Dr. John Weihaupt  
2 October 2000  

Brian Shoemaker  
Interviewer  

(Begin Tape 1 - Side A)  

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BS: This is an oral interview with Dr. John Weihaupt taken as part of the Polar Oral History Project conducted by the American Polar Society and the Byrd Archival Program of the Ohio State University on a grant provided by the National Science Foundation. The interview was conducted in the Little Bear Tavern in Evergreen, Colorado, by Brian Shoemaker on the 2nd of October 2000.

Dr. Weihaupt, you've had a distinguished career in the polar regions and since. We're interested in your polar background, but as I pointed out in our discussions a little bit ago, we certainly need to know the environment you took with you that affected your polar career. So why don't you start out by telling us where you're from and where you went off to school and who your mentors were and just take it on from there.

JW: OK. I was born in La Crosse, Wisconsin, 70 years ago. In fact, my mother, just to give you a little bit of a family background, was Miss Wisconsin in 1927. My father was a successful businessman in La Crosse, and had been an officer in the Army in World War I. I had one brother, a younger brother two years younger, Dave, and we spent most of our young life in the river valley, on the bluffs, the two of us romping in nature and
climbing the bluffs. Things of that sort. So, in essence, I think we probably came to an adventurous background normally.

On the other hand, on my mother's side, the family came over on the Mayflower and George Rogers Clark and Captain William Clark of Northwest Territories fame are my uncles - my great, great, great, great uncles. So in that sense, even historically, I suppose, we might have something in our genes that has to do with exploration and research.

My father, on his side . . . his father came from Tuchtersheim, Germany - came over on a boat in the late 1800s and both my mother and my father met in 1927 as she was taking a cruise ship to Europe. And they had an interesting meeting and romance and ultimately a marriage and so that's fundamentally the background. With the arrival of World War II, my father worked for the Army and the family moved around quite a lot. First to Petersburg, Virginia, then to Columbus, Ohio, then to Huntington, West Virginia and finally back to Green Bay, Wisconsin. That was 1947-48 basically. And I went to Green Bay High School East. After that, I went to the University of Wisconsin in Madison.

BS: Was there someone in high school that was a particular mentor that you remember?

JW: I think when it comes to mentors, I've thought about that question a little bit and the best I can come up with is that my father was really the best mentor that I ever had. I believe that both in terms of his attitude, his own experience and his philosophies, all of which I still admire today. But then off to the University of Wisconsin and while I was there, I was also in the ROTC program. As a result of that, I ultimately went in the Army and found myself in Korea with the Combat Engineers, Third Engineer Battalion of the 24th Infantry Division. But while in college in Madison, I majored in geology - primarily hard rock geology and some geophysics.
My first job was really before being in the Army and that was a job with the American Smelting and Refining Company in Newfoundland. It was essentially a summer job doing field work for Chile Exploration Company. Not Chile. Buchans Exploration Company. And I spent most of the time in the bush with two other geologists - one from England, one from the United States and we had with us three woodsmen. We spent most of our time walking all day long through the bush trying to find geological outcrops using overhead photography and overlays and that in itself was a wonderful experience for me and again, tended to reinforce my interest in nature and outdoor work and so forth.

In the Army, I was stationed in Yangu, in Korea, and later on, in Western Korea on the DMZ. I spent 16 months there - a full tour - and was a platoon leader, company commander, eventually battalion adjutant and then Assistant Division Engineer before coming back.

When I came back to the United States from Korea, my challenge was, of course, to find a job as a geologist since my training was in geology, and I did have an interview with the Alcoa Company in Pittsburgh and I ultimately had an interview - was offered a job, incidentally, by Alcoa in the States, but I was very much interested in working overseas. So I next had an interview with the Anaconda Company in New York and on the basis of that, was offered a job in Chile, South America. I spent then two years in Chile, South America, after flying to Antofagasta on a Panagra Stratocruiser and from Antofagasta, went overland to Chuquicamata, spent a short time there, and soon after that, was flown to Potrerillos which later became essentially El Salvador - a new mine - and on the return journey of the airplane that I was on, it crash landed and was subsequently repaired. One of the things that was interesting to me was that in South America at that time, many of the airline pilots of the local airlines were Luftwaffe pilots from World War II apparently. But most of my effort in Chile was as an exploration geologist and a mining geologist which meant that I spent a good deal of my time in the field, in
the Andes, in the Anaconda Desert, looking for mineral deposits - in particular, copper deposits - although we did find others as well. And roughly half of my time was spent underground in the mines, mapping the mines, making estimates of ore body size and things of that sort. We used Canadian drillers that drilled them out in the deposits that we were involved in.

I did spend some time in Buenos Aires and Montevideo while I was in Chile. Also in Santiago and Viña del Mar. After that experience, I returned to the United States and took a job with the United Geophysical Corporation. At that time, I worked first of all, in West Virginia. I later worked in Wyoming, and in Colorado - Cortez in particular, doing geophysical work. This was seismic work and gravity work, once again, looking for, in this case, petroleum deposits. And while I was doing that, it was rather interesting, I think - the way I got into the Antarctic Program.

I lived with another geologist whose name was George Farrance. George was a petroleum geologist and at that time, it was very hard because Cortez was something of a boom town - very hard to find a place to live. And George was good enough to offer a bed to me in his trailer. So George and I lived in the trailer while we did our geophysical work for United Geophysical. And one evening - George usually did the cooking - one evening, I found him, well, he was preparing pancakes I guess. I remember that very clearly. These were George Farrance's special pancakes and after dinner, he was reading one of our geology journals and he found his way to the classified section of the journal and said, "Jack, what do you think about going to the Antarctic?" And I said, "George, why do you ask?" and he said, "Well, they're looking for geophysicists in the Antarctic."

BS: *What year was this?*

JW: This was about . . . oh, I'll have to stop and think. It must have been about 1958 - '57 or '58. And I said, "Well that really sounds good to me, George." I wasn't married at that time and he wasn't either, although he was not interested in going to the Antarctic. So I did send an application in and as a result of that, I was asked to interview in Madison,
Wisconsin, and the interview turned out to be with Ed Theil and with Charlie Bentley, and it was at their small office on University Avenue in Madison. I still remember it. At that time, that was the beginning of the University of Wisconsin's Geophysical and Polar Research Center. So it was a small operation.

BS: *Hadn't Charlie just gotten back from Antarctica?*

JW: They had just gotten back from the Ice, that's right. And had taken responsibility for hiring people primarily for the over snow traverse program. And that was their interest in me and my geophysical work with United Geophysical and of course, my experience overseas with the Anaconda Company. I think even in Korea, so that played some part, I think, in their feeling that I might be qualified for this work.

At any rate, they did offer me a position and I accepted it and as a result of that, next found myself in the Blue Ridge Mountains with many other young geologists and geophysicists who had been asked to participate in the program and as some may know, those were meetings and symposia intended to train personnel, inform personnel about what they could expect on the Ice.

*BS: What did they call those symposia?*

JW: I'm trying to remember, Brian, what they called them. I just don't remember at the moment. But I do recall that they were pretty wide ranging and included even lectures by people from the United States State Department since these were international events - things of international interest as well as scientific interest. And we even received some training on mountain climbing and rapelling and rope climbing and things of that sort. After that, I was asked to go to Texas to the Southwest Research Institute and there I met some of the members who were going to be on
my team. One of them was Alfred Stuart who was a glaciologist from Ohio State University, and there were others, including Frank Chang, who was not, ultimately, in my group, and scientists like that who would ultimately be in the Antarctic program. From Southwest Research Institute, we went to Texas Instruments. Texas Instruments to familiarize ourselves with the equipment we were going to be using in the Antarctic - in my case, in particular, seismic equipment. And we also were sent to Sperry-Piedmont in Virginia to familiarize ourselves with the equipment to be used there. And all of us, after visiting several such places, returned to our homes for a few weeks and then ultimately met at Alameda Naval Air Station to be sent to the United States Base in the Antarctic.

From Alameda, flying on military aircraft . . .

BS: C-121?

JW: I think at that time it must have been a C-121, yes. I think it must have been. And we flew to Hawaii, of course, and from Hawaii, south to Canton Island, Fiji island, and ultimately to Christchurch, New Zealand. In Christchurch, we spent at least a couple of weeks, as I recall. And while there, Al Stuart and I along with Dr. Franz Van der Hoeven from Holland, who was to be our group leader in the Antarctic, rented a car and drove across South Island, across the New Zealand Alps to the Franz Josef glacier, primarily for the purpose of familiarizing ourselves and kind of introducing ourselves to glaciers. In this case it was a temperate glacier, of course, but we hired a guide and climbed the glacier before returning to Christchurch. And after some time in Christchurch and getting to know many of the New Zealanders who we found to be wonderful people - enjoyed them very much - making many friends. We went to the airstrip one night, which I still recall as being a dirt airstrip. I can't imagine that that's true, but it may well have been and there was a Superconstellation on the runway and it was time for us to board the Superconstellation, at night in this case, and fly to the Antarctic.
We were given some instructions on preparation for the flight. We were also asked to don wet suits as well as parkas on the airplane in the event that it should go down and we had to ditch in polar seas. Fortunately we flew that night, through the night and I don't recall how long the flight was. We landed safely at McMurdo Sound and had our first introduction, essentially, to NAF McMurdo, which was very small at that time. A few Jamesway huts and a few Quonset huts - things of that sort. And once we were pretty well established and settled in there for a few days, we were then taken across the island to Scott Base which was to be our jumping off point.

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And with us we took three Tucker Sno-Cats over to Scott Base with five ton sleds and spent some time there. I don't recall how long. Probably at least a week, maybe two, with the Kiwis - with the New Zealanders, that is. Got to know them quite well. And prepared for our first venture onto the Ice Shelf. Now one of the things I should mention is that, prior to that and, in fact, it was the year before, I now remember, I had gone to the Antarctic to join Albert P. Crary's traverse that was on its way back from the Pole coming down to Skelton Glacier. And I did spend some time then with Bert Crary.

BS:  *This is the year before that.*

JW:  It is. And here's another case where we get our dates and events mixed up.

BS:  *Now which year was this with Crary?*

JW:  That would have been 1958. Yes. And with Crary at the time, I remember, was Buck Wilson, who was from or went ultimately to the University of Alaska, and I worked
with them for a while in the field primarily to familiarize myself with traverse work and the kinds of things that they were engaged in. All right. That's a time digression there.

BS: *Where did you join the traverse*?

JW: At the foot of the Skelton. At the foot of the Skelton Glacier.

BS: *As it came down? As it hit the sea ice*?

JW: That's right. Yes. Now back to my own traverse from Scott Base, and my party. I should mention that the party consisted of, now, myself, Franz Van der Hoeven, Alfred Stuart, Arnold Heine from New Zealand, Claude Lorius from France, Al Taylor from - I've talked to him recently and I'm told by him that he was a Naval Officer at that time. I didn't know that the entire trip. And another was Louis Roberts who was with the US Geological Survey and was to be our navigator and surveyor. In addition to that, Bill Smith, a psychologist who had been at Walter Reed Army Hospital. Bill was sent along to study us, psychologically, and there was also Warren Jackman, a Navy photographer sent along to record the journey and Tommy Baldwin, our Navy mechanic who had the unpleasant job of keeping our equipment and our vehicles in running order, which turned out to be a major task for him. And we all chipped in, of course, regularly. I might mention at this point that we had, on the average of one mechanical breakdown every other day on our 2,400 kilometer, four month journey. The journey was intended to go and it did, across the Ross Ice Shelf.

BS: *Let me interject here, who was the New Zealander that was along*?

JW: Arnold Heine. Arnold was to work with Al Stuart as a glaciologist. And in terms of the scientific interest or expertise of these people, Al was a glaciologist and Arnie also. Bill, I told you, was a psychologist. Claude was a physicist, I a geophysicist, Franz a
geophysicist, and Al Taylor was a geologist. I think that fills out the interests there. So our purpose, then, was to cross the Ross Ice Shelf to the foot of the Skelton, ascend the Skelton Glacier with our three vehicles and sleds, cross the Victoria Land Plateau to the end station of the French traverse of the year before which went inland from Charcot a couple of hundred kilometers and then return to the coast.

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So our purpose was to tie our scientific data in to the French data of the year before and after that, to cross toward the Ross Sea, attempt to get through the Transantarctic Mountains and there to meet a US Navy icebreaker. So that, then, was the proposed journey that we were to take in the next four months. We did, in fact, cross the Ross Ice Shelf to the foot of the Skelton and there found one of Bert Crary's caches of the year before, and also another cache of the British Transantarctic Expedition. Both of those expeditions had left caches for others who might come later and we did dig up the Crary cache and selected a few items that we thought we might need and left the rest there.

BS: You were using Tucker Sno-Cats?

JW: We were using Tucker Sno-Cats, that's right. And then proceeded up the glacier, the Skelton Glacier, which is something like 110 kilometers long. It took us, perhaps, my best estimate is five days to ascend the Skelton. It could have been a full week. I don't recall, but I do recall that there were many, many glaciers coming in from the sidewalls. Smaller glaciers and on the Skelton proper, a large population of crevasses. Everywhere we went, we landed at crevasses. And as the geophysicist and one responsible for the explosives and detonating them for seismic work, Franz and I often, once we thought we were in a crevasse region, or near a snow bridge, would detonate the snow bridge and
collapse it in order to get some idea of what the orientation of the crevasse was and how large it was. We did have a crevasse detector on one of the Sno-Cats.

BS: *How did it work?*

JW: It worked once and then it failed and so we abandoned it on the glacier. I might mention at this point that each of our three Sno-Cats had a name. One was Detector Cat, that had the crevasse detector. The second was Seismo, which was my Sno-Cat and Franz's. We had the seismic gear and the other geophysical equipment. And finally, Mess Cat which had a lot of miscellaneous equipment and supplies on it and which we used actually as the Mess Cat. We ate our meals in the Mess Cat.

BS: *Where'd you sleep?*

JW: We slept in the Sno-Cats. There were bunks built on the walls so there was one on one wall and one on the other. And if yet another bunk was needed, usually a third person would sleep on the floor. I'm going to relate eventually the fact that we had to abandon one Sno-Cat and when we did, it became necessary for some of the fellows to sleep in survival tents outside. But up the glacier, and we did fall into the crevasses - the Sno-Cats did, I should say. And it happened fairly regularly - almost daily. On one occasion, in fact, we found two of the Sno-Cats were in crevasses - that is, the pontoons had fallen into the crevasses. And our way of getting them out generally was to bring a remaining Sno-Cat up in front, hook it up, put timbers in the crevasse beneath the disabled Sno-Cat and then tow it out, which we did. On the one occasion where we had two Sno-Cats in crevasses and only one out, we decided to spend a night and think about it. We weren't sure if we moved the remaining Sno-Cat if it would go in the crevasse also and then we'd be out of luck, of course, for the remaining season.
We did that and ultimately got the two remaining Cats out of the crevasses and then proceeded up glacier. When we got to the top of the Skelton Glacier, we got a radio message saying that there was an R4D that would land with Admiral Dufek and others to provide fuel, pump fuel to our fuel tanks, and give us whatever additional supplies we might need. This did happen and we met Admiral Dufek, if I remember correctly. George Tony may have been with him at that time. And resupplied our fuel tanks and did take on additional supplies that they brought with them.

BS: What year was this?

JW: This would have been 1959. We were told at that time that, because we had a long ways to go and could not carry sufficient fuel for the entire journey, that the Air Force would make two fuel air drops out on the Victoria Land Plateau for us and ultimately radio us the position of those two fuel drops. That did take place while we were on the Victoria Land Plateau. We never saw the aircraft. They were C-141s, I believe. Actually C-124s. And were radioed, nevertheless, the positions of the two fuel drops which we were to find a month and then two months later. We proceeded, then, over the Victoria Land Plateau and our days consisted of two different kinds of days. The first we called a "travel day" in which we would travel all day. When we did, we would normally send one Sno-Cat out ahead one hour, first thing in the morning. Keep radio contact with that Sno-Cat and the other two would come up an hour later. The purpose for doing it that way was simply that if the lead vehicle got in trouble of any kind, the other two would be safe and the lead vehicle could radio what the circumstances were and the other two, hopefully, would come up an hour later and be of some help to the lead vehicle. Now each of the vehicles took it's turn every other day or so at being the lead vehicle. That's the way our travel days worked, except that Seismo, my Sno-Cat, would stop every five
kilometers for the purpose of taking gravity readings, and then the other kind of day was what we called a "station day," and we alternated station days with travel days. Station days were days during which we stayed at one location and did as much in the way of scientific study as we could - surveys, analyses and so forth. At such station days, Franz Van der Hoeven and I would normally drill by hand a thirty meter hole and place explosives in it - normally nitromon - to do seismic reflection shots to determine the thickness of the ice. Occasionally we did deeper holes with seismogel intended to give us refraction shots over as much as twenty kilometers, and in this way to attempt to define the subglacial depth and topography. While we were doing things of that sort, and also reading magnetics, Al Stuart and Arnold Heine would dig pits in the snow and ice in order to learn something of the snow densities, the temperatures, deposits in the snow, some of the horizons had records of such things as Australian dust bowl days (and radioactive horizons from atom bomb tests), and Claude Lorius would collect snow samples that were intended to be taken back to France where he analyzed them for isotopic signatures of different kinds of substances, and also he felt he was going to be able to get some kind of record of climate and weather for the past that way.

Bill Smith, normally, was, as we said, in the business of studying us, psychologically, while all these things were going on. And Lou Roberts, Al Taylor, Tommy Baldwin, were doing other things. By this time, Warren Jackman had been evacuated. In fact, he was evacuated by the R4D that landed at the head of the Skelton, so our numbers were reduced by one at that time. We continued across the Victoria Land Plateau for what would have been a couple of months then, and because of the fact that we had our radios on constantly during our travel days, I remember that on one occasion we picked up a message - turned out to be a mayday message, and it was a message from a New Zealand party that was on the Ross Ice Shelf. The New Zealand party was broadcasting from a
Sno-Cat and the Sno-Cat was 100 feet down in a crevasse. They were broadcasting from the crevasse into which their Sno-Cat had fallen. As I recall, they had been broadcasting for at least a day - the mayday message - trying to raise someone. Trying to raise Scott Base or McMurdo. And so, we played a part, then, in attempting to relay their message to McMurdo. We were unsuccessful in doing so. But we were successful in reaching a US Navy plane that was approaching McMurdo over the Ross Sea. So we spoke to the crew of that aircraft and told them the location of this New Zealand party, the fact that they were in dire straits, and the aircraft crew radioed the message to NAF at McMurdo. NAF then sent out a ski plane and found the New Zealand site.

BS: *That whole party and the Sno-Cat in the crevasse?*

JW: There were three, yes, New Zealanders.

BS: *So they were all down in the crevasse?*

JW: They were all down in the crevasse.

BS: *I never heard about that.*

JW: Yep. And the three New Zealanders were Bernie Gunn, Jim Lowrey and Tom Cousins, who was a lieutenant in the New Zealand Army.

BS: *Bernie Gunn . . .*

JW: Jim Lowrey and Tom Cousins. So the ski plane crew managed to find them and did manage to extract them from the crevasse. And found that Bernie had a broken back, as I recall. Jim Lowrey had damaged his legs badly, and they eventually were amputated.
Tom Cousins was killed in the accident. So, at least two of the New Zealand colleagues did survive as a result of the fact that we did have our radios on at the right time apparently.

BS: *What kind of radio did you have?*

JW: We had ANGRC-19s.

BS: *An Angry 19.*

JW: An Angry 19, and an Angry 9. And we found that the Angry 9 worked better for us in communicating with McMurdo than the 19, so we used that for most of our communications. And there were Angry 9s also on the other two Sno-Cats.

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So after that, incident, we continued on toward, in the direction of Charcot and not too much time after that, I believe it was, Al Taylor was taken ill. We radioed NAF McMurdo, talked to the Navy doctor there, and it appeared that he had symptoms of pneumonia. And we got advice from the doctor as to how to treat Al Taylor and among other things, we attempted to generate steam and get him to breathe steam. He had to sit up while sleeping at night and had a great deal of trouble breathing. It became apparent within a day or two that Al was not getting better. In fact, he seemed to be getting worse and so we radioed NAF McMurdo again and said we thought it would be necessary to evacuate him somehow. We were a long ways inland by this time - hundreds of kilometers at least. And we got a message back within a few hours saying that a P2V would fly to our position the next day and attempt to evacuate and would we look for a suitable airstrip landing place. Now the sastrugi on the Victoria Land Plateau was very
rough and very high, very hard and so we searched and found what we thought was the best place, but it was really not suitable and the P2V did arrive, and circled and we described the sastrugi to the pilot and he determined that it was going to be an unsafe attempt to land there, so he turned around and went back and when he landed, he had radioed ahead to NAF McMurdo telling them what the problems were, and it had been decided that they would attempt to get out the next day with a helicopter - Navy helicopter. The next day the helicopter took off from McMurdo for our position and found it impossible to get over the mountains. The elevation was too high, we were told, and so it went back and we were told that it would lighten it's load and make another try the next day which it did. It left the crew, all but one, unloaded all the unnecessary gear and proceeded out over the plateau. As it did so, the P2V left fuel drops for the helicopter - two as I recall. And the helicopter leapfrogged, then, from fuel cache to fuel cache and finally to our position, took on Al Taylor and evacuated him, leapfrogging back to it's fuel caches and ultimately over the Transantarctic Mountains and back to NAF McMurdo.

BS: *Who was the pilot?*

JW: You know I don't remember his name. I don't know who he was.

BS: *Quite a job.*

JW: Yes, indeed.

BS: *H-34?*

JW: Yes, as I recall, that's what it was. When Al got down to sea level with a better oxygen supply, he began to improve, and was eventually evacuated to the States. So once
again, we proceeded on to the end point of the French traverse near Charcot of the year before and eventually did find it. What we found in the snow surface was a metal pole that was orange and white and on it was the remains of the French flag which had been pretty much eroded away in the year by the katabatic winds.

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When we arrived there, Claude, of course, was ecstatic. It was a wonderful experience for him seeing the pole, being a Frenchman, recognizing the end point of the French traverse of the year before.

BS: *Was he in the party that left it?*

JW: You know, I believe that he was. I believe that Claude was in the party that left that pole in the snow. This was, as I recall, well . . . yes. This was near a time when we were to get another air drop by a P2V so a Navy pilot came out in a P2V about this time. It was very near Christmas, something like December 23rd, and got in our vicinity and by the time the pilot arrived, we were in a white out and he was unable to find us and turned around and started back. Said he wasn't going to be able to stay much longer, running low on fuel and on the way back, he spotted our trail in the snow and he said, he told us, he said, "I think I can follow that trail and still find you" so he flew low and he came in on the trail and sure enough, he found our position and began to make passes and drop parachutes of supplies. On the return journey, the pilot said, because we had told him where we intended to go next, we were headed toward the Ross Sea now, and the pilot sent us a radio message saying that there's no way you can get through in the direction you're intending to go. There are huge crevasse fields, hundreds of meters across with cliffs that are many meters high and so you're going to have to go back across the trail that you used to approach Charcot and then branch off from that toward the Ross Sea.
Well, that was interesting in the sense that over that part of the trail we had recorded a major negative gravity anomaly, and that major negative gravity anomaly was something of a mystery to us while we were in the field. In fact, it was sufficiently dramatic that we thought our gravity meter was malfunctioning. And did talk on one or two occasions about abandoning our gravity effort because of the fact that we thought the equipment was faulty. But going back over the trail, we continued to measure gravity and what we found was that the profile we had gotten on the inward leg was identical to the one on the outward leg and so our gravity meter had not malfunctioned. We were recording a real gravity anomaly. And so, it was serendipity. It was a fortunate thing that the pilot had told us to go back over our old trail.

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In so doing, we verified that the gravity anomaly was real. We proceeded, then, from that region toward the Ross Sea, but in so doing, we discovered that the ice surface was very wavy, I'll call it. Inundations in the ice sheet, more crevasses than we had seen anyplace on the Victoria Land Plateau, and so, in addition to the gravity anomaly, we were in a truly anomalous region, in this case, glaciologically.

We left that region, headed toward the Transantarctic Mountains, and something like a month later, sighted mountains, sighted peaks. We entered the mountains and were in the region of Rennick Glacier now. It was very late in the season. It was February, in fact, of 1960, and the sun was quite low on the horizon. It was obvious we were not going to be able to get through the mountains to the Ross Sea where we were to meet the icebreaker and be evacuated by helicopter, so that part of the plan had to be redone and rescheduled. And radioing NAF McMurdo about the fact that we were unable to get to the Ross Sea by the end of the field season, we were told that there would be an attempt by an R4D to come in and evacuate us eventually. So a schedule was set up several days from then for the R4D to come in and to evacuate us. While we were in the mountains,
four of us decided that this was a good occasion to do more surveying of mountain peaks and to do at least one mountain climb, so Al Stuart, Arnold Heine, Claude Lorius and I decided to climb one of the peaks which I named Mt. Welcome and later submitted that to the Board on Geographic Names. Mt. Welcome is still named Mt. Welcome, and the next day, which was February 5th, we took one of the Sno-Cats and approached Mt. Welcome as closely as we thought was safe and then parked the vehicle there and walked a mile or two toward the mountain with our mountain climbing gear and arrived at the wind scoop and at that point, we roped up, went into the wind scoop to the base of the mountain across some blue ice and then to one of the cliffs and began our mountain climb which was a rope climb.

We climbed up the first rampart and at the top of it, we found another cliff on our left - a very large cliff along the base of which there was snow and ice and so we were able to disengage from our ropes there and with our cramp-ons, walked across the ice at the base of the cliff. But as we did so, we discovered that it was a metasediment, that is, the rock of the cliff was a metasediment and in it were garnets glistening at us. And so although we maybe should not have done so, we spent perhaps fifteen minutes pounding at the cliff trying to get garnets with our ice axes which we did. We all got our samples and then proceeded around the base of the cliff and up a snow slope to very near the peak and by that time, Al noticed that the weather was deteriorating. It was getting to be white out conditions. Snow as blowing over the peak and we decided at that point that during this first ascent for which we were not prepared to stay on the mountain that night, we had better make our retreat, which we did. And worked our way back down the mountain, down the cliffs, into the wind scoop and ultimately out of the wind scoop and headed for our Sno-Cat.
One of the things I remember clearly and I'm sure my colleagues do too is that, the snow being about knee deep made the journey - the walk - extremely difficult. And, in fact, the couple of miles to the Sno-Cat were quite grueling and in fact, so much so that Claude and I who were on one rope, went on ahead and Arnie and Al, who were on another rope, came along behind us. Claude and I got to the Sno-Cat and found that Arnie and Al were not behind us. We waited 45 minutes or so and finally Arnie came without Al. And the question was, of course, "Where's Al?" Did he make it all right? And Arnie said, "Yes, he's all right, but he can't go on." So we went back and found Al in the snow and carried him back to the Sno-Cat and went out.

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(Begin Tape 1 - Side B)

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JW: OK. When we came off the mountain, Brian, we got back to the Sno-Cat and then headed for our camp and by that time, I hadn't mentioned it before, but we now had only two Sno-Cats, having abandoned one previously because of a broken main frame caused by the sastrugi. But we got back to our base camp and were on the radio again to NAF McMurdo arranging for pick-up air evacuation by an R4D and that was scheduled for February 9th. So we spent the intervening days unloading our sleds, our equipment, getting things ready for loading onto the R4D and February 9 arrived and by the time the aircraft got in our vicinity once again, we were in a white out in a storm and we could
talk to the pilot once more, but he was unable to find us and had to turn around and go back to NAF McMurdo. They made another attempt the next day, February 10th, and were successful in landing and did, in fact, take us aboard with as much of our equipment as they felt was safe to carry. We took off, abandoning the remaining two Sno-Cats and sleds and in the process; there were two banks of JATO bottles on the wings of the aircraft. The aircraft was having difficulty getting off because of the heavy load that we had, and the pilot fired one bank of JATO bottles and we still didn't get off. He fired the second one and we did finally get off. And once in the air, we turned North to have a look at the mountains between our position, our last position and the coast. Flew as far as the coastline, down the Rennick Glacier then turned around and headed up the Rennick Glacier south along the Transantarctic Mountains and at some point crossed the mountains over to the Ross Sea and headed into NAF McMurdo. There we landed. One of the things that we discovered upon landing, the pilot did and the crew, is that there was damage to the tail of the aircraft and what apparently had happened is that when the JATO was fired, one of the bottles came loose, bounced off the snow, and hit the tail of the aircraft and the pilot did notice some.

BS: The tail or the undercarriage?

JW: Actually the tail. The horizontal stabilizer. The pilot told us that he had experienced some feeling, I guess, in the way the aircraft operated, but we didn't really know that had happened until we landed at NAF McMurdo. We spent the next several days cleaning up, getting out notes in order, getting ourselves in order and finally were evacuated back to the States.

BS: The work-up of your data after you got back. Where was that done?
JW: That was done at - I went back to the University of Wisconsin to the Geophysical and Polar Research Center. Al Stuart, I believe, went back to Ohio State.

BS: *But you were coordinating with Van der Hoeven.*

JW: Yes. I was.

BS: *So how did the two of you work your write-up?*

JW: Well, Franz went off into private industry, actually.

BS: *In the States?*

JW: Overseas, in Africa. And I was the one that worked up our geophysical data and Franz was not involved in that.

BS: *You did that at the University of Wisconsin?*

JW: Yes, I did. And the data that I worked up, of course, were the seismic data showing ice thicknesses which were the difficult thing to do because at that time, seismic reflection shots often didn't give us the kinds of returns that they do now or the other techniques that now are available. I worked up the gravity data as well which was very good and provided good profiles on the entire route of our traverse. We found that the magnetic data, however, were not usable due primarily to the fact that the equipment was not functioning well. And soon after that, I was married and returned to the Antarctic one more time - a third time - which was about 1961 and the purpose of the trip this time was rather different from the purposes of the traverses.
It was, in fact, to travel to the Pole and seismically measure the thickness of the ice at the Pole. It had been attempted by other American teams, by the Russians, by the British and all unsuccessfully primarily due to surface noise and the problems that were endemic to seismic work at those times. I went there with a fellow who worked as my assistant named Joji Tomei. Joji Tomei.

BS: How do you spell that?

JW: J-o-j-i was his first name and T-o-m-e-i was his second name. Joji was Japanese-Hawaiian - a geophysicist. And we spent some time attempting, using a variety of different frequencies and explosive charges, to get a seismic return at the South Pole. We also did one major refraction shot over a roughly 20 kilometer interval which was not successful, but we did get one reflection shot that demonstrated the thickness of the ice at the South Pole, so we felt we were the first that were able to achieve that. And that was essentially the end of that trip - that my third trip to the Ice.

Upon my return to the States, I started taking courses at the University of Wisconsin because up to this point, I had not had my Ph.D. degree as yet and also took a job with the United States Armed Forces Institute in Madison as the Chair of their Science Department. I worked for them for four years, ten years actually, in Madison and made Madison our home. And near the end of that period, I did earn my Ph.D. degree from the University of Wisconsin.

BS: What was your Ph.D. in?

JW: It was in geomorphology. And soon after that, I was offered a position with Indiana University and Purdue University in Indianapolis as an Assistant Dean of Science.
BS: *That was in the 70s?*

JW: That would have been 1973.

BS: *How long were you there?*

JW: I was there for five years and became an Associate Dean of the Graduate School at Purdue University and had appointments both with Indiana and Purdue as an Administrator, a Dean.

BS: *How long were you there?*

JW: I was there about five years.

BS: *Then from there?*

JW: And after that, I was offered a job as Dean of the Graduate School at San Jose State University in California, and Vice President of the Research Foundation. So my wife and I went to San Jose and we lived there four years. And at the end of that time, I was offered a position as Associate Vice Chancellor at the University of Colorado, Denver, and Dean of their Graduate School.

BS: *Associate Vice President?*

JW: Chancellor. Associate Vice Chancellor and Dean of their Graduate School, and soon after that I was appointed Vice Chancellor for Academic Affairs on that campus. I continued in that role for several years and then returned to the faculty to get back in
touch with students and to get back in touch with my research which I have been doing ever since.

BS: *When was that?*

JW: That would have been about 1986.

BS: *Makes you emeritus or you're emeritus now?*

JW: I will be if I retire. But I haven't retired yet.

(100)

BS: *Emeritus is another word for retirement.*

JW: Yes it is. That's right.

BS: *It's like a USN Retired Reserve.*


BS: *That's really retired. Or if you're a private industry consultant. Another word for retired.*

JW: Yes. That sounds familiar to me. So I'm still at the university teaching oceanography, astrogeology, and geophysics primarily.
BS: *Let me ask you a question. How did . . . you've had a great career. Sounds like a significant amount of science administration as well as science. Bob Rutford had a similar background. A little bit of Antarctic work in the field and then on boards and committees and. How did your work in Antarctica affect you to make the decisions to do this?*

JW: *Yes. Well, you suggested to me before that you might ask that question and so I have given some thought to it, Brian, and I think the answer to that is it's pretty obvious to me as I think about it, is that it has provided a major thread through my life, I would say, ever since that experience. The Antarctic experience was perhaps the most important single experience that I have had in my career as a scientist and it influenced the way in which I conducted the rest of my professional life, even in administration, in the sense that I think that most scientists, most of us are pretty well wed to the idea that the scientific way of doing things is a good way. And by that I mean simply, it is a search for truth and I believe it is also a way of organizing one's thoughts in one's life that's translated even into my administrative work I believe. If I had one administrative skill that probably has come from those kind of experiences, it is that it is one of organization. I feel that organization is something I am able to do pretty well and bring to most tasks that I am assigned.*

BS: *So you learned organization for those traverses.*

JW: *I think so.*

BS: *That is not to leave a screwdriver behind if you might think you need it.*

JW: *How to schedule, how to decide what one needs to do a job, how to keep the job on track, how to bring people together, how to select the right people and put them in the*
right roles. I'm sure that I benefited in an early way with my military experience, too, that may have prepared me well for the Antarctic experience particularly when it comes to organization.

BS: Well the military is very much like field science in that you go into the field - if you forget your bullets, you can't fight the war. If you go into the field and you forget your seismic explosives, you can't do your seismic work.

JW: Yeah, exactly. Now there's a real parallel there.

BS: You heard about the California National Guard guy came down to put the riots out? The general with 3000 troops?

JW: No, I didn't hear about that.

BS: He didn't bring any bullets. And they fired him. Let him retire. They should have court marshalled him. In the first place, they should never have given his retirement. They called the Marines in, you know, to put out the LA riots with wall of fire firing patterns. One guy shot a Marine by mistake. I don't know how many were killed.

JW: Interesting.

BS: But that's the difference between organized and a failed plot. Same thing for science, I think. And I think the scientists and the military in the Antarctic from my perspective, kind of realized that of one another. They all had to go there. Military forgot some things . . . but not the airplanes.
JW: That's true. I should say. It's an appropriate time, I think, for me to say that I felt that the logistic support that we got from the Navy in the times that we were there was really exceptional. We could not have done the job without the Navy's support. The ships, the supplies and getting us down there. One good example of that is simply Tommy Baldwin who was our Navy mechanic. He kept us moving. As I said before, we had a mechanical failure, at least every other day and over a four month period, that amounts to a pretty substantial mechanical challenge which Tommy met and did so successfully.

BS: Did anybody follow up on your research for the crater?

JW: That's one of the things that is significant in the sense that I think the gravity anomaly that we found which appears to have many of the characteristics of a major meteor impact crater generated interest in the scientific community, but no one has really followed up on that to my knowledge. It has not yet been done. In fact, I'm doing some work on it at the moment and hopefully it will be possible to add to the literature, but it's a little early. I'm working with a fellow at Rhodes University in South Africa who I think can make some contribution to the meaning of the anomaly. But it's a little early for us to . . . his name is Alan Rice, Dr. Alan Rice. I think you've met him.

BS: He's the one that talked to me about it before I went to Cambridge.

JW: That's right.

BS: And I met him here when I was in Colorado Springs.

JW: That's right. I talked to Alan, as a matter of fact, in August and at the time I was in Rio de Janeiro giving a talk at a conference there. And Alan was to join me. He, however,
found himself in Australia and telephoned me to say he couldn't be there. But he'll be back in the States one of these days, and I'm sure that we'll explore further the feasibility or not of pursuing this gravity anomaly in the Antarctic crater.

**BS:** Carl Erb was going to be one of our speakers until about two days ago in Boulder, but he got Julie Palais. He sent her instead. I'm sorry he couldn't come. He's great!

**JW:** Yeah. That would be nice.

**BS:** Ernie Angino is going to be there.

**JW:** Oh, I see.

**BS:** He's going to be the Chair of the program. You ought to come. You'd enjoy it.

**JW:** No, I'd like to. The fact of the matter is, I didn't know about it until you told me and I have some things in the way. But if I can get clear of those, I'll plan to do that.

**BS:** Before you come to any session, it's a hundred bucks for the whole thing. We're having an award ceremony, too, Thursday night. In fact, I've got the awards right here.

**JW:** Oh I see. I understand Norbert Untersteiner is going to be recognized and some others.

(200)

**BS:** Norbert Untersteiner, who ran the ice station before Joe Fletcher. Admiral Steele who navigated the Northwest passage. David Elliott. Remember David? Ed Thornton.
He's an Arctic oceanographer. They deserve it. They're joining Admiral Byrd. Those guys-they're like Bentley. You were there at the same genre as Bentley. But he never quit until '97. Years in the field. So those are the guys who get the awards.

JW: I see. Well deserved.

BS: That's kind of the . . . I don't think . . . Lawson Brigham, a retired coast guard Captain.

JW: Oh I see.

BS: Doesn't just look at Americans. He looks at whoever works with Americans.

JW: That's appropriate too.

BS: Oh, General Keith Greenaway, discovered T3. The great navigator, navigated the blimp to T3. He set up the navigation system for SAC in the Arctic and mapped most of the ocean surreptitiously. Well that was good and we've had a good lunch here at the Little Bear Tavern and we're just getting started again on our talk.

After you came back again from Antarctica years later, you got involved in the early discovery of Antarctica possibly from some old maps that you found along with others.

JW: That's right.

BS: Tell us a little bit about that and what you know about it.
JW: I'm going to try to match you with what you just regaled me with, your experiences in the Himalayas where I had some of that sort of thing and your trip to the Peninsula or thereabout. But, this is a different kind of story. It grows out of my interest in the Antarctic ice cover and how it changes through the years and through the centuries and what it might tell us about global warming. And so I was looking at satellite photography of the ice sheet several years ago and of course it changes seasonally. And it raised the question for me how much it might have changed over the centuries. And so I started looking at old maps of the Antarctic and got back into the 1800s and discovered very quickly that the maps get to be pretty short of information once you get into the 1800s and then they almost disappear. And you may remember the Antarctic continent was discovered in about 1820 by American and British whalers. And the evidence for that is that we find in their ships logs, in the attics of old homes in New England, descriptions of the Antarctic continent. So they seemed to have found it in the 1820s. As a result of that, I called the Library of Congress in Washington and I asked them if they had old maps of the Antarctic continent that I might look at. They said that they did. Audrey and I went to Washington shortly thereafter and went to the Library of Congress and found to my satisfaction that in a very large room, they had set out on long tables all of the ancient maps that they had of the continent. And the first line of tables was the present century, so I worked chronologically back in time at those tables, got to the 1800s which was the next line of tables. Worked down those and got to the very early maps that showed almost nothing. This was back in the time of the whalers, British and American. And noticed that there was a table beyond that and I went to that table and here were maps from the 1700s.

BS: This was in the Library of Congress?

JW: Yes. And that meant, of course, that the history books were wrong, apparently, stating that the continent had been discovered in 1820.
I looked at those maps and discovered there were also maps from the 1600s and there were maps from the 1500s, so the question became one of whether or not there was a discovery of the continent earlier than the 1820s, and that certainly seemed to be the case. The next question was whether the maps were authentic or whether they were valid representations of our knowledge back as far as 1532. That was the oldest map that I found - 1532. And it had the name of it's author on it - Orontius Fineaus was the name,

BS: How do you spell that?

JW: Orontius Finaeus.

BS: F--i-n . . .

JW: a-e-u-s. Orontius Fineaus. So for about a year I became a historian as well as a geophysicist. And looked at the Orontius Fineaus map and looked for evidence of it's origin and found that Orontius Fineaus was a real man, a real person in Paris in that time. He was a mathematician. He had made an atlas of the world in which, I found, was this map also. The Orontius Fineaus map of the Antarctic continent. And so I did an analysis of the map based upon what we know of the Antarctic ice cover and what the likelihood is that it could have changed in the several centuries since that time to produce an ice cover like we see today. And I published that paper in EOS, The Transactions of the American Geophysical Union. And that got a lot of attention around the world, of course, and I still get calls and letters dealing with that.

But the real question for me has been where did the information come from? Does it represent the figment of some cartographer's imagination or does it represent a real
knowledge of the Antarctic continent in the 1500s. There is some evidence . . . there is quite a lot of evidence that suggests A, it's authentic and B, it does represent real knowledge, not the least of which is one or two maps of Gerhard Mercator's which we know to be authentic, which also shows the Antarctic continent.

BS: *What date was that?*

JW: That was 1538, was the oldest one of Mercator's maps.

BS: *Does it say Antarctic continent on it? What is it called?*

JW: It's called Terra Australis Recentur.

BS: *Terra Australis Recentur?*

JW: Yes. I'm told that what that means is the Antarctic Continent recently discovered, or recently known.

BS: *Oh, I see.*

JW: So that's been another one of my major projects. I think the impact crater and the gravity anomaly are the first and this was the second one that I find to be both intriguing and potentially important in terms of the contributions that might be made. And I've given talks on these for several years now at different places - at conferences and so forth. I was supposed to give a talk in Seoul, Korea, this month, actually, but I wasn't able to get there. That . . . bears upon that to some extent, but also upon the impact crater anomaly. I was also scheduled to give one in Croatia, but I didn't get there as well.
BS: *How short a notice do you work with on telling this?*

JW: On giving a talk, do you mean? Oh, I can give a talk right now if you like, but I can do it pretty quickly.

(300)

BS: *The reason I ask is that Ernie - do you know Ernie Angino?*

JW: I don't think I know him.

BS: *University of Kansas. Geology Department. He's running the symposium and I think he's worried about people dropping out and not showing up and he may need a speaker.*

JW: I see.

BS: *Maybe, if you don't mind, I'd have him give you a call.*

JW: Well, I think I could do that if my schedule works out all right..

BS: *Um-hum. OK. Well, I think it might just work out. OK - that's an aside. So anyway, not just Finaeus, but Mercator also had maps of the Antarctic.*

JW: That's right.

BS: *I wasn't aware that Mercator did. Terra Australis Incognita came from Ancient Greek and they felt that all the continents, well then, Africa and Asia, were connected to*
it somehow on their southern tips. And they disproved, Vasco da Gama and Dias disproved Africa could be any connection and eventually Magellan did.

JW: Yes.

BS: And then eventually Cook put the theory under water, so to speak and to an extension way up into the Pacific.

JW: Of those continents.

BS: You have Dalrymple who pushed the continents and Cook disproved the Dalrymple theory. So Terra Australis has been around for a long time, but you found maps that actually looked similar to Antarctica?

JW: Very much so. Remarkably like Antarctica.

BS: And with the sea level change, even more so possibly.

JW: Yes. That's certainly a factor in terms of what is shown with regard to the coastlines. One of the interesting things on the old maps is that the Ross Ice Shelf is missing, but the Ross Sea is still there and penetrates at least as far inland as the Ross Ice Shelf does today.

BS: Is that the Ross or the Weddell?

JW: It's the Ross. In addition to that, where we now see the dry valleys and glaciers that flow to the Ross Sea, it seems to demonstrate the existence of valleys that penetrate far inland.
BS: *Do they say it's ice on there?*

JW: No. It appears not to be ice. It appears to be ice free.

BS: *Are you aware of Dirk Geritz' voyage to Antarctica in 1615?*

JW: No, I don't think I am.

BS: *He's the guy who originally apparently discovered it along with the Dutch explorers, LeMaire and others, but he apparently got blown off course and he could measure his latitude 64 degrees South. He knew what he saw - glaciers. And he ran into glacier covered land. If you draw a line at 64 degrees S it runs from the Antarctic Peninsula to Trinity Island. Well established. The Dutch have records on it and gleefully let everybody know today.*

(350)

JW: Yes. That's interesting. I didn't know about that.

BS: *So, the British, of course, try to shoot it down because they say it is unconfirmed. But, yeah, I'll send you the information.*

JW: I'd like to see that.

BS: *Might help with your talks.*

JW: Um-hum.
BS: I drew slides on the computer and I put him where he possibly was. Of course they couldn't tell longitude.

JW: That's right. Not till the 1700s.

BS: The longitude is accurate and 64 degrees south, it couldn't be anywhere else but in the Antarctic. And he was trying to come around Cape Horn. Smith was the same way. He got blown off course.

JW: That was 1600s.

BS: 1615. Of course the Dutch had been down there. They named Cape Horn, and Staten Island (LeMaire was Dutch) there around the tip of South America at the same time. And of course the LeMaire Channel is in the Antarctic, but those were named later. So, it's quite interesting. I think it's credible just because of what we know today. So, anyway, you give talks on this and have you followed up any of the theories of rise and lowering of sea levels to see if the map was set along the old maps?

JW: I've taken a look at that and it seems to be consistent pretty much with what we know of the rise and fall of sea levels. One of the real questions is what date is represented by the ancient map and we don't know that for sure. The information may have come from before the 1500s. And so that's a little bit of a tricky part of the whole issue.

BS: Well I think we've covered pretty much haven't we? Anything you think we ought to add?
JW: Oh, I guess a couple of things I might mention that had to do with the Antarctic business again - one is that when we were on the Skelton heading toward Victoria Land Plateau, Edmund Hillary sent us a radio message wishing us well on our journey.

Another thing I should mention . . .

BS: *He went up the Skelton, didn't he.*

JW: I think that he did. I just can't remember now.

BS: *Pretty sure he did.*

JW: Did he?

BS: *I'm pretty sure.*

JW: Another thing is that the party, our field party - well it consisted of a variety of different personalities and people with different interests - really worked remarkably well in my opinion. I think it was not long before we all adjusted well to one another, to one another's interests and styles and one of the reasons for the success of it, in my opinion, is that we worked so well together as a team - all of us.

BS: *You still good friends?*

JW: Still good friends.

(400)

BS: *Everybody still alive?*
JW: All of them are still alive except for Warren Jackson who died several years ago. Warren Jackson was a Navy photographer. But . . . and we haven't been able to find Tommy Baldwin. We don't know where Tommy is.

BS: Be neat to know.

JW: Yes. But fifteen years ago, . . .

BS: He was the mechanic?

JW: He was the mechanic.

BS: EOC? EO? Equipment Operator?

JW: Yes, I think so.

BS: Tractors?

JW: He was from Missouri. I'm not sure I remember I think Odessa, I'm not sure. And fifteen years ago, we had our first reunion at the Explorer's Club Annual Banquet. Those that showed up were myself, Franz Van der Hoeven, Arnold Heine, Al Stuart, Bill Smith and my wife, Audrey, went with us to that. And we had our last one just this year at the Explorer's Club Banquet and it was the same group that got together again. So we do still see one another. The intervals are pretty long between, but nevertheless, we're all good friends.

BS: Jack Taylor's dead, huh?

BS: Warren Jackman. There's a Deepfreeze Association which may be able to help find Tommy Baldwin.

JW: That would be great if we could.

BS: Well, I'm done, pretty much, with all of my questions. It's had a big effect on your life, obviously, as it has on most of us. Your comments are quite succinct. In fact, the best description of a traverse and the people on it that we've had so far. It gets to be, most of them are not self-centered, but they tend to focus on the traverse and not the people who do a good job on that. So I think we can just terminate it here.

(End of Tape 1 - Side B)

END OF INTERVIEW