he was a botanist and he was, what do they call him? A cryptologist and he was kind of a protégé of Scholander . Scholander had an effect on many people in a very broad spectrum, because Scholander got his PhD in cryptology. And then they were associates at Harvard, and somehow -- and I think Scholander played a role in George getting the job as program manager. And in those days, and you know that too, that in those days program manager was the end-all. He ruled. They didn't do it like the rest of NSF. Pretty much the program manager made the decisions, I think. He got advice from other people, but he made the decisions as to who was going to get funded and who wasn't going to get funded. And so George did it in a, I thought, a pretty effective way because he had a lot of successes. He made a lot of enemies too, and that was the problem, I guess, in the end, especially within the organization. Because he would do things that were probably borderline as far as government work is concerned and all. But he got things done, and I'm an advocate of him because he got me started as far as funding in the Antarctic. He was very enthusiastic about certain things, and when he got enthusiastic about them he would really help you out. And he liked what I was going to do at that time.

PAUL DAYTON: Yeah, I mean this was one of the things I was going to start off with, is that given your memory of the relationship of George Llano and Donald 'Curly' Wohlschlag and Tommy, who ran the lab -- do you want to offer that?

GERALD KOOYMAN: I probably could. It would be censored to some degree. I mean, Curly and George, the best I could tell, is they sort of had a love-hate relationship. He did the funding for Curly and Curly had great largess there as far as he

had all the money to run the bio lab as well as his own programs. And they were sort of separate, but not completely separate. So Curly was a big deal down there, he had a lot of money. And George overlooked that, but sometimes he didn't like the way he was doing it.

I know where Tommy came from, I don't know how Curly hired him. But Tommy was a retired Navy guy, and he was really a rather despicable character, if you want my assessment of him.

PAUL DAYTON: It was F.J. Thomas.

GERALD KOOYMAN: Yes, he was a retired Navy chief or something like that. And he treated all of us like we were underling enlisted men for him and all of that. And I came out of the Navy and then went into this program not long after that. And the Navy really ruled down there at the time with NSF being sort of a side arm to get it going. But because of my experience in the Navy, I had a sense of how they did things and how you make things work when you work with the Navy. And my three years in the Navy really served me well for working in the Antarctic. But Tommy was one of those guys that was just, to me, shouldn't have been in the position he was in.

PAUL DAYTON: Just let me clarify a little bit. When Jerry is speaking of running the lab, Curly Donald E. Wohlschlag, had two programs. One, his own science program, and the other one -- he was responsible for establishing and running the bio lab. And he gave that chore to F.J. Thomas who was more of a bookkeeper and a martinet. And overstepped his bounds all the time. But at the same time, the lab was running pretty well. They got the equipment. You'd have to suffer Tommy, but the equipment would come.

And Llano set that up in the early -- in the late '50s so that Llano could get the lab going. And he got Curly to be this sort of front person. So this was sort of the way the logistics of the bio lab got started, it was Llano very much involved telling Curly, you know, what to buy. And telling Curly to buy all of those Discovery reports and all that early Antarctic literature that they had in the bio lab from the beginning. And that was there because of Llano's personal insight and wisdom.

GERALD KOOYMAN: Yes, well, Llano, I don't know if that's how he got started with it, but he was an avid collector of polar books. He had a huge collection -- I went with him to a bookstore one time to buy some books, and he went out with a stack of books that I couldn't believe. And he had a lot of first editions and everything. And in the end, he sold it all to somebody, a library or a collector in England. And got something like 100 grand for it, to give you an idea. And then he -- typical Llano, then he boxed it up in cardboard boxes, taped it all together, and mailed it to this person, whoever it was.

PAUL DAYTON: And so I am hoping to just get independent view -- I think Llano was one of the more important science people in the Antarctic because of the way he helped people like you.

GERALD KOOYMAN: Well, yes, as I say, I'm an advocate of him. And he went on until -- I don't know whether -- he was forced into retirement, but he went until the mid '70s.

PAUL DAYTON: Yes, he was really sort of heavy-handedly forced into retirement.

GERALD KOOYMAN: Yes. But he got his sweet revenge, you might say, because he got the sweetest retirement job you could ever ask for. He ended up being the director or the cruise organizer or whatever you would want to call him for Lindblad Explorers. And he just picked and chose places around the world that he had never been or wanted to go to or all of that, and organized a cruise to go there. So for the next 10 or 20 years he went everywhere in the world on those cruises.

PAUL DAYTON: I have a memory that I can record, but why don't you -- of how you met Curly. How you went to the Antarctic in the first place. And how you interacted with the Stanford guys before you went down.

GERALD KOOYMAN: It would have been more after. By the time I got over to Stanford, all of those guys was gone. They were down on the ice already.

PAUL DAYTON: When you were at Berkeley, how did you come to be interested in the Antarctic?

GERALD KOOYMAN: I was at Berkeley in a graduate program there, and I was casting about for a thesis to do. And the guy that I thought I was going to do my work under actually didn't take students. I didn't know a thing about graduate school or anything, I just arrived. I was just fresh out of the Navy, I worked for Fish and Game that summer, and then I went over to Berkeley, and I started graduate school there. And I was really uneasy about it. There were 200 graduate students, which was huge, in my view. And that was in the Department of Zoology at the time. So I was kind of overwhelmed with that as well.

And I had a really good friend there, Verne Peckham, who was not in school there, but we hooked up, actually, through a church connection. So Verne taught me how to dive in Monterey. So we chased around a lot together, and then he got this job with Curly as the bio lab manager. And he told me that Curly was looking for -- he said the Stanford professor is looking for a couple of technicians to go down. Boy, this is going to be a real opportunity possibly.

PAUL DAYTON: This was in the summer of '61?

GERALD KOOYMAN: Yes, had to be, probably the Spring. So I went and interviewed and got the job. And it turned out this farmboy from Montana got the other technician job. And that was Art DeVries . So I took that job, but I didn't start it -- I don't

think I went over to Stanford much at all until we got ready to go. And then I think I left from Travis Air Force Base at that time.

PAUL DAYTON: From Alameda maybe.

GERALD KOOYMAN: No, I'm pretty sure it was Travis. I flew out on a -- I don't know if it was the same plane we went all the way down on, probably not. It was probably a Super Connie out of there. But a guy that was my roommate at Travis just for the night was historic -- it was Ed Thiell. Do you know who Ed Thiell is?

PAUL DAYTON: Yes.

GERALD KOOYMAN: Ed Thiel has a whole mountain range named after him in the Antarctic now. But he was killed that year in the Antarctic. So I knew him that time, didn't see him again, and then got it on the news over at the base or something, that he was killed in an air crash as they were taking off from some -- the Russian base or somewhere in a Navy airplane. I don't know, had an engine failure or something. (Dayton added later: it was Wilkes Station and the jato caught the PV2 on fire as it was taking off)

Anyway, so that was the beginning of my experience with a list of people who have got killed in airplanes down in the Antarctic.

So I didn't meet Art until we arrived at Hickham, and then Art had flown from somewhere else. And we hooked up at Hickham and then went on down to Christchurch, and from Christchurch we stayed at the Gainsborough Hotel for one time, and then another night we stayed somewhere else. This was Christchurch in the early days when they were driving all these old model cars and everything. They were more British than the British were. And I thought that was pretty funny.

So we got a C-119 flight down, it was a boxcar, it took 11 hours to get to McMurdo. And it was slow and big and there was hardly anything in it, and I remember looking out and it was mainly cloud, overcast, but seeing the Antarctic for the first time, all this ice and black rock and all that was pretty thrilling. But when we landed, that was novel. They popped open the back gate to unload and it snowed inside of that 119. It was so big, and it had a lot of air there, warm --

PAUL DAYTON: That's the old Strata cruiser. It was huge.

GERALD KOOYMAN: Yes, they don't use them anymore?

MALE VOICE: This was in the fall of 1961?

GERALD KOOYMAN: Yes, yes. And we had gone down earlier, we were there by early October. Well, the arrival was really something else compared to what it is now. We arrived, and just Art and I on that, so we put our clothes on before we got off the

plane. And Phil Smith, who was the NSF rep at that time and running that part of the show arrived in a power wagon, picked us up and drove us into town. And I think he briefly showed us around a little bit at the base, which looked like just an old mining town. And then he took us to our quarters which was a canvas Jamesway, nobody there yet, and handed us both a shovel. And we went in there, and it was colder than the dickens in there. And it had a leak from the canvas, and there was a lot of snow inside. We had to dig that snow out. And then I don't know how we got the fire started in the preway, but it wasn't easy. And then we got some nails and nailed down that canvas so it would stop leaking snow. And that was the beginning.

And it turned into an awful place, because by the time -- as the season progressed, there had to be something like 30 guys in there. And the preway was all at one end of this long building, and if you slept on the bottom you were freezing, and if you slept on the upper bunk you were overheated. And then guys on the lower bunks would come in later and turn the heat up. And it was back and forth. So as soon as I could, which took a month anyway, we found an old hut and got permission to convert it into a sleeping quarters and moved into that and got out of there.

PAUL DAYTON: That's interesting, because in '63 I was in the same thing. It was J-3 as I recall. I had to shovel my bunk that was by the leaky door and often all covered with snow.

GERALD KOOYMAN: By that time I don't know where I had moved up, I don't know where I was staying. Oh, I know where I was staying a lot during that time. In the bio lab there was -- you know that cubbyhole that was in the back of the storeroom part? Well, if somebody else wasn't in there, I'd sleep back there.

PAUL DAYTON: We all did. Yes, I stayed in that Jamesway all summer, and when I wintered over and people left, the whole building went away, and I got in a real bed.

GERALD KOOYMAN: Yes. I slept out in -- well, in '63 I got a hut to set up out there, and I stayed in the hut a lot too. It wasn't far off shore, and I had a snowmobile to myself, and I was living alone.

PAUL DAYTON: Why don't you go ahead and tell us what you did with Curly, just briefly. Because I was interested in your interactions with Art and [INAUDIBLE] would cut holes, and seals and --

GERALD KOOYMAN: Mouse, he was my great protector in this thing.

As I say, I left Berkeley and I wasn't sure whether I was going to go back to Berkeley or not. But I was looking for a thesis. And not long after I was there, a short time later I went out on a road trip out on the ice for some reason with John Dearborn. And when we were coming back, he said hey, there is a Weddell seal over here, and he said let's go over and I'll show you a Weddell seal. And I went over and I couldn't believe it, because the animal was like a lot of island animals and all of that, you know, they are

just insensitive to people. Just rolled over little bit and sort of had a look, but it was near an ice hole. And there it was, there was a Weddell seal and there was an ice hole, and nobody was working on these seals at this time except for the Kiwis who were shooting them, and they were doing mostly metrics and all of that on the carcasses. And right there an idea just started to gel.

So it was fortunate in one respect that I didn't get fired right away, because I started horsing around with the seals a lot. And spending time out at one of the huts, because they would come up in these holes that were cut to put traps down for fish, they would come up in those holes so you could watch them. And they would just hang there while they were ventilating. And I even got volunteers to go out after work one night, and everybody went to a different hole. I was trying to figure out how long they were diving for and that sort of thing. So it was gelling as far as that was concerned.

So to make a long story short on that, that pretty much preoccupied me a lot while we were doing the fish work in our spare time. And the bit that I don't have any recollection of, and I haven't looked at some notes -- it might show that -- but I vaguely remember a conversation with Art before I left and he was overwintering, about a depth recorder to put on seals. And I said yes, it's a good idea.

PAUL DAYTON: So Art stayed down --

GERALD KOOYMAN: He overwintered, and I went home. And that was -- in a way, that was kind of hush-hush for a while. He didn't talk to me about what he was going to do until, I don't know, but he stayed. And I don't know if that was called a TSK -- it's this [INAUDIBLE] depth recorder the Japanese made. And it was used for putting on trawls and things like that, if you are going to drop a line you could measure. And it had smoked glass on it and it had a sensitive bourdon tube in there that measured it. And I don't know -- that's what I don't recall is if there was one down there or they ordered one or I ordered one when I got back to Stanford and I had it sent down. Because I just looked this up and figured it out as far as the paper was concerned and all that, that Art clicked the recorder on in 1962 after he'd overwintered. In November of '62. Of course, I was gone then and didn't know anything about that part of it. But he put it on, and they put it on two females, didn't say where they put it on, just next to an ice crack. So I wouldn't be surprised if it was in shallow water and it was pregnant females.

And after it had been on for a couple of days on each one of them, and they replaced the glass slide in there five times. So they got a maximum depth of 350 meters, and that's not very deep for Weddells, I learned later. It may have been the location where they were. And if these were pregnant females, they may have been -- at that time of year they had been getting ready to pup, so they weren't going to go very far.

PAUL DAYTON: So Art did that in '62.

GERALD KOOYMAN: Yes, and I don't recall knowing much about it until the paper was published in '64. I was down in '63 working on my thesis.

PAUL DAYTON: You went to McMurdo in '62?

GERALD KOOYMAN: No, I didn't. I wasn't down there at all for that. So all that was done -- I don't recall knowing anything about that going on. And so I don't know when I learned about -- they had done something -- I know I knew about it somewhere because I was trying to gauge what kind of recorder and what kind of depths I would be looking at. Because I was in the process for my thesis of building a time depth recorder, which had never been used on a diving animal of any sort. So when I went back in '63, I didn't know about that. I don't know when the paper -- the paper came out in '64, and I don't know where I was as far as -- by then I had recorded a bunch of dives and knew that they were diving longer than what they suspected and deeper than what that was.

Then I noticed somewhere in there that I guess [INAUDIBLE] was speculating about Weddells swimming from one hole to another and wondered about that. But they also knew about the seals at Heald Island, which is up in the glacier area. And about the seals at White Island, and how they got there because there's shelf ice, and so their paper talks a lot about the shelf ice and how they swam under it and got there and how they got there. That's still a mystery. I mean, Heald island isn't so much because there is connections all the way out to the south, but not for White Island. And the suspicion is that there is -- an ice shelf was back much further at one time, and the seals got established at that time. They got trapped in there and had been there more or less -- we know some of them have traveled overland to get out to the south. That's been both verified by animals that we have seen that were in pretty bad shape when they got to the runway, the barrier runway, but also a couple of them were tagged, and they turned up out in the Sound.

PAUL DAYTON: So do you have more memories of '61, your first summer?

GERALD KOOYMAN: Well, '61 was a hard summer. We were working on fish all that time and trying to do this stuff in between. So really long hours and a lot of fish traps. But it was -- well, in those early days it was kind of a free-for-all. The really, the honcho grad students there were Jack Littlepage, John Dearborn, and John Pearse. They all overwintered and had been there, and so they had a lot of experience, and so they were tutoring Art and I and all of that. Sort of lorded it over us in a way.

And then I don't know how that all evolved. I didn't have a whole lot to do with them, and then Pearse, I know, left at the end of the summer on a ship. I think it was the freight ship that brings stuff in. I don't know when Dearborn and Littlepage left in that year either. And I don't know that those guys came back again.

PAUL DAYTON: You are talking about December.

GERALD KOOYMAN: '61.

PAUL DAYTON: When they were bailing out.

GERALD KOOYMAN: Well, I don't know when Littlepage left. And their memory of probably of what Art and I were -- may be better because, you know, just something new -- everything is coming at you, a lot of stuff would just go by you whereas they may have remembered some aspects of that. I know I got really hurt down there at one point where -- it was a dangerous place, because nobody cleaned up rubbish. It was all over the place, you know. Old boxes and that were undone. And then this is in the days of the honey buckets, and they were all taken on the front of the ice right down on the ramp, right in the front of the station where anybody coming up from the airstrip and all that would see. These were all laid out. The dump was up there, everything. And they threw everything away. They threw planes away. They threw a DC-3 away, they put that down, parked it down there. And that was carried over from World War II where they just dumped everything after the war that was out in the Pacific or wherever it was.

But this one time we were carrying a really heavy something-or-other, and I was on a corner. It was Dearborn and I think Littlepage and Pearse, but I was on one corner. Anyway, I wasn't strong enough. We started to set it down and we started to go down and it just took me down and I couldn't stop, and there was a box, a broken open box with a nail sticking straight up, and I went right down on the nail. Oh God, it really hurt. I just felt that thing going in, you know. I don't know what size nail it was, but it seemed big. And went right up under my kneecap. So I sort of passed it off for the rest of the day, but when I got up the next morning or something like that it was really stiff. So I went to the clinic and the guy there stuffed a gauze something or other down the hole, just stuffed it in my kneecap and they left it there as a drain for a while. But I couldn't bend my knee for several days or a week or something like that. But that's the way it was, it was one thing after another as far as damages.

Another time we had these winches that we had to crank over and bring up the cages and all that from the bottom, and when they were cold they were a real son-of-a-gun to start. And I grabbed a hold of one and yanked on it, and when they don't go sometimes they will snap back. If you've ever done a cold start -- it snapped back so hard that it peeled my nail right off my finger. I'm dancing around and blood flying all over. So it was a series of that.

And then working on the metabolic chamber that Curly had for this, it’s all in the lab, but the water temperature matched the seawater. And we had to work with bare hands in that. We didn't have proper gloves to get these fish in and out. Paul knows that because he did it the following year or two. There was a lot of pain that would come, because you would keep working as long as you could stand it because -- to get it done, you know.

PAUL DAYTON: You then left Berkeley and you went to the U of A in '62, where I met you.

GERALD KOOYMAN: Yes, it was '62.

PAUL DAYTON: Yes, I was there in the zoology department. You showed up in Macauley. So bring you back now, because you've been to the Antarctic, you saw the seals, you set up Art with that paper.

GERALD KOOYMAN: Well, I hadn't seen the paper. I didn't know about that at all. I didn't know about the paper. I knew about it because I was -- I know I must've been getting from Art about depths and all that because I would have to think about in terms of designing this time-depth recorder and all.

PAUL DAYTON: Why don't you bring yourself up, because how you got to Berkeley -- to U of A, of all places, where I was, of all people. Go ahead.

GERALD KOOYMAN: Well, that was easy. Some of the decisions there -- I was agonizing about where to go to graduate school and all of that. I actually had my eye on U of A before I came to Berkeley. And the attraction of the U of A was at that time Tucson was a small town, and it was a small department. At UCLA it was formal, and at Berkeley it was even more formal as far as seeing profs, nobody had open doors. It wasn't like here (at Scripps Institution of Oceanography) or anything like that. You made appointments at the Museum of Vertebrate Zoology at Berkeley, you made an appointment with the secretary there, and then they would take into the back rooms or you would come back and they would take you back there and all that. And I remember I went in and I was thinking well, who should I study under. It was O.P. Pearson I wanted to study under, and he was independently wealthy and didn't take students.

PAUL DAYTON: Who was that?

GERALD KOOYMAN: O.P. Pearson. He was an [INAUDIBLE] physiologist of the day. And I cut my teeth with Bartholomew at UCLA, and they were kind of compatriots. They had both been at Harvard at the same time as well as Donald [INAUDIBLE] had been there. So they all overlapped in that time, so it was out of that kind of biology that was going on, a combination of physiology and natural history. So when I got to Berkeley, Pearson wasn't taking students, I was looking around and I thought well, Patelka [phonetic] is an ecologist. So I went in and talked to him in his office, and it put me off knowing him. Because he sat there reading his mail as I was talking to him, so clearly there wasn't much importance with that. So I thought well, that's not going to work.

And in the end I was going to work under Alden Miller, who was an ornithologist there. But then when I got this job to go there, I started rethinking all of that. So U of A just seemed perfect, because at UCLA to get out in the field -- it was a four hour drive to get out of Los Angeles. And in Tucson it is a 15 minute drive and you are out of town.

PAUL DAYTON: Really out of town.

GERALD KOOYMAN: Yes, really out of town. You were out in the Sonora desert, and it was the most beautiful desert I had ever seen. I didn't know that much about it. I had been through there in my Navy days, Verne and I drove down through Arizona and explored some mines, Nevada mines, looking for bats and all of that. And we went down to [INAUDIBLE location in Gulf of California]. That's when there were grouper right in shallow water and all of that. So I really liked that area. So when I got accepted there, that's where we were going. And Mel and I got married in summertime.

And to use up some of the time there, I quit Stanford. I don't know, it must've been in the Spring. But I stayed at Stanford working up Curly's data, so I got to know Littlepage and Pearse, really, and Dearborn there. They were all working on their theses and worrying about that. But anyway, they recommended I go to Hopkins Marine Station to take a marine biology course there, and that would've satisfied my need at Arizona. And so I did that, I took a course from [INAUDIBLE], who was made professor for Pearse. And he was just outstanding, the course was just great. And I sat in on a couple of other courses while I was there. So I really got introduced to marine biology well there. And in the end, I didn't need to fill that course requirement because when I got to Arizona two or three years later, Stanford was doing this [INAUDIBLE] expedition thing where they were taking graduate students, and it was 15 course units to do that. So I applied for that one on [INAUDIBLE], and I got another bunch of marine biology credits while we were out there in the South Pacific.

But Tucson worked out really well. It's a small department and everybody was pretty laid back there as far as the professors were concerned. And it was easy to do field work there. So I did a couple of projects while I was taking classes there. One on kangaroo rats, which was really a lot of fun. I was interested in this concentrated milk that people were talking about that seals had, and I said well, if they have it because there is a lack of fresh water around where they are and all that, then something like a kangaroo rat ought to have concentrated milk as well. So I did a study for a senior problem, or a problem in comparative physiology in class. And they do, they have concentrated milk. So I published that in Science. I thought it was pretty good. So I had a pretty good year that year.

PAUL DAYTON - How did you end up measuring the Weddell’s diving depth with the TDR?

When I first thought about working on the Weddell’s diving behavior, the major obstacle was finding a small, cheap depth recorder. Nothing was available commercially. Art and Curly had used an off-the-shelf, TSK depth recorder that was heavy, bulky and not easy to attach. Expensive, too. I knew that Scholander had used capillary tubes dusted with a water soluble dye when measuring dive depths of fin whales that had been harpooned. I gathered together all the glass tubing I could find at the U of A, and with some modifications from the Scholander design, I wrapped them in neoprene for light and easy attachment to the seals. I had more than 100 of them to take down in 1963, but they only measured max depth.

Back in Tucson in my quest for a small TDR (Time-Depth Recorder), I looked in vain through catalogs and science reports. All were too large to suit my needs. There was no other way than to design and build something custom-made. Howard Baldwin (Sensory Systems Laboratory in Tucson) was not willing to help because he was not enthusiastic about mechanical recorders, but he recommended a local watch repairman in Tucson. Mel and I searched through scrap metal yards to find the right size and weight for the casing. I used her kitchen timer for the prototype. Bernard Strothman, a local jeweler—had a shop in downtown Tucson near Jacomes Department Store—helped me package everything together and seal it. We made six instruments to use along with the capillary tubes.

The first seal I ever put a TDR on was collected at Cape Armitage and brought back to a hole we cut about l.5 km away in the sea ice. After releasing it, I worried that something had gone wrong because I expected it to return to the hole. Anyway, remember Murray Smith, the Kiwi (New Zealander) doing population studies on Weddell seals? The seal showed up back at Cape Armitage with the TDR pack on its back. Later that day Smith spotted the seal, removed the pack and returned it to me. The seal had made a 26 minute dive to 55 meters on its way back to the Cape. I realized that the ice-hole was too close to the Cape, but I was excited to realize that the 26 minute dive was the longest submersion, natural or forced, that had ever been reported for a seal. NSF continued my support for the next season, and I was able to hire Chuck Drabek as a field assistant. He was a former football player, and I figured I needed the muscle. Turns out he was a good choice for many other reasons, too. Chuck just retired as a professor from Whitman College in Walla Walla. We're still in touch. Jane, his wife, and Mel became good friends, too.

I don't remember when the Skyland Orientation meetings got started, but it was a good opportunity to get together with all of the teams that were going to the ice. The Navy people were there, too. I remember that Ambassador Daniels (Paul C.) who was instrumental in getting the Antarctic treaty formalized and signed was there and actually read the treaty to us. The most historic speaker was Sir Charles Wright. He had been on the Terra Nova Expedition with Scott and told the whole story of the trek to the pole. Wright had hopes of being on the team that went on the last leg and was disappointed not to be chosen by Scott. He was with the team that discovered them the following season. I think George (Llano) wanted us to realize that we were going to be part of Antarctic history, too.

The NSF reps, the first NSF rep I met was Phil Smith, and the second was Bill Austin—an interesting guy. He was a "caver"—lived in Kentucky, near Mammoth Cave, and also had a cave on his or his parents home. I think his connection with NSF came about as a friend of Phil Smith, who may have also been a caver. With a group Bill tried to make a trip on the Colorado River in a jet boat, but had a serious accident. In his boat he went over a large wave and into a deep hole and the force of landing broke his leg. He was medevaced out, and the expedition was the first with jet boats that also went up the river. The rep who took his place was Jack (John) Twiss. He was a young guy, but highly competent and easy to get along with. He later became the executive director of

the Marine Mammal Commission in WDC, as you know. We stayed in touch over the years and attended his memorial service. He also, set up a dinner to celebrate llano's 90th. He covered it all, but had to leave before the conclusion of the dinner because his tremors got so bad. He had Parkinson's Disease, and his final days were difficult and discouraging.

Tom Poulter is a long story. In brief I met him while staying in SF while Mel was doing graduate work. Don't recall who introduced me to him, but possibly Roger Gentry. He invited me to come and give a paper at Coyote Hills, the acoustic lab he built while he was director of SRI, and still was at the time. Not long before the talk he told me it had grown, as far as the attendees. There were many luminaries in attendance, and other papers given. It was the seed for the marine mammal conferences, and his mailing list was what Norris and others used for the beginning of the conferences.

The next year Poulter asked to go south as my guest, and Llano was pleased to have him go until the Skyland conference. At a meeting there with George, Schevill, Watkins, I think Ray, and myself it turned into a crisis. Previously and presently there was conflict between WHOI folks and Poulter. Schevill challenged Poulter going and threatened to withdraw if he did. I was in the middle of all of this, and it was very upsetting to say the least.

PAUL DAYTON: Back to your original proposal, It was just the one year, and meanwhile you had written a proposal to Llano.

GERALD KOOYMAN: Yes, I was writing a proposal to Llano which went to Curly to approve, whether it would work in the bio lab and all of that. And Curly's main criticism of that proposal was that I didn't have an assistant, that I was going down there to work on these 400 kilo animals on my own. And I did. And you could never do now. --

GERALD KOOYMAN:, That was in -- was that '63? Okay, you were my assistant. When was Peter Koerwitz [phonetic] there? He was there then too, wasn't he?

PAUL DAYTON: He was there -- I'm not sure when he was there.

GERALD KOOYMAN: Well, he was -- I think he was there the same year, because I got him to come out too. And Curly got on my case about borrowing his technicians. And the lab help.

PAUL DAYTON: Do you remember how much the grant was for?

GERALD KOOYMAN: So, yes, it was for I think either $5300 or $5800. And it got criticized by an Indiana representative called Roudebush who was trying to mimic Proxmire on the Golden Fleece award. And so it made the front page of the Tucson Times or something about this graduate student is being funded all this money, this huge sum of money, to go to the Antarctic and sit on an ice block and watch seals and all that. And [INAUDIBLE], bless his heart, really came to the defense of that.

PAUL DAYTON: And so did George Llano.

GERALD KOOYMAN: Yes, Llano did to. In fact, Llano said he got a lot of mail about that.

PAUL DAYTON: Llano covered a lot of backs.

GERALD KOOYMAN: Yes. So I went down there and worked alone, and it really wasn't very feasible to do it that way. Especially because I ranged all over the Sound, so I was out all over the place from the ice edge up at McMurdo Sound all the way down. I was on my own with this trustee snowmobile.

MALE VOICE: That's when they let you go to the ice edge in track vehicles alone?

GERALD KOOYMAN: No, they didn't keep track of you.

PAUL DAYTON: We had a power wagon.

GERALD KOOYMAN: Yes, I did it on a snowmobile. But one of the funny things about it was -- as I say, it was kind of a free-for-all down there. Well, one year, in '61 -- I will come back to this business of my being out there solo if you want -- but in '61, we were doing -- we were putting traps out after they brought the huts in and we were still putting them down holes, and the ice was getting so rotten. And we ended up with a trap set out around the corner towards Scott Base. And Art and I had to go out there and get that thing. And we were standing on rocking floes pulling that up, and we had the Nodwell parked right behind us, and ice was breaking up. So we were lucky to get the traps and us and the Nodwell out of there without losing anything.

But then we went back -- it had to be later -- and Verne, we had this Weasel down there that did not have a top on it, that was an old recovered tracked vehicle that somebody had pulled out of the dumb and fixed it up. And we were driving around. And it didn't start very easily. But the ice was going out. And it was amazing how it did it, it went out all in one 24-hour period. We looked out from the chalet, or whatever we had for a chalet at that time, and saw it going out in these big half-moon floes going. So we jumped in the Weasel and drove up behind Cape Armitage there, went out in front of Scott Base to see this because whales were coming in. Both killer whales and minke whales. It was a fantastic sight. So we go out, and we parked alongside where it's drifting out back a little ways, and then we ran out to the edge to see it all.

And the next thing we knew, Verne and I are standing there together, we see Art with a chasm between us of about oh, maybe 20 or 25 feet. And Art is standing on the other side of it on this floe, and he is soaking wet. This was his second floe. He had gone out and one had popped out, and he had taken his camera and threw it across, and then he made a running jump to this floe. But he didn't make it. Well, he made it halfway, he caught it with his hands and landed in the water. And so he climbed up on the floe, and then he ran across the floe only to find that floe was parting to. And they

were going out, they were hinging. So he was running back and forth and wondering what to do. And we looked down and we saw him, we saw that he could run down.

So Verne ran down there and Art went down with him and helped him get across that. Because by then he was really cold. And then I ran to the Weasel to get it going, and I flooded it and killed the engine. And he was so mad at me because we are working like mad because the ice is still going out, and we're parked on some of this stuff. But in the end I got it started. Thankfully, because Art by then was freezing over. I mean, his whole coat and everything, his beard and everything was all ice. And this was late in the season. So we roared off, and then he froze to death because there was no top on this thing. I'm driving, and this thing was really fast too, and I drove pretty fast to get off the ice and get up on the hill.

As I say, there were no communications at that time during any of this. Not for years afterwards did they have -- now they are built into the vehicles and people have handheld, but there wasn't anything like that. I don't know, there may have been a vehicle or two that had a radio in it.

PAUL DAYTON: I was involved with helping you cut those holes. And it seemed like I spent a huge amount of that summer helping you cut holes.

GERALD KOOYMAN: You probably did, because as I say, you can't do one of those holes alone. This is at a time when it was all chainsaws. This is even before we used explosives. Because they wouldn't give them to us. The chainsaws were pretty long, they were at least a three-foot blade that we were using.

PAUL DAYTON: My memory of this -- what I liked about Llano was that he had to sort of fund the heavyweights like Carleton Ray, men with tons of money and very expensive projects, hordes of people. But he knew that the science was going to be with the young guys that had good ideas were independent. And so he was always taking chances on you and on me, on Art, on everybody. And so as I recall, I thought your grant was $4800.

GERALD KOOYMAN: That was including overhead.

PAUL DAYTON: Yes, maybe. But I do remember that Carleton came down with a relatively huge grant and lots of important people from the Arctic and the Navy. And he sat around with all of those guys in the ward room because he didn't know how to cut a hole. And you and I were out there cutting that hole in that book (Carleton Ray's article in Zoologica, 1964, Volume 49, starting on page 141). And he came out to watch. You would move that house, it was your house and it was sitting there. And we would cut down a little bit. And he wanted to take a turn because he'd agreed that you'd let him use the house. So you and I went in to lunch, and the last thing you told them -- and I remember -- was, "Don't let the saw get stuck in the ice. Because we will never get it out. You have to keep it moving." You gave him pretty good direction. And he cut a

few inches and instantly stuck the blade in the ice and walked off and left it frozen in just about where we had it when he took over.

So Jerry and I came back and found the saw stuck right where it is in that picture in Carleton's paper. So we had to go up and I had to rebuild the second saw that wasn't running, had to redo a whole carburetor and we spent several hours to get another saw to saw out that saw. Which we finally did. And then we cut the hole and it flooded with all of that brash ice, the ice itself it was 15 feet and there was all that brash, it was a day or two getting it out. All of this -- Carleton's only thing was to come down and stare at the hole sticking the saw, but he published a paper implying he had cut the hole.

PAUL DAYTON: But that's your hut in the picture and the hut has a sign on it that says "New York Zoological Society, field lab" or something. They have the initials NYZS on the hut, and then it says US Naval Applied Science Laboratory. Something else.

GERALD KOOYMAN: Yes, we took that off. There is a photo of Paul and I on the front that says the University of Arizona Antarctic Research Team.

PAUL DAYTON: We came back when we saw that. I went back to sawing the saw out, and you had a big shit-fit by the door, you ripped that sign out. Anyway, I thought that needs to get in there. Mainly because of the -- this was the whole history of Carleton, and if I ever do one of these, I've got some Carleton stories that are a lot worse about my being kept on the ice in 1964 until I blasted a huge hole for him. I resisted for a month or so, but finally did and showed up in a movie my brother saw in New York with me suddenly one of his team.

GERALD KOOYMAN: Essentially there are three generations -- they're not really generations, but close to it -- there was Littlepage, Pearse, Dearborn. And then there was -- DeVries, I came a little later and he'd already started. So it was DeVries, myself, I don't know who else would've been involved in that. And then there was Dayton or a Robilliard group that --

PAUL DAYTON: -- in '63, but --

GERALD KOOYMAN: Yes, I know, but then he came down. That's what I mean, though, when you actually had your own project. The amazing thing about Paul and his project down there was that it was not his thesis. It was this major endeavor in the Antarctic, for which he is still getting credit, all kinds of credit now. People think he is an icon for those who are doing studies down there now, on these [INAUDIBLE] studies on the traps that they can't dive to because it's not legal, it's against the code. And Paul was diving to put the traps in in the first place. And this was not Paul's thesis, this was a sideline to what he did up at the University of Washington where he went to grad school. I was thought that was amazing, you had dual thesis going on there.

PAUL DAYTON: A lot of fun.

GERALD KOOYMAN: Yes, that's what it boiled down to.

PAUL DAYTON: But getting back to you, not me. Curly went to Texas in '65, I think.

GERALD KOOYMAN: Oh, did he go that soon? Well, I lost track of him, because when I left I was not in touch at all with Stanford.

PAUL DAYTON: Me, either. The next question I had which is just a generic question, the relationship with the Navy. Because I remember in '63 when I got there, it was pretty hostile. And then I had all sorts of hostile interactions with the Navy. But Littlepage and Dearborn remember it as just being sweet, benign neglect. They were friendly, no problems. Do you have any idea what happened?

GERALD KOOYMAN: No, I don't, I didn't have too many problems with the Navy either. And it got better as time went on. I think people learned to work more with each other. When it started in '57, I think, it was a Navy show. So then there was this phase that took 10 years, anyway, of getting used to working with civilians and civilians getting used to working with the Navy, I suppose. But you remember a couple of those incidents.

I got really inflamed because they would keep stealing my snowmobile, and this was key to my thesis as far as I had to have the mobility. And some of these enlisted men would get on and steal it, didn't take off and go up to the airport or everywhere else, and running it and jumping over snow hills and things like this. And it would make a wreck out of it.

PAUL DAYTON: They tried to burn it, remember, they turned it over.

GERALD KOOYMAN: That's right, they did one time. They would get drunk and all that, you know. It was really bad. There wasn't good control on that aspect of it. And then when you come and complain to their commanding officer about this or something, you know, they would just give them a little slap on the wrist and say well, don't do this anymore. And then they turn around and do it again. But I thought they should put them in the brig or kick them off the ice is what I thought they should do to them. So that didn't sit very well as far as -- but generally, in those days I pretty much avoided the Navy. I didn't have to have much to do with them. It wasn't until later on when I started flying a lot that I had to work with the Navy more. And that was in the late '60s and then on from that.

PAUL DAYTON: Well, in the mid '60s -- the Navy pilots were a joy to work with, unlike rest of the Navy. I mean, do you remember Jim Brandau?

GERALD KOOYMAN: Well, I'm really glad you brought up his name, because I've been trying to remember Jim's name, and I had forgotten it completely. I remember that Jim was the best of all of those pilots. This guy was a geologist by training and then went in the Navy. I don't think he was planning on making a career out of it, but he just

loved flying down there. But he was out of the plane faster than the scientists were to get out there and start looking around and everything afterwards. And I had one experience with him that just showed sort of the kind of guy he was. At that time I don't remember if they had a copilot or not --

PAUL DAYTON: They did.

GERALD KOOYMAN: They did, okay. Well, I don't recall them having a copilot on that flight. I know there were a couple of times when I flew up in the cockpit, that was later on. But on this one trip, this was in '69, I think, so we are going to sort of fast-forward a minute here. But I was on a flight with Brandau where he took us to Crozier, it was where we did our first Emperor diving studies. So we were out working on the ice edge at Crozier, and that was a record in itself, no one had spent that much time at Crozier on close support next to the ice edge, and we were there for about four to five hours. Maybe even six. Because I was putting these capillary dive tubes on them, and I wanted to recover them before we left so I'd know I'd get them back.

I had gone back there because I had been out there a week before, and when thin ice had developed. Very calm weather. And the birds had created their own holes and were diving up through those, and the ice was about oh, may be nine inches thick. It was wobbly. You could get out and get by the holes and get these recorders on them and get them back. But in the process of that, Jim was out helping catch birds. And a bird slipped out from under him, he was kind of holding it, and he fell and hit the bridge of his nose right across a chunk of ice sticking out next to him -- on the ice edge. And it really hurt him. But he said I'm okay and all of that. So we let it go and kept working, because it was early in the session. And then when we got ready to leave, I'd already had a little conversation with him about flying over Mount Terror. And I thought wouldn't it be nice to see with that looked like from the perspective from down on Crozier and all of that.

And we had a full plane, so I said as we were leaving, "Do think we will be able to do this." And he said, "We'll see." And so he started circling around the slopes of Mount Terror --

PAUL DAYTON: These were the old Sikorsky things.

GERALD KOOYMAN: Yes. And he was looking -- what he was doing because he couldn't fly directly up, we were too heavy. And he was flying, and he was looking for lift. And he would catch these thermals I don't know if you can correct for a place that cold, but anyway he was looking for these uplifts. And he worked his way up, and so we went over the top of Mount Terror. I have actually seen the crater of Mount Terror. I thought that was pretty good.

And then when we came down on the other side, we said well, we ought to go to the igloo. I've never seen it. None of us had. This is where the tent was, where Wilson and Bowers and Cherry-Garrard stayed.

Igloo Spur is what I think it was called. So we landed, and it was a long slope down to where it was. So we went down there, and I had an assistant with me, and he took a fall while we were going down there and I didn't pay too much attention to that. But then he wasn't paying much attention to this, and actually I think it might've been the other way around. I think we went up and had a look at Terror after we went to Igloo Spur, because the guy that was with me just sat back in the corner. He wasn't saying anything. So Jim got us up there, and I thought to myself why isn't he as excited as I am about looking out and seeing these views and all of that.

So we got back to McMurdo, and they went to the hospital. And Jim had -- the break had actually caused cerebral fluid or something to leak. So he was in the hospital for a while healing from that. And my assistant had taken a fall and broke his collarbone. That was Walt Campbell. I don't know if you -- I don't think you ever met him.

PAUL DAYTON: Yes, I did. You know, there are several things that are blurred in my mind too.

GERALD KOOYMAN: Well, maybe my dates aren't right.

PAUL DAYTON: The dates aren't quite right, because Brandau got out of the Navy in '64. And re-upped in '68 but did not come down until 1969.

GERALD KOOYMAN: It had to be '68.

PAUL DAYTON: Well, Brando re-upped and '68 or '69. But he did not get back to the ice until 1969 – I was there in 1968. But I recall that he came down to fly with Tom Berg -- he was flying Berg when Berg was killed in the crash. But that trip that you were talking about where he landed, I think I was with you.

GERALD KOOYMAN: You were on that flight? I think you were. Yes, when we went up to Terror?

PAUL DAYTON: Yes, but Brandau didn't fly. That would've been in '67 or '68.

GERALD KOOYMAN: Well, there were two flights.

PAUL DAYTON: I think there are two flights that are sort of blended.

GERALD KOOYMAN: Yes, that's right. I think you're right about that.

PAUL DAYTON: It probably doesn't matter to the history, the point is that this guy was a spectacular pilot and we had good cooperation.

GERALD KOOYMAN: Yes, right. The guy that flew us there the first time, that was, I think it was in September.

GERALD KOOYMAN: They had started flying early, and I had come down on Winfly in order to – do some night diving studies of Weddell seals.

PAUL DAYTON: That was a Winfly. In fact, that was winter, it was September 12 or something.

GERALD KOOYMAN: When we landed, the pilot stayed in the cockpit.

PAUL DAYTON: Yes, because it was cold, it was 50 below.

PAUL DAYTON: He said the penguins would fall off their mothers feet and freeze solid.

GERALD KOOYMAN: Oh, a couple of people did not even get out of the plane, it was too cold. But we did, and then that's when you think we went to Igloo Spur was on that flight?

PAUL DAYTON: And at that point --

GERALD KOOYMAN: I think we went back to Igloo Spur a second time.

PAUL DAYTON: Of course, because it's a famous place. But at that point, Shoemaker and and some other helo pilots had already cut off the tarp and it was just what was frozen in the ice is what we were able to see.

GERALD KOOYMAN: That's all I remember seeing. There was actually a tarp that went completely over -- I remember seeing parts of the tent there, not very much. Because I think when we went it was the first time I had been there too.

PAUL DAYTON: But for the purpose of history, the point is that in the '60s and into the early '70s, we had wonderful support from the helo pilots.

GERALD KOOYMAN: Yes, everybody was very gung ho about being down there and doing that at that time.

PAUL DAYTON: And we got all over the place, and Brandau was really important to me because he was Berg's personal pilot, and I went with Berg on a heck of a lot of flights, many of Berg's flights in '63 and '64.

PAUL DAYTON: Helos were not supposed to fly over water, but out of sight they did. But it was the old Sikorskys. And they weren't very reliable. They crashed fairly often.

GERALD KOOYMAN: Well, I think it was in part also the pilots' experience.

PAUL DAYTON: Well, our pilots then were from Vietnam. And they were happy to be there and they were good.

GERALD KOOYMAN: Well, they were good pilots, but they didn't have backcountry experience as far as flying in polar regions. And I remember one that we went to the wreck of it one time where people were injured in that, a guy plowed right into the sea ice, he was in a whiteout, he smashed the plane. There was a streak of the plane parts down to the cockpit. There were people injured in that one too. Didn't have a horizon and he just flew into it and hit hard.

PAUL DAYTON: Art and I were out in the icehouse and they went right over us. And it was a whiteout. We were out there because we couldn't see to get back. But he was right over us, so I figured he could see because he was above us. We saw him go over. And I didn't know he had gone in. But yes, maybe two miles more. He just flew into the ice.

So anyway, I just wanted to -- I wanted to try to get a transition with various people of the support, the science support. And I think that the XE6 pilots were good and nice and helpful up until maybe the late 70s or early '80s.

I don't know -- it seems like you have already done [INAUDIBLE] with your gadgets. Maybe the history is better left to the things you don't have already written up. But do remember your relationship with Murray Smith and Ian Stirling and the Kiwis in general, do you want to talk about that?

GERALD KOOYMAN: Well, Murray and I -- we weren't doing even close to the same thing. He was doing this tooth structure stuff and all of that. He was kind of a ruthless guy, I thought, so I didn't really work with Murray. I went over to get blood samples when he was shooting and things like that, but that was something I didn't do any more than I had to do, and I didn't want to do any of that anymore. So I didn't see Murray a whole lot, except one time he put me off because he said, when I told him that I had a record dive of 600 meters, and by then I think it was published -- but I don't recall if I was still working on it. And he said well, I don't believe that. That's not the thing to say to somebody that's really been working hard on devices and that. And he said, "The Sound is not that deep." Well, it is that deep. But otherwise we got along, but he didn't do the same things I did.

But Ian and I really got along well. And Ian came after Murray. And he was doing -- I'm trying to get the sequence there, because he was around when Carleton Ray was around.

PAUL DAYTON: Ian was there, and he showed up, I think, in '67.

GERALD KOOYMAN: Well, Carleton still coming down there then?

PAUL DAYTON: I don’t remember.

GERALD KOOYMAN: Okay, well, I had sort of forgotten that.

PAUL DAYTON: It was Zapol --

GERALD KOOYMAN: No, Zapol was completely separate from that. But I'm trying to figure it out. Well, anyway, when Ian was there -- I know he was there then, because we had sessions where he would stop by my hut because he was really still wandering the Sound, he was tagging all the seals on the Sound, and I was finished with that kind of work by then. And he would stop by the hut and we would have a real gab sessions. And we would go back and forth about stories about Carleton.

PAUL DAYTON: Yes, he had a little 4-wheeler thing, he called it a gnat. A little four-wheel-drive --

GERALD KOOYMAN: Oh, yes, that's what it was. Yes, it wasn't as fast as my snowmobile.

PAUL DAYTON: No, it was old-fashioned four-wheeler thing. But he showed up – Gordie (Robilliard) and I were still shivering before we hit the hot tubs, you know, so we were trying to get our hands to work to get our clothes on. And he opens the door up and the wind came in, and we were sort of half naked and wet.

GERALD KOOYMAN: He was really a good guy, though. He was one of the real treasures of people you meet in fieldwork and all of that. Some of them were just okay and others you don't like and others that were just super people.

PAUL DAYTON: Yes, I would say that Ian is still one of the best people I know.

GERALD KOOYMAN: Yes, he is still going strong. He's got a real deal, something is looking out for him because he went from there, he went back to Canada and did his studies on polar bears became the world authority on polar bears. But that means a lot of flying, and he has been in a lot of crashes and survived them. And he's gone into polar bear dens that he thought were empty.

PAUL DAYTON: He talks about one of his technicians just getting thrown out -- and the pilot actually saying something was wrong and had the plane up over the den just as this guy came flying out of the air, you know, and the bear came roaring after and the guy is hanging on the skid.

Back to the ice, did you interact with Bill Sladen any?

GERALD KOOYMAN: No, I stayed away from Sladen. He seemed like a dangerous man to me. No, I was very intimidated by Bill, because he was a typical British professor kind of thing. And so you knew your place when you were around Bill. But I interacted with his students, especially Dick Peterson. And that's how I got to

Crozier one time was because Dick invited me over and Sladen was not around. And then I knew Bob Wood well, so I --

PAUL DAYTON: And Dave Ainley.

GERALD KOOYMAN: I never knew -- Dave was around, but I never knew him at that time very much. I think it was in between the years that I wasn't down there that he was there. But Sladen was an interesting person himself, and what is curious is -- he was on another icebreaker, I think it was the Burton Island that was to meet the Glacier at Coulman Island. It was already there with John Dearborn. Sladen came in the next day or 24 hours later. And it was supposed to be a rendezvous there for some kind of work they were going to do.

PAUL DAYTON: Bill Sladen is the first person who did serious work on Adélie Penguins at Cape Crozier.

GERALD KOOYMAN: Yes, he really didn't work seriously with Emperor penguins, it was mainly Adélie Penguins. And that he was one of the first to make a documentary that was shown worldwide on national television and all of that on penguins.

PAUL DAYTON: He sort of owned Cape Crozier, and he wanted to --

GERALD KOOYMAN: Oh, yes, things were really very territorial in the Antarctic at that time as far as investigators having their place. Probably still are, but then it was more well-defined, probably, because there weren't so many people there. And also Crozier was Sladen. But Sladen and George had battles.

PAUL DAYTON: Sladen came in -- one time he came in while I was in the bio lab, and he had just come down and gotten off the plane and people were already talking for days, Sladen is coming. And here comes this guy. I had met him, and he's, "How are you doing, Paul," and he comes over. "You know, I'm just trying to get to Crozier. I hate this place, no offense to you. I hate being around here, all these assholes." And I'm just sort of sitting there. And he says, "The only way you can get ahead in this world is to be a bigger asshole then they are. You just get to be really obnoxious and it gets you right out to Crozier right away. Now watch." And the next day he was gone.

GERALD KOOYMAN: I can believe that. But that's why I didn't have much to do with him either, because he wasn't in McMurdo very long, and that's where I was working at McMurdo. And when I did go to Crozier, I'm sure that I went when he wasn't there. He didn't stay long, actually, as far as I know. He would go out there and get things -- or come in after they got it set up, or go out there and help set up. I don't know. And do that.

It is changed quite a bit as far as where the location of the huts are and all. But their hut was more convenient when Sladen was there. Now it's kind of this box in an

inconvenient place. But they had to get it out -- they established a SPA there, and I think that is part of what carried that on, they had to move it out of the SPA.

PAUL DAYTON: A SPA?

GERALD KOOYMAN: Specially Protected Area.

PAUL DAYTON: Oh, okay. My winter -- so it would've been early September of '64, they flew over and found the hut gone. The year before they had gone out and taken that Jamesway and they had sunk 55 gallon barrels full of water. And basically, they had not sunk them, they tried to sink them and they had frozen them in with cables across the hut. And Graeme Johnston flew out there on the first flight when they cranked up the old DC-3 to get it going before the summer season started, and they circled the island. And the hut had blown away. All traces. So just to give you an idea of what the weather was.

GERALD KOOYMAN: Yes, it's unbelievable winds that they get out there. They've had winds where they have seen the Adélie Penguins go flying by. And the birds would be hunkered down in their nests, but every once in a while one would lift its head too high and be gone, so the mortality was terrible when they had those. There were bodies strewn all over down on the beach when that happens.

PAUL DAYTON: You know, I really hope to come out of this some rendition of how science is affected by the leadership in the NSF. And I've seen -- you've seen -- that change tremendously from Llano to Polly Penhale. And I wonder if you might just sit back and speculate on sort of the leadership and the freedom for visionaries to have their visions one and to follow their nose that Llano gave us with what you see now.

GERALD KOOYMAN: Well, what George did is he managed it like a dictator. But he was very successful. And I think he had a knack for picking people that he could see were going to do good things. But it was all fresh material. You couldn't do that now in any case. But it evolved. There was George and then I don't know who replaced George, it may have been Williamson.

PAUL DAYTON: There was a guy named Andrews and then Williamson. Do you remember the top people at the NSF, Jones?

GERALD KOOYMAN: Tom Jones was one of them. I think he was there while Llano was there.

PAUL DAYTON: That's right, and then Bert Crary.

GERALD KOOYMAN: Bert Crary was chief scientist, though, he was never the director. I think Tom Jones was.

PAUL DAYTON: Tom Jones was.

GERALD KOOYMAN: And then Peter Wilkniss was there for a while.

PAUL DAYTON: No, it was Ed Todd came next.

GERALD KOOYMAN: Oh yes, Todd came, and then Wilkniss.

PAUL DAYTON: Yes, so where did things go so bad and why?

GERALD KOOYMAN: Well, I can't explain that, but again, it sort of, the upper leadership, you just don't get involved with them, or a lot of the time you try not to. But the thing about the NSF, at least in that program -- and I suspect it's true in some of the other programs as well -- is that they are people that are career bureaucrats. And they move laterally or move somewhere so that when a position opens up someone within the NSF will move. And I think sometimes they are moved because the people in the other place want to get rid of them. So they move them over, and I think --

PAUL DAYTON: Ed Todd is, both of them are famous examples.

GERALD KOOYMAN: Is that right? Yes, [INAUDIBLE] was like that, you mean Todd and Wilkniss, and -- yes. And the problem about the polar program is that -- Antarctica is a special place, and so is the Arctic. And so they get people in there that have never had experience in either place. And that, I think, has been a problem. Some of them learn and some of them don't seem to have an interest in that. So Crary was in the early days one that had vast experience in the Antarctic and maybe in the Arctic as well. Yes, because he was the first man to set foot in both places, come to think of it. So they had some like that, but there was this issue of people coming in, and I didn't really have much to do with the directors of the polar programs. But I knew the program managers, and so Williamson, when he came in -- he came maybe after Andrews.

PAUL DAYTON: He was after -- he was sort of a little while, it took a while for him to show up after Llano. There was a guy named Andrews.

GERALD KOOYMAN: That may have been in a time when I wasn't going down much. Williamson was only the program manager for a while, and then he became chief scientist. And he had experience in the Arctic. Dick Williams had -- I don't think he had experience in either place.

PAUL DAYTON: He was laterally transferred out of the other NSF.

GERALD KOOYMAN: Yes, I think he was one of those. He didn't know a whole lot about the program, and in fact, he asked me once about -- this is when I was starting to do remote camps -- and he asked me who my cook was. And didn't quite fathom that . We did our own cooking and all of that. Because some of those camps, like over Dry Valleys do have a cook and all of that. But once you start bringing in personnel like

that, it becomes a little McMurdo. And you've got that group too, and you have to support those, and it just keeps getting bigger, so I didn't want to have any part of that kind of field camp.

And then there was Williams. And after Williams, I think it was Ted DeLaca but I'm not sure if there was somebody in between. Well, let's see, he was chief scientist for a while.

PAUL DAYTON: That's right, he was there for a while.

GERALD KOOYMAN: Yes. And so he came after Williamson. And I think Polly came in some time -- I know she came in while Ted was still there.

PAUL DAYTON: And I'm just trying to think of, about how things changed from Tom Jones, say, to Ed Todd. Todd just had no use for the scientists. Do remember when you and I were coming off the ice and they were x-raying all of our kelp, and the Kiwis were --

GERALD KOOYMAN: Oh, was he there then? I know that there --

PAUL DAYTON: A really good example of Todd at his best.

GERALD KOOYMAN: Nobody stepped in.

PAUL DAYTON: Well, he got mad at you because you are trying to walk your film around. And he got embarrassed by you, he hated his scientists, it was really obvious.

GERALD KOOYMAN: Yes, well, I had forgotten that episode, I was so mad about the whole thing. Because I know that there were NSF administrators there that were already through or something, but never came and put in a word for us. Because Steve Alexander and I were trapped in that situation.

PAUL DAYTON: He despised his scientists.

GERALD KOOYMAN: Yes, that was about the only experience I had with that. Wilkniss was a character in himself. It was just -- he was another dictator.

PAUL DAYTON: He was just about the worst person I've ever met.

GERALD KOOYMAN: He was a big, nasty guy.

PAUL DAYTON: I can't find anything positive to say about that creature. And he destroyed our relationships with all of our international friends.

GERALD KOOYMAN: Oh, yes.

PAUL DAYTON: I mean, he hated all the other countries. That's how, probably, how I got kicked off the ice because I had a Brit down there, and he hated that. He was a vile person.

Well, the other thing that I wanted your recollections was the weird noise we had on a dive. We were diving off the [Arrival Heights. I will give my version of it, and then if you remember yours, I'm not sure you do, but -- we were diving off Arrival] Heights. And suddenly we were just --

GERALD KOOYMAN: When you say "we," who --

PAUL DAYTON: Gordie and me. Maybe Bill Curtsinger, I think there were three of us and a tender. So this would be maybe '68 or '74. I just remember the event of just head-shattering electronic noise. We came out of the hole and into the hut, and it was an extremely loud electronic noise- it came up the hole. We went outside in our wetsuits because there was so much powerful electronic noise that it hurt our ears from underwater. And I went in and asked all the Navy people what the hell is going on, and they didn't know anything. "Well, we are doing some tests with the ground control approach at the strip." And that was all I could get out of anybody. And I sort of forgot about it until I mentioned it to you, and then you said you had this recording of it from Crozier. Do you remember any of that? I would love to get that tape.

GERALD KOOYMAN: I remember a recording, and I think I may still have it. I don't know if I can find it. It is a reel to reel tape. But that wasn't an extremely loud noise that I recorded.

PAUL DAYTON: No, you were it Cape Crozier.

GERALD KOOYMAN: Yes. What I recorded, though, sounded very mechanical. I can remember what it was, sort of a zzzzzzzzzzzzt. And it would go off, and then zzzzzzzzzzzzt. And at the time I felt that it was not an animal noise. But that's all I -- I will try to find the tape some time.

PAUL DAYTON: Yes, I would like to have you find that. What you told me at the time, or sometime later, that you played it for somebody, and he said that is a nuclear submarine.

GERALD KOOYMAN: Oh, really?

PAUL DAYTON: Yes -- to a Navy historian when I was on the polar research board. And his body language looked really uncomfortable. And he said he would like to have that tape. That was the word he said. So this is all I know.

GERALD KOOYMAN: Maybe it's gone, maybe it's been stolen. Well, I don't remember any of that, Paul. I have a complete blank on it. But I know who it would have had to be that I had asked about the tape who would've said that. And that

would've been Tom Poulter [phonetic]. Because he was a major force in the underwater acoustics and all. And that is who I was using for my source -- who I was playing the tapes for and getting advice about it and all of that. But I don't remember having a conversation like that. Maybe the Navy has so brainwashed me that if certain things come up, it just wipes automatically my mind.

PAUL DAYTON: Well, it wouldn't have been such a big deal if it had just been some funny background noise.

GERALD KOOYMAN: Yes, it was background noise, but it was so peculiar.

PAUL DAYTON: To us, was just something that I had never experienced before. We got out of the hut, it was so loud --

GERALD KOOYMAN: Yes, it sounds like it was right there in McMurdo Sound, right? Right under the hut, as a matter of fact. Well, you know, there are a lot of strange things going on in this world that are not supposed to happen and all of that. I could see them bringing a nuclear sub down there.

PAUL DAYTON: I think they also had one in the winter of '64 when they were going to rescue the Kiwi doctor at Cape Hallett that had burst his appendix. As I recall it was May, 1964. And there was some chatter, and the Soviets -- everybody listened to the radio chatter -- and they didn't, they didn't. But there was a radio guy that I took up to the hill because I had -- my old Polecat would run better than their stuff, and I could get him up to the, on top of the hill. And he would chat with me. And he told me that there was a sub, that they were bringing a sub in to get the guy. But everybody knew not to talk about it because it was against the treaty. And they didn't get the guy.

GERALD KOOYMAN: What happened to him, did he survive?

PAUL DAYTON: He survived, but I mean, that is a nasty story. Because at the time they had two R4D pilots and two helo pilots wintering over to go to Hallett or to Byrd for a serious medical e-vac. And I'm wintering over, and I'm out on the ice all the time. This was in late May. And you know, you could see everything in the middle of winter even without a moon. There was plenty of light. And the weather was just clear. And I couldn't even get those guys out of the boardroom to go out on the ice to see how easy it would be to fly to Hallett. I volunteered to go with them, and this poor guy was dying up there with a burst appendix. They wouldn't do it. He was a Kiwi. Maybe that was --

GERALD KOOYMAN: I don't know, it's a funny thing about that.

PAUL DAYTON: And he had got into some sort of emergency position where he was all curled up for several months taking all sorts of antibiotics, and they isolated it in a little pocket and he survived. I bet he remembers it if he is still alive. I remember being really pissed off at those pilots. They sure could drink, but they just lived in the --

GERALD KOOYMAN: This was in May?

PAUL DAYTON: May of '64.

GERALD KOOYMAN: There were no planes, but they actually had planes down there?

PAUL DAYTON: They were there to fly. That's why they wintered over.

GERALD KOOYMAN: Yes, that -- I didn't know they had a flying program in the wintertime.

PAUL DAYTON: They did. In fact they flew me to the Dry Valleys several times after the ships left to check Tom Berg's station in Taylor Valley and to go to Lake Penny and Lake Pewe looking for Gressitt's springtails. And long before the season opened they flew both the R4D and the helo, in fact, they took me out to Taylor to Berg's site in early September and left me there for several hours while they took some stuff up to the hut. So they did fly, but not in the dark.

GERALD KOOYMAN: So there have been precedents set, because there had been talk about trying to get a winter program going again where you don't have to stay all winter.

PAUL DAYTON: It's that easy to fly, I mean --

GERALD KOOYMAN: Well, what they have set as a standard is the end of civil twilight, and they won't fly anymore. So that's somewhere, I think, around mid-April.

PAUL DAYTON: Well, I don't know. But anyway, I'm finished. We've gone through all my questions. Did you have anything you wanted to leave for posterity?

GERALD KOOYMAN: I don't know if you want to carry it over all of those decades. As far as I know Art DeVries and I are the only ones that have spanned five decades in the Antarctic. Art has been continuous. I don't know that he's ever had a break from his Antarctic work, and his incredible endurance as far as going on for that long. I've had numerous breaks and gaps, but we started at the same time. And we are both still active. I don't know if Art was down this year or not. But I was down last year, and he was down there. Last year meaning 2010, not 2011. And Art was down there then.

PAUL DAYTON: He's got a picture of the three of us.

GERALD KOOYMAN: Is that right?

PAUL DAYTON: Yes.

GERALD KOOYMAN: But anyway, so the evolution of how -- of what has happened, it would be hard for people that are recent arrivals in the Antarctic in those programs to, I think, even envision what it was like early on. And how much has changed. And I guess the major factor -- but that is worldwide for everything, maybe it's not so hard -- that's communication. The idea now that the people are disgusted if they can't do their e-mail in their so-called remote camps out on the sea ice. I don't think Paul (Ponganis) had e-mail at Cape Washington this year.

PAUL DAYTON: No, he didn't. I know, I tried to get in touch with him.

GERALD KOOYMAN: Oh, you tried to reach him? Okay, but he had an iridium (satellite) phone. And you know, it took us years to try to get them out of these Southcoms. And they just wouldn't do it. They still insist you take a Southcom. with you even though you, you're not going to use it. A Southcom is an HF recorder, it's an HF radio so that you can communicate to McMurdo Station no matter where you are in the Antarctic. They stream them out, and since you do the various treks, sometimes you can't reach McMurdo, so you will call the South Pole and they relay it. And things of that nature. And you can't be left in the field unless you have communications with them on that radio. And that was a major anathema for me on the remote camps, on Cape Washington and all, because they would insist that we have to communicate.

PAUL DAYTON: I got arrested for not communicating when it wasn't my fault. They came over and busted me and hauled me back and made me stay at McMurdo to get chewed out. The damned radio did not work.

GERALD KOOYMAN: Well, that's because -- they were going to do that. I mean, I will tell one story about this because it is so good. We always had problems with that, and I kept saying that the radios are cold soaked, and when they are cold soaked they won't work. No, no, no, they will work, the radio people and the electronics people would say they would, and so they would insist on us taking it. And I said look, we'll call you the next morning once we've got the camp set up and the one room warmed up, and we've got the radio in there and it will be fine, but right now the plane is right there, we can tell them we are fine and we can go back, and they would say no, you've got to communicate. So we just did battle on that.

So one time we got put in at the Cape, but the ice was so rough out at the Cape that we were six miles into the interior, and it was extremely rough ice getting back and forth, so we were carting stuff back and forth from the twin Otter. So fine, we will call. Well, the radios were soaked and we could not get through. But we kept working and sort of forgot about the Otter, we thought the Otter had left. And just left the gear there. And so we made a run back and we left the one -- there were four of us that were going to be there, one was at McMurdo to see the things got out there. And then one was the Frenchman we left at the Cape. Well, Paul and I drove back to the cache where the Otter was. And lo and behold, the Otter was there. And we thought what the heck is the Otter doing here. And one prop was turning. And they had been there for several hours waiting for us to come back.

And they said we've got to take you back to McMurdo. And I said why? And they said because you haven't communicated. And I said the blasted radio doesn't work, I said we can't communicate. Can we call tomorrow when it's warmed up, when we have the camp set up. We were still trying to get stuff there so we can set it up. No, we've got to take you back now. And we said well, we can't go, we've got a man out on the Cape. And he said, oh, I can't stay any longer, I'm going to run out of fuel. And so in the end he said we have to leave. So we're going to leave you there. But I think there is going to be trouble. And so they left, and we just cracked up. One of the smartest things we ever did was to leave Patrice -- and it was a Frenchman, no less, it wasn't even an American. So we left Patrice at the Cape. So we put up more gear and went back and set up our hut, and it was a weather port and then we got the heater going and the radio in there heating so the next morning we could call.

So anyway, what we didn't know was that the plane flies back, Dave Bresnahan, who was in charge of it and recalled us, was out at the airstrip with Phil Thorson [phonetic], who was the other person in our camp. And he was driving out there he said, you know, I really hated to do this to Jerry. He's really a nice guy and all that, but you know, we've got to have communications. And then as the plane pulls in he's sitting there with Thorson in the warm truck waiting, or whatever it was they were driving. And the plane flies in, and he looks in, and says where are those guys, are they lying down and hiding? He said, "Those bastards better be in that plane!" And then he went from a nice guy to just fuming.

So the next morning we called in, "Checking in, everything's okay." And so they brought Thorson out and we went on with our business and that was the end of it. I got chewed out when I got back. But that was a month later and everybody had cooled down by that time. But now, even after we had the iridium phones, I would say give us an iridium phone and we will call you on the phone. No, can't do it that way. But you know, things move slowly. So now you check in with an iridium phone. You don't mess with the Southcom. But as far as I know in 2010 -- I don't know about 2011, I haven't asked Paul -- all the check-ins in 2010 were done on an iridium phone with unlimited minutes, so I was calling home and talking to my wife from time to time.

And that turned into a wonderful thing, because she had a medical problem while I was out there. And I would have never known about it. So anyway, we straightened out that. But anyway, we still had to have the Southcom there. Never used it, but it's a backup for the iridium. Because supposedly you can't trust the iridium. Well, the iridium is far more trustworthy than the Southcom.

And I can say that I am hard of hearing in one ear because of the Southcom. I went to turn it on one afternoon to make contact with a twin Otter that was flying in, I was going to call him and give him the weather. And I went in and I turned the radio on, everybody else was out of town, they were out on the ice edge. I turned that radio on, and you know how you reach down, and so my head was like this and the radio is here, I flipped the switch and it blew up. Just ka-BANG! And I couldn't hear anything, I couldn't hear -

- and I ran outside and shouted -- I don't know why I went outside to do that -- but I ran outside and shouted as loud as I could, and I could not hear myself. And I said oh, man, I have lost my hearing. So after a few hours my hearing came back. But it never recovered in my right ear. And actually, I wasn't aware of that until several months later I realized that I was hard of hearing, because I kept thinking the phone in the office had a lot of static in it. And then I switched ears, oh, it started to work now. It took me a while for it to dawn.

But in any case, the builders of the Southcom are here in Escondido. Well, they put out an all points bulletin to not use those radios for a few days until they checked them out. And they claimed that that radio cannot blow up, there is nothing in it that they can blow up. So they thought well, maybe some gas leaked in it from propane or something. But these are sealed, they are watertight units. And it blew out from inside. And when the twin Otter pilot came into the tent, we were going to give them some stuff, and he came in after it had blown up, and he said wow, the radio was bulging all around. It didn't fly apart, it wasn't exploded, but it inflated the whole walls of that whole Southcom. So he took it back with him, and they sent it to the factory and they checked it out. And they still claimed that it can't be done, can't blow up.

PAUL DAYTON: When I went, and when you were there too -- if you wanted to talk to home you had a phone patch with some lady at Rancho Santa Fe.

GERALD KOOYMAN: Betty Gillis in Rancho Santa Fe.

PAUL DAYTON: Betty Gillis in Rancho Santa Fe, who would patch you through on a ham radio, and you had to say "over" to your family. And I could never get it, I never got one.

GERALD KOOYMAN: You never got one? Oh, that was an experience.

PAUL DAYTON: That was the only way we could communicate.

GERALD KOOYMAN: Yes, when you were at McMurdo the only way you could get a message home other than occasional mail --

PAUL DAYTON: And this poor lady sat there in Rancho Santa Fe --

GERALD KOOYMAN: Well, the ham operators, they just love doing that sort of thing. And so you would walk down to the radio shack, the ham radio shack at McMurdo, which is different from the rest of it, and you would wait in line there. And you would sit there for a while and listen to everyone else's phone conversations, as well as the rest of the world could be listening to them. And you are listening to the person that is the most important person in the world to you, and you --

PAUL DAYTON: I tried a few times but --

GERALD KOOYMAN: Never got through?

PAUL DAYTON: You could write a letter, and it would be a month before you would get an answer to your letter. A full month.

GERALD KOOYMAN: Yes, that's why I say that the communications is probably the major evolution of things.

PAUL DAYTON: Now you can just send an e-mail, you can iChat.

GERALD KOOYMAN: You can do it on -- well, can you do Skype or iChat?

PAUL DAYTON: Well, they don't like you to, because --

GERALD KOOYMAN: It takes up too much of the band, doesn't it?

The whole evolution is remarkable. And one thing I did mention in all of this, and Paul is aware of this too, he was there early enough for that, is the first woman to come to Antarctica in that program was in '69.

PAUL DAYTON: Was it ’69. They were nuns as I recall. Margaret McWhinnie [phonetic] and her nuns.

GERALD KOOYMAN: No, McWhinnie -- I don't think she was the first, I think it was a geology teacher that came, and they kept her in a field camp out away from McMurdo. And they would fly a helicopter over and bring her back once a week for showers. Can you imagine the cost for that?

And then they had -- well, actually Christine Mueller- Schwartz was also there with her husband out at Crozier. But they were all in programs where they were isolated. And then they said well, they've got to fly them all to the Pole. So Christine was all for going to the Pole, but she did not want to go unless her husband went. No, no, no, can't take the husband. So she didn't go. So they took them all in a C-130 to the Pole and it was a farce. They had to say well, who is going to be the first on the ice? So they have a photo of them, and what they finally decided to do is that they all hold hands and jump off of the aft end of the C-130 at the same time.

PAUL DAYTON: You know who was the first one, the first person after Scott Amundsen to step up there, at the Pole?

GERALD KOOYMAN: Step up where?

PAUL DAYTON: At the Pole. Dufek. Admiral Dufek.

GERALD KOOYMAN: Is that right, they flew him in and --

PAUL DAYTON: Que Sera, Sera. Well, I mean, he was on the flight, and he was the first one.

GERALD KOOYMAN: Is that right? Well, do you know what happened to the Que Sera, Sera?

PAUL DAYTON: Yes, the tail is in one of my photos.

GERALD KOOYMAN: Yes, they just put it out on the ice. It should be in a museum.

PAUL DAYTON: Well, they took the wings off it and they were running it back and forth to the strip. And then something happened to it, and they just pushed it out there.

GERALD KOOYMAN: There was no sense of history, really, other than -- although in '61, the one thing they did was there is a major flight to the Pole. And all of the philatelists were going nuts so people were taking stacks of envelopes with them that were going to be postmarked at the Pole in celebration of Scott Amundsen, of him getting there.

PAUL DAYTON: We need to do the women on the ice sometime in more depth. Because it is pretty interesting because -- when I wintered over in the '60s, I thought of nothing but sex. I was obsessed.

GERALD KOOYMAN: Well, how could you help it with all of those Playboy magazines --

PAUL DAYTON: I really truthfully and honestly wanted a woman on the ice with me. But you know, at the same time the Seabees were just drunk louts, they were scary drunks.

GERALD KOOYMAN: Who?

PAUL DAYTON: The military guys, the enlisted guys. You know, they would come crashing into buildings and things. So I realized that everybody said it's our sailors, they will rape them. And that's why we can't have women on the ice because we can't trust our sailors. And I remember arguing with that, with Capt. Riley that you should be able to control your sailors. And catching a lot of flack about me being a civilian and things. But it was an ongoing argument held at fairly serious levels, because it was clear to me then that if we had women there, these guys wouldn't behave like that. And that they would be really okay.

And then in the '70s we were in building 225, it was that white building --, and it was up by, on the hill. And they had -- it was clear that they, somebody had set that up, and I like to think it may have been Llano and some of the earlier, you know, those people high up, to have women. There were separate toilets, separate showers with privacy in

that building. You know, so I think at some level they were preparing for that in the mid '60s. And then you say the geologists were '69?

GERALD KOOYMAN: Yes.

PAUL DAYTON: But the first one really to winter over was my student's wife, Donna Oliver.

GERALD KOOYMAN: Oh, yes. What year was that?

PAUL DAYTON: That was '75 or 76.

GERALD KOOYMAN: So she was the first. Was she the only one that year?

PAUL DAYTON: Yes, she wintered over by herself with Oliver. And all of the things I thought in the '60s turned out to be quite true. As soon as she was there, the whole place cleaned up. And it was a normal village instead of a drunken place.

I remember that she was all geared up to go and the NSF decided not to take a chance on her, and Llano had to tell me -- and this is when they were firing Llano -- that well, you can't do it. And I said, you know, sorry, George. The laws have changed. And we are going to have to just go into the courts because I don't think you can do this anymore. And he said well, I was sort of hoping you would say that.

GERALD KOOYMAN: Is that right?

PAUL DAYTON: Yes. So he reported to people who are pushing him out, a guy named Andrews or Ed Todd, no, you can't do it, Dayton's all geared up to sue you, and if she doesn't go down there, we are going to have a nasty lawsuit. And they let her go. And she wintered over just great.

But there was McWhinnie who was at DePaul University who went down on a winter flight before that I think, maybe in the 60s.

GERALD KOOYMAN: She never overwintered?

PAUL DAYTON: She didn't overwinter, she went down in September. And I think she had three nuns with her. So in some sense she was the first to come down there in a winter situation. And I don't know too much about that.

GERALD KOOYMAN: I don't either, I wasn't there at the time that she was there.

PAUL DAYTON: She was at DePaul. And so they were real nuns. In their habits. Well, can you think of anything else?

GERALD KOOYMAN: Oh, I can think of tons of things. That's easy.