

Wisconsin Veterans Museum  
Research Center

Transcript of an  
Oral History Interview with  
Dr. Charles Stearns  
Sergeant, 96<sup>th</sup> Infantry Division, World War II  
1996

**OH  
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**Stearns, Charles, PhD.** Oral History Interview, 1996

User Copy: 2 sound cassettes (ca. 80 min.); analog, 1 7/8 ips, mono.

Master Copy: 1 sound cassette (ca. 80 min.); analog, 1 7/8 ips, mono.

**Abstract:**

Dr. Charles Stearns, who was born in Pittsburgh (Pennsylvania) and raised in the suburbs of Chicago (Illinois), discusses his service as a sergeant in the 96<sup>th</sup> United States Army Infantry Division in the Pacific theater of World War II and his later work as a meteorologist in McMurdo (Antarctica). He talks about his childhood, including his family's various changes of location and his struggles with measles encephalitis. He then goes on to detail his enlistment in the army at eighteen and the engineering training he received at the University of Wisconsin before moving on to basic training at Camp White (Oregon) and then to Hawaii for jungle training. Upon completion of his training, he and the rest of his division shipped out to the Pacific islands, where he participated in invasions like that of the Filipino island of Leyte and subsequently Okinawa. Stearns reflects on his worries about being a platoon commander during the scheduled invasion of the Japanese home islands (which never happened due to Japanese surrender) and on the inhumanity of war in general. Stearns then explains how he left the army at the war's end and reenrolled at the University of Wisconsin, where he earned a B.A. in physics and an M.S. and Ph.D. in meteorology in addition to rowing crew. He briefly mentions the work he did on the world's first meteorological satellite as well as work he did on Sputnik in some capacity (unspecified). From there, he discusses his later work with the National Science Foundation setting up climate-recording stations across Antarctica for the U.S. Antarctic Program's Automatic Weather Station systems. He details daily life in McMurdo as well as the meteorological phenomena of Antarctica.

**Biographical Sketch**

Dr. Charles Stearns (1925-2010) was born in Pittsburgh (Pennsylvania) and served as a sergeant and platoon commander in the 96<sup>th</sup> Infantry Division of the U.S. Army in the Pacific theater of the war during World War II. He participated in the amphibious invasions of Leyte (Philippines) and Okinawa (Japan) before leaving the army at the war's end and returning to study physics and meteorology at the University of Wisconsin. He was an important figure in the installation and growth of the U.S. Antarctic Program's Automatic Weather Station system and often traveled there to work on the systems.

Interviewed by Doris Litscher Gasser, 1996

Transcribed by Joshua Goldstein, 2012

Abstract written by Jacob Seidman, 2014

## Transcribed Interview

[Music Playing As Introduction]

Gasser: So we're happy to have Professor Stearns with us today. Hello.

Stearns: Hi [laughs] there.

Gasser: How are you today?

Stearns: I'm just fine.

Gasser: All right, we want to hear all about your expeditions to the South Pole. It sounds exciting. But first of all who are you? Can you tell us when you were a little boy, where were you?

Stearns: When I was a little boy? I was born in Pittsburgh in 1925, and my parents moved to Cleveland where I threw pans over off of the back porch on to the ground below.

Gasser: You did what?

Stearns: Threw pans off of the porch [Doris laughs], and they fell on the ground.

Gasser: Was that your hobby?

Stearns: Well, they had to put up screening to keep me from doing that.

Gasser: How old were you?

Stearns: They were losing too many pans, and then they moved to Chicago.

Gasser: Okay, you were on the farm in Pennsylvania?

Stearns: Well, that was later on.

Gasser: Oh, later on. Okay.

Stearns: We moved to Chicago where my dad was working on his Ph.D.

Gasser: On what?

Stearns: His Ph.D.

Gasser: Oh, your dad was a Ph.D.?

Stearns: No, he was working on it.

Gasser: Oh.

Stearns: And workin' at the—his work as at the Western Electric and that is where I had a tricycle stolen, which upset me very greatly. And then I saw a baby carriage going down the sidewalk a couple of days later with my bicycle on the—taken apart and stuck in the baby carriage [Doris laughs]. I tried to get somebody to help me with that, and they wouldn't help me 'cause it was my bicycle. But I was five years old.

Gasser: Did this lady steal your bicycle with a baby?

Stearns: No, it was just the kids, some kids.

Gasser: It was what?

Stearns: Some kids and they had a baby carriage.

Gasser: Oh, the kids did it?

Stearns: Yes, they had a baby carriage, and they were goin' down the street. They were just little kids, a little older than I am.

Gasser: That's the way they pick a bicycle.

Stearns: Yeah, yeah. They made a little money. But any rate I was all upset because I couldn't get someone to help me from the barbershop. That barbershop is still on the corner.

Gasser: Oh, today?

Stearns: Yeah. I talked to somebody—

Gasser: In Chicago?

Stearns: Yeah. I don't know if it is the same people, but it's a barbershop, same barbershop.

Gasser: And you went there to get your hair cut or what?

Stearns: Once in a while, yeah, no more often than I had too. And then we moved to Cicero right off of 48<sup>th</sup> Street, Cicero Avenue which a couple of blocks away was Al Capone's headquarters. There was a garage in the back of this house that we lived, in across the alley actually, and—

Gasser: These were suburbs in Chicago?

Stearns: Well, it's a suburb of Chicago, yes.

Gasser: The heart of Chicago.

Stearns: A suburb. They used to throw the mash out there every week, and this was from making whiskey and stuff like that. And I used to go out there and kick it around a little bit now and then. I thought that was kind of fun.

Gasser: What did you kick around?

Stearns: The mash that was left over from making whiskey.

Gasser: Oh [laughs]. Did you do this all by yourself, or did you have a partner?

Stearns: We probably had a couple of partners.

Gasser: You had a mother and a father and a sister, right?

Stearns: Yeah.

Gasser: Did your sister kick mash?

Stearns: No, she was a little too small to kick mash. My mother did send my sister and I to a store to buy some groceries which we did. We came back, and along the way back my sister – I was five, my sister would be three and the bag broke, and so I said to Caroline to—I suggested that she stay there and guard the food while I went and got the little baby buggy we had to play with in order to haul the food back home. She was there when I got back and we did haul the food back. And I also got measles encephalitis there at that house—

Gasser: At what?

Stearns: Measles encephalitis which is fairly common.

Gasser: When you were a little child?

Stearns: When I was a little child. I had to be operated on in order to remove fluid from the brain and stuff like that, and gradually I recovered. That was an interesting illness because it affected the brain in some way, and it actually was a year or so before I could stand any noise like silverware clinking. And I had to learn most of my motor exercises like running and walking, I had to learn those all over again.

Gasser: How old were you then?

Stearns: I was about five or six. There is a peculiar taste in your mouth, and you get peculiar headaches associated with that taste. And I had never run across anybody who had experienced this until I happened to meet somebody who had had measles encephalitis—

Gasser: At the same time—

Stearns: Well, not at the same time, but he had it, and we just talked about some of these things that nobody else could understand, like the taste in your mouth 'cause that was apparently related to the part of the brain that was affected by whatever was going on. Anyway, he had similar symptoms to me. Then about a year later I was seven, going on eight, my father got sick. By sick I mean he was incapacitated for a number of years because he had—

Gasser: Incapacitated.

Charles: A streptococcus infection, and they had to cut him open along his leg. It was in his leg, and they didn't take the leg off but they made sure they cut her down to the bone and took out the infection. We didn't have all the magic drugs now. But this laid him up, and any rate he couldn't work, and so we went out to Pennsylvania, and this was my grandparents' farm then where we stayed, which was his father and mother. And, you know, when things get tough you always go home, and that's what they did. And any rate, then my mother's mother died, and she went—they went to Ohio for the funeral, London, Ohio near Columbus, and I decided I wanted to stay at the farm. Well, the upshot was I stayed at the farm for four years.

Gasser: How old were you?

Stearns: Well, I was seven when I started, maybe I was eight, probably was eight, and then I stayed there until I was twelve.

Gasser: Then did you go to school there?

Stearns: Oh, yeah. I went to a one room school.

Gasser: And did you go to school in Chicago also?

Stearns: Yeah, I was good—

Gasser: Did you like it?

Stearns: I always liked school.

Gasser: Did you first start being interested in science as a youngster then?

Stearns: Actually, the four years that I lived on the farm, of those four two were drought years, and I remember my grandfather being very much concerned about the lack of rain. And so there was an inkling of an interest starting there about why does it rain? And of course we still don't know, but you [laughs] could cover it up by saying a lot of stuff but it's a very complicated process. At any rate, I think there was a little bit of interest stirred up in my brain at that time about the weather. And any rate, my dad got well enough to work. See, I'll tell you something about those times because now it was right in the middle of the Depression. And my mother went to Ohio. Her mother died, her father needed some help maybe a little bit, and she gets a job. If you got a job you keep it. Well, she stayed in Ohio, and my father didn't like it in Ohio, and I don't blame him, and he went back to Chicago where he was near the doctor and then did a little teaching and some other stuff to keep himself busy till he got well again. And he did heal up pretty well in four years. It took a long time. This cut that he had on his leg had to heal from the inside out and it took literally years to do that. So any rate, when he got well then in 1937 than we moved to Berwyn, Illinois a suburb of Chicago, and my dad was working at Western Electric again and doing well as far as I know. So I went through, finished grade school, seventh and eighth there and then went to high school and played in the band.

Gasser: And where is that?

Stearns: That's in Berwyn, Illinois.

Gasser: Is that near Chicago?

Stearns: Yeah.

Gasser: It's not a suburb?

Stearns: It was a suburb that is right next to Cicero, so the high school was in Cicero.

Gasser: And did you have some good courses in high school? Or what did you like in high school?

Stearns: Oh, I had a meteorology course. I took all the science courses I could get and all the math courses. I always did well in those.

Gasser: You had any stimulating teachers?

Stearns: I had one that wouldn't buy (??) that was always on top of me to make me do right [laughs], and Miss Berry was her name. She made sure I worked. I had two teachers that were good. Miss Berry, I had her in several courses in math and Miss Van Horst who was a seventh grade teacher. And those people had standards, and they made you work, and it was good for us. So they were good teachers. They're the ones I remember the best. And so then I graduated from high school, and then I went into the Army of course.

Gasser: Yeah, tell me about the Army.

Stearns: Well, I went in to go—

Gasser: Did you get drafted?

Stearns: No, I volunteered to go in because there wasn't much else that I could do.

Gasser: You were pretty young then right out of high school.

Stearns: I was eighteen. I was old enough to die, not vote but die. And you know the war in Europe was won mostly by eighteen, nineteen, twenty year olds. You know that?

Gasser: Uh-huh.

Stearns: You get the books written by a number of people, and they'll tell you about who was over there, and it was only young people. The high school class lost of men, or boys as we would call it, we lost about one-fourth due to deaths.

Gasser: Your high school class?

Stearns: Yeah.

Gasser: Mm. When were they in Europe?

Stearns: Well, all over the place as far as I know, you know. I don't know where they were. But any rate, we lost a lot of young men in a lot of that. I went initially to go to what they call the Army Specialized Training Program, see, and I thought well I passed this test now I'm going to have a four year rest plan on the United States Army. And they put us in basic training and then sent us to the University of Wisconsin. That is how I got interested in Wisconsin. They sent us to the University of Wisconsin, and we had one—



Gasser: In the military?

Stearns: Yeah, and we were going to school, taking an engineering course. And the reason for all this was they didn't want to have a lack of engineers in case the duration of the war was extended beyond, shall we say, several years.

Gasser: And you got you selected to do that, or you choose to?

Stearns: Well, I passed a test.

Gasser: Oh, okay. You just elected to write the test.

Stearns: Yeah. Well, I guess everybody could write the test, but you know I thought I had it made.

Gasser: Yeah.

Stearns: And then at the end of the first semester—this was 1943 when I went in the Army, and then the first part of 1944 they separated us from the program “for the convenience of the government.” And they sent us to, at least from Wisconsin, most of us went to the 96th Infantry Division out in at that time in Camp White, Oregon. And then we continued to train there; we were green as grass, dumb as we could be. We continued to train there and then were shipped to Hawaii. Went through what they called jungle training, and then we were put on a ship. We didn't know where we were going to go. We just knew that we were gonna go. We floated around for forty days.

Gasser: Oh, gee!

Stearns: Yeah [laughs].

Gasser: Sort of like Noah and his [unintelligible] and in the desert.

Stearns: Oh, we went to all sorts of places. We went to Kwajalein, Enewetak, and Manus Island down in the Pacific and on the Equator, and then we went up to invade Leyte in the Philippines. And that was quite a convoy 'cause wherever you looked, when we were on the way, wherever you looked in any direction there were ships. And we got into Leyte Bay, and then they said, “Well, I guess we are going to go ashore now.” I have to check the date. I think it was the 20<sup>th</sup> of October 1944. So we all jumped in a boat and went charging ashore and so forth.

Gasser: What kind of a boat did you jump into?

Stearns: Well, it was a landing craft vehicle, personnel. We were infantrymen, and I was in the Heavy Weapons Company of the 381st Infantry Regiment. And we went in right away.

Gasser: In the Philippines?

Stearns: Yeah, and then so we charged around there and eventually got rid of most of the Japanese on the island or captured 'em, either captured 'em or dead.

Gasser: You captured the Japanese on the Philippines?

Stearns: Very seldom did we capture 'em, usually they were just dead. We made sure they were dead. There were not many prisoners taken.

Gasser: How did they get dead? Just from the battle?

Stearns: We killed 'em.

Gasser: You killed 'em?

Stearns: Well sure, how the hell do you think a war is fought? You kill 'em.

Gasser: It's terrible, isn't it? Well, they're dead anyway.

Stearns: Well, we kill fifty, sixty, seventy thousand people a year in car accidents, and it's not terrible.

Gasser: Yes.

Stearns: I don't see anything in the paper today about what's so terrible about that. If it was really terrible than there would be an article every day wouldn't there?

Gasser: Mm-hmm. Yeah, yeah. [Charles laughs]

Stearns: Society has stan—

[Momentary break in recording]

[Break In Tape]

Stearns: But any rate, so we conquered, got through with the Philippines which took about—the 1<sup>st</sup> of February probably we were done in the Philippines.

Gasser: When you found dead Japanese did you bury 'em or just leave 'em there?

Stearns: Oh, we zapped them with a flamethrower to make sure they were dead. You don't know what I've been through.

Gasser: No, I know that.

Stearns: The worse is yet to come if you really want to hear about it. Any rate, then we had to get ready for Okinawa so we trained a little bit, and then the 1<sup>st</sup> of April--

Gasser: Well, that's why it's difficult to come back home to normal society, so called normal, isn't it after you live through that?

Stearns: Well, we had six months over there.

Gasser: But I mean after you've lived through that, don't you think that's why some of these guys are a little bit overboard when they come home?

Stearns: Well, that's a later phenomenon, we didn't have that. We didn't have that that I know of.

Gasser: No, that's true, isn't it? I don't remember that either.

Stearns: Any rate, when we hit Okinawa—now that was a terrible battle. And one of the worst parts of it occurred on seven days where we were attacking the Japanese, and we kept after 'em. And we had suffered enough casualties so that out of forty-four people in my platoon and this is all I know about, only eleven could walk back.

Gasser: God, you were lucky.

Stearns: The rest were either killed or wounded.

Gasser: Did you have a regular rifle? What, did you have a bayonet, or what did you have with you?

Stearns: I had a .30 caliber machine gun, a heavy machine gun.

Gasser: Oh, you had a machine gun?

Stearns: Oh, yeah—by the time—maybe I went from—just from a corporal to a sergeant in charge of the squad, when I hit Okinawa I was a sergeant in charge of the squad. It wasn't long before I was a staff sergeant in charge of two squads. And it wasn't long before another week or two and I was now the platoon sergeant. And a couple of weeks later I was a platoon leader. So by the end of just about--well it would be about the 10<sup>th</sup> of May

after we invaded Okinawa on the 1<sup>st</sup> of April, I was in charge of a platoon and I stayed that way till the end of the war until I got back.

Gasser: Now, what kind of a machine gun did you have? I am trying to figure— was it mobile?

Stearns: Oh, sure. No, we carried it around.

Gasser: Not like a tanker?

Stearns: No, no, no, no. You wouldn't get me in a tank.

Gasser: So you carried the machine gun? How did it—

Stearns: We had a tripod.

Gasser: Oh.

Stearns: So you'd set it on the tripod. Now, we could fire that machine gun all day long. It was water cooled. And we were on this one battle that I was telling you about, we're only on the eleven, we would fire almost a hundred thousand rounds of ammunition a day from our platoon.

Gasser: You must have been a survivor?

Stearns: I don't know if I was a survivor.

Gasser: You're still alive.

Stearns: I know that I was busy [laughs]. Not everybody will fight; only about ten percent actually fight. No, we got through that one close call after another, and then we were gonna go and invade Japan. And the date that we had for the invasion was the 10<sup>th</sup> of October. I've heard other dates, but this is what I knew about. It was around the 10<sup>th</sup> of October that we were going to invade Japan. And this was before they dropped the bomb of course. And that's where I began to get concerned a little bit; I figured that I was going to be a dead man in a hurry when I hit Japan 'cause I'd still be the platoon leader. As far as I knew I was going to be the platoon leader and there wasn't any replacement coming in to take my place 'cause there was supposed to be an officer. It's a bad deal if you get an officer that hasn't had experience in combat [both laugh]. First thing he does, he does the wrong thing and then that kills you, not him but you. So you like experienced officers. Any rate, then we went an island in the Philippines called Mindoro which nobody's ever heard of and we stayed there until about January or February of 1945. And then we returned home, and I got back about the 1<sup>st</sup> of February. Well, you see we were there for six months

or better and gettin' over the war or do whatever we had to do to get over the war.

Gasser: When you were in Japan--

Stearns: I wasn't in Japan.

Gasser: You weren't in Japan.

Stearns: No. We were going to invade Japan.

Gasser: But that was before the armistices—

Stearns: Yeah, before the bomb got—

Gasser: Then that's how you were spared.

Stearns: Then we just went to the Philippines. At about that time I was starting to look for a way out. Can I get into Division Band and all [laughs]?

[Momentary pause in recording]

Stearns: A division to me is—I didn't find this out to just recently, was that although we only had combat for four months or three months on Leyte and about three months on Okinawa, we were the tenth highest division in the United States Army in terms of casualties. We did it mostly on Okinawa. We suffered really terrible casualties, but you should have seen what we did. We killed I don't know thirty or forty thousand Japanese on Okinawa. You hear about the Marines, but they didn't do any of the killing on Okinawa. And no, we didn't take any prisoners either. I remember helping get one kid that was up in the loft in a building, and we sent him back, but usually there were no prisoners, very rarely actually had a prisoner. And they didn't take prisoners. If you got taken prisoner you were going to be tortured. We knew that, and we were going to be taken prisoner. They had to kill us, and we had to kill them, and that's the way it was.

Gasser: So you got home then? How did that go?

Stearns: I got home; decided I might as well go to Wisconsin. I thought I might go row in the crew, go out for it anyways. I could get back into Wisconsin 'cause I was a returning student so I came to Wisconsin. I started out in the fall of 1946, and somewhere along there a month or so I met your sister.

Gasser: Oh, I see [both laugh].

Stearns: At any rate, then I went out for crew, and I got a minor “W” in it.

Gasser: You were pretty young then. I mean, you met her a long time ago.

Stearns: Well, I just turned twenty-one, yeah.

Gasser: That was quite a while ago. Then you started your bachelor's then?

Stearns: Yeah, I started out, and I got it in physics. Then at the end of the four years I went for a master's degree in meteorology, and I've been there ever since.

Gasser: So, you mean you got your bachelor's and master's in four years?

Stearns: Six years.

Gasser: Six years. I thought maybe you were skipping. And you've been there ever since?

Stearns: Well, I spent a couple of years farming and a year in Minneapolis flying balloons, and then I came back here.

Gasser: Now you're gonna tell us all about your achievements as a professor, or did you have somethings?

Stearns: Well, I think you just wanted to know about Antarctica.

Gasser: Well, just tell us briefly—yeah, we want to know about Antarctica—just briefly until you got there because you did that interesting thing on Sputnik. You can't begin to tell all of that, but if you just hit the highlights that got you to getting to the South Pole.

Stearns: Well, I worked on the first meteorological satellite that went into orbit. I actually worked on the sensors.

Gasser: That was quite interesting. Now, who did that?

Stearns: Sumi.

Gasser: Professor Sumi.

Stearns: But I decided I was more interested in what was happening at the earth's surface so I went into another area which was making measurements at the surface of the earth. I worked with Heinz Lettau, and we used to set up equipment to measure wind speed and air temperature profiles. And set up

arrays of devices like Christmas trees and bushel baskets and see what they did to the wind. And try to get some theoretical ways of handling obstacles like bushel baskets and Christmas trees. And it has proved very useful, and later I went on and did a whole series of experiments in the field meteorology which involved areas. You don't have just one anemometer; you got three. And they are some distance apart like a hundred meters or a half a mile or something like that. So that went on—I continued to do that and did a number of experiments, one in Peru, one in California, and I did monitoring for the Portage [Wisconsin] power plant for a number of years.

Gasser: For what?

Stearns: Portage power plant.

Gasser: Oh, the power plant.

Stearns: To look at the environmental impact of it, but I worked on that for a number of years, and then I had this opportunity—NSF, shall we say, the National Science Foundation suggested that I do this work on Antarctica. And I had the kind of background that was needed. I had a strong background in meteorological measurements. I had a good background in the use of computers and so forth. I knew how to do experiments which involved doing things over an area. I was probably the only one in the country that was in the position to handle this project. By 1980 I had written a proposal that was funded so I started taking care of these automatic weather stations. And they're just a little computer. It's a pretty dumb computer. It isn't very big, but it does everything we needed it to do.

Gasser: Where was this computer?

Stearns: It was on the station. Here, you gotta—

Gasser: Okay, let's [momentary pause in recording] you explain it.

Stearns: Yeah, there's the tower. This is a fairly good diagram of it. And this enclosure houses the computer, and what the computer mostly does is count. When it reaches enough counts then it goes into a fit and makes all the measurements and then codes it up into a word to be transmitted to the satellite from here. It's recorded in the satellite, and then it's delivered to us once a month on a CD-Rom. And it comes back in almost perfect order. It really is a wonderful system.

Gasser: Unbelievable.

Stearns: We can make measurements about every ten minutes till we get a hundred and forty four observations of all the data we are measuring here, wind speed, wind directions, pressure, temperature, relative humidity back home, and that's a lot of data. We're supposed to process it for scientific units and send it out for other people to use and put it into what they call a global telecommunication system to go worldwide, which it does. Also, we look at the climate of Antarctica.

Gasser: Okay, it's kind of exciting when you first knew you were going to Antarctica. The stations were already there?

Stearns: No, there were about four at that time.

Gasser: Okay, let's go back now.

Stearns: I jumped ahead a quite bit I know.

Gasser: Well, no, that's okay.

[Momentary pause in recording]

Gasser: From the human aspect you have all this knowledge and are able to do things other people couldn't, but from a human aspect it must have been quite exciting to get everything ready and go to the South Pole, wasn't it?

Stearns: Well, yes because one of the things is you fly around in big airplanes in the Antarctic. You use helicopters.

Gasser: Now, first of all where did you land before you jumped in this helicopter to fly around the Antarctic? [Charles laughs]

Stearns: Well, my first year was an interesting year because I got on an airplane and flew to Christchurch, New Zealand.

Gasser: Were you alone? Or did you have a—

Stearns: I was alone. There were other people around but--

Gasser: But they weren't with you on this mission.

Stearns: They weren't with me, and I was supposed to meet a young man that had wintered over at the South Pole who was going to work with me.

Gasser: Mm-hmm.

Stearns: And I did meet him—



**[End of Tape 1, Side A]**

Stearns: 'Cause I got on an airplane and flew to Christchurch, New Zealand.

Gasser: Mm-hmm. And were you alone, or did you have a troop?

Stearns: I was alone. Well, there were other people around, but—

Gasser: But they weren't with you on this mission.

Stearns: They weren't with me, I was supposed to meet a young man that had wintered over at the South Pole who was going to work with me.

Gasser: Mm-hmm.

Stearns: And I did meet him.

Gasser: And is he an American?

Stearns: Mm-hmm.

Gasser: And where was he from?

Stearns: He was from New York someplace, but he'd been my student at Wisconsin.

Gasser: And you were going to meet him where?

Stearns: At Christchurch and I did. He was going to go in with me to Antarctica 'cause we had to fly down to Antarctica on what they called a C-141 transport.

Gasser: Was it a passenger then, or just—what was on it?

Stearns: A military aircraft. It handled passengers, and it handled freight.

Gasser: Freight and everything. I've been on a plane like that where you walk down the mouth of it.

Stearns: Yeah.

Gasser: Was that it?

Stearns: Well, then I flew—we got to—we flew to Mc Murdo, Antarctica which is on one of these maps, where all these stations are. They're right around McMurdo.

Gasser: Mm-hmm. And this is it?

Stearns: Huh?

Gasser: This was it.

Stearns: No, these are just my stations, but they're all around McMurdo, you see.

Gasser: McMurdo.

Stearns: M-C-M-U-R-D-O. Now, here is a better picture, but you still can't see it. It's all stations, and McMurdo is right here, right in here. And it's on an island called Ross Island. When we got to McMurdo and we landed, and I said to Mike Savage, I said, "I'm sick." What had happened to me is I had developed a peritoneal abscess.

Gasser: A what?

Stearns: A peritoneal abscess during the flight from Christchurch to McMurdo.

Gasser: Well, I don't know what that is.

Stearns: Well, it's an abscess in your butt that's going through the body cavity. And the guy looked at it, the doctor looked at it and said, "Well, you're going back to Christchurch." So in a couple of days they flew me back to Christchurch. They operated on me, and I had to stay in there a month while this thing healed out. Mike Savage did all the work. And, at any rate, he was successful and got a number of stations taken care of, and when he came out then I went back with him. But my first year in Antarctica lasted about two days [laughs]. At any rate, I haven't had any problems since. Now, I've gone down there—

Gasser: Okay, you've gone down every year?

Stearns: Not every year but almost every year.

Gasser: How long of a period of time was that? Twenty years about?

Stearns: Twenty years, we'd go down for a month, month and a half. It depends on what you are doing. If I go on an icebreaker it'll be a month and a half because I'll spend two weeks on the icebreaker.

Gasser: Now, you get the icebreaker at—

Stearns: Well, this is picked up usually in Australia.

Gasser: They must have a lot of working together to get that together just right, or do you plan your own trip?

Stearns: Oh, yeah we have to. No, there's a—we have to plan. We have to build because we build everything ourselves. We make the computers.

Gasser: Okay, so you land on this place McMurdo, you said?

Stearns: McMurdo, mm-hmm.

Gasser: Okay, you're in a plane.

Stearns: Yeah.

Gasser: What kind of a plane again?

Stearns: A C-141 or an LC-130.

Gasser: And you come by yourself? Sometimes?

Stearns: Well, sometimes I have students with me or other people working with me.

Gasser: Okay, it could be how many?

Stearns: Well, I have up to four people.

Gasser: Okay. Then you get out of the plane, and what's the first thing that happens? You hear about this outlandish weather that you have. Is it that bad?

Stearns: No, it's about like March here [laughs]. This is January and it's warm. It's about like March here. It's about—

[Approx. 2 sec. pause in recording]

Stearns: Including fuel and the food and the airplanes fly up from here to here. So in order to have the South Pole operating you must have this.

Gasser: And so where do you live then? What kind of housing do you—

Stearns: Well, they have rooms in buildings that are heated and got a bunk and a good place to eat. No, it's quite comfortable.

Gasser: Have you been up to—or down?

Stearns: Yes, probably ten times, I'm not sure.

Gasser: And did you find that big bubble that she was talking?

Stearns: Yeah, yeah.

Gasser: And was it quite exciting?

Stearns: Well it's kind of dull. It's just a big shroud over you but what's exciting, of course he's going out around here and puttin'—

Gasser: But I mean, what was their purpose in being there then? I mean, what was that doctor's purpose in being there?

Stearns: She was just the medical person for the people who were staying there who include—oh there's a whole host of things. Just from the University of Wisconsin there are people that are doing astronomical work at South Pole, and they are doing work on basic physics down on the ice at South Pole. And there's other people—well, there's just all kinds of astronomy going on there.

Gasser: How many people would you say were in that big bubble she is talking about?

Stearns: Well, let's see last winter or this winter I think there's forty-eight or fifty people living down there now. That is partly because they are doing building through the winter. In the summertime there may be 200.

[Momentary pause in recording]

Gasser: Okay, now so you get out of your airplane, and it's like March, and actually what season is it?

Stearns: It's January or it could be December. See, the season down there—the southern summer down there starts about the middle of October and it extends through to the middle of February. So it's—November, December, January, February—four months.

Gasser: So then you first started this you said there were four stations. How did you go about putting up the other stations, and how did you know where to go and all that?

Stearns: Well, I put 'em up where I thought we needed them.

Gasser: What would the criteria be for where you needed them?

Stearns: Well, we didn't really know [Gasser laughs] initially, but there were some things were obvious. First of all, you say, "Well, we'll put some stations around McMurdo and find what is going around here." And then a little later we decided to put some around South Pole which we did just to see to see if there was an effect of the buildings and so forth.

Gasser: Now, did you personally put some up around the South Pole?

Stearns: Oh, I put 'em.

Gasser: Okay, explain that then. If it was so dangerous to go out into the air, how could you do that?

Stearns: Well, you see, at South Pole I am down there in the summertime. In the wintertime South Pole gets temperatures of about a minus 100 degrees Fahrenheit.

Gasser: And still some people are there then?

Stearns: Oh yeah, there'd be forty people there, but you don't last very long outside when it is a 100 degrees below zero Fahrenheit.

Gasser: No, so when you went there it wasn't a 100?

Stearns: No, it was about zero Fahrenheit. And we were very comfortable generally, and we'd fly out in a Twin Otter or we could use a vehicle that was this tracked vehicle to go out, and we would go out. If we did the Twin Otter we would land, and the Twin Otter would point to north and make a track.

Gasser: Now, what's a Twin Otter?

Stearns: It is an airplane.

Gasser: Oh. Then it means a small plane?

Stearns: Yeah, it's a small plane. And then we would make—lay the station out according to north determined by the Twin Otter. We dig in the anchors that are just boards you stick down in the snow for a foot or so. And we tie a chain and ropes to 'em. And then we tie these to the tower. It's a ten foot or fifteen foot tower, something like that. We attached all the parts to it,

and then we lift it up and tighten the ropes, and there it is. Then we turn it on (??).

Gasser: It sounds like magic, but you had to do this digging physically or?

Stearns: Sure.

Gasser: And you did that, you had a crew with you then?

Stearns: Well, I'd do it—the Twin Otter people would help us.

Gasser: A couple of people helping you.

Stearns: A couple of people, yeah. It doesn't take much to dig a hole in the snow.

Gasser: Oh, just in the snow because there is no land under there, I mean.

Stearns: Well it's down about two miles. There is about one inch of powder and 10,000 feet of—

Gasser: Now, the plane would stop and leave you off?

Stearns: No, no, they'd stay with us. They don't drop you off; they'd stay there, and they help. We'd only be there an hour.

Gasser: And then you'd go to the next place and do—

Stearns: Yeah, and one year—we used to have four around here, and one year we put in two in one day, and then we put in two the next day, and we went back home.

Gasser: Home would be back here?

Stearns: Yeah, and then we would use the Twin Otter to fly out to these sights.

Gasser: And how many miles would it be from Camp McMurdo or whatever you say to you say up there at Henry?

Stearns: Well, this is about 900 miles.

Gasser: That's quite a distance.

Stearns: Yeah.

Gasser: How long did it take you to get there?

Stearns: Well, if we went in a C-130, and we would go down in a C-130—the Twin Otter would go on its own. The C-130 it would take about three hours to get down there.

Gasser: Okay, and then you got the smaller plane up here?

Stearns: Yeah, yeah, it comes there to meet us.

Gasser: So you didn't do a lot of hiking around by foot then?

Stearns: Not on these situations, no.

Gasser: But down here at McMurdo?

Stearns: Down at McMurdo we might go out in a helicopter. We might go out in some areas in a truck. We could actually go some places in a truck. We would go in helicopters as I said, or did I say.

Gasser: Well, there was still walking from the helicopter to the spot.

Stearns: Well, we didn't walk all that much. We generally had snowmobiles or something like that.

Gasser: So how many centers did you set up then in the time you were there? By the time you left how many centers? Are these all centers?

Stearns: These are all stations.

Gasser: Or stations, okay. And you helped with most of them or?

Stearns: Oh, yeah.

Gasser: All of 'em?

Stearns: Well, not every one. I didn't put this one in.

Gasser: Who named them?

Stearns: I do.

Gasser: So [laughs], and they're gonna stay there now?

Stearns: Well, I have no idea what's going to happen [laughs].

Gasser: So how many would you say have you put up?

Stearns: Well, I think I put up all but about—

Gasser: Well, just estimate it.

Stearns: A lot of them have come and gone, I'll say fifty.

Gasser: Sometimes they would come and go after you figured you got—

Stearns: Oh, sure, sure.

Gasser: The information you needed you took them away.

Stearns: Well, it was too hard to get to them. See, this one I could hardly get to this one, I could hardly get to this one. I got to go on the icebreaker. With a lot of ice around here they don't want to cut through the ice to go to the station.

Gasser: So what, they were islands there?

Stearns: Yeah, the most miserable islands on the face of the earth. The only thing that likes them is birds.

Gasser: And then you landed there.

Stearns: Now, just—we can't land any place here because there's no place to land.

Gasser: Oh. So you'd jump out of the helicopter?

Stearns: Well, what we did was we went up real high on the first station, and we landed on a plateau on top of these mountains. And frankly, the east side—if you look around this way and go all away around the earth you are going to see the other side of this island because there is nothing else just about.

Gasser: So you landed on top—how did you get to?

Stearns: We landed—well, a helicopter.

Gasser: And how did you get your station set up then?

Stearns: Well, we set it up on some snowfield that we found up there. And people have been giving me hell ever since because I lost a good station. And it was clear after a month or two that it was getting covered with snow and was buried in snow already, and it was going to die. And I went and rode on the icebreaker for—



Gasser: When it dies what does it do then? Just won't function?

Stearns: Just won't function, batteries don't get charged anymore. That's one of the problems here. The batteries don't get charged because it's so cloudy around these islands.

Gasser: Oh, and what charges the batteries then?

Stearns: Sun.

Gasser: It's like a solar system.

Stearns: Yeah, it is, yeah, and all of them are run off of a solar panel. And then you have this little diagram here. Here's the old panel sticking up in the—oh, here it. There's is the solar panel.

Gasser: When the data is gathered in this computer then how is it—it's just sent like any computer to—where is it sent to?

Stearns: It's sent to this antenna which broadcasts to a satellite.

Gasser: The satellite can pick it up where?

Stearns: Picks it up whenever it's in sight.

Gasser: Any place?

Stearns: Well, it's gotta be able to see it.

Gasser: And you record it personally then, or does it automatically?

Stearns: Does it automatically.

Gasser: But only in this area?

Stearns: Oh, it's all over the world.

Gasser: Okay, so that information right there then can be picked up by any satellite in the world?

Stearns: No. No the [telephone rings]—

[Momentary pause in recording]

Gasser: Okay.

Stearns: On this map—our experience is such that we would think it would get colder as we go father and father towards the South Pole. Here it doesn't.

Gasser: Oh, where?

Stearns: Just—right there.

Gasser: Just that certain spot.

Stearns: This is the coldest place on this area called the Ross Ice Shelf.

Gasser: What ice shelf?

Stearns: Ross Ice Shelf, that's where the big icebergs are breaking off.

Gasser: Oh, and what is this?

Stearns: This is Gill, and Gill is colder than this side, this side, this side, this side, and another one that we had here and the ones that we got here. So it's cold here and warm all around it. And that gets interesting to explain it. Well, what's happening is that there warm air flowing catabatically down here. Catabatically, the air is up high, 3,000 meters, it flows down a glacier—two thousand meters is 10,000 feet roughly. It flows down the glacier onto this ice shelf, and it comes down warm, warmer than the air here. And that's why these stations are here because there is a big glacier here, and there is a big glacier here. And these stations are over here because there is flow down here that's interesting. Also, there is flow from this area down here. It is a very interesting—

Gasser: So this is not the coldest spot then?

Stearns: Well, if this air is brought down to this point and it warms up as it goes down to a—

[Approx. 17 sec. pause in recording]

Stearns: Not as clear here during the winter.

Gasser: And why is the sky clearer then?

Stearns: Well, it might be because there's some effect here on the clouds. The air comes against this mountain range, and it lifts up, and there's clouds that form that don't form out here. But see, it's a little bit iffy yet, I'm not sure, but definitely this air here can come down these glaciers and flow out here. And they come down in streams, and I don't have anything to illustrate it, but you can see one after another coming here, and they all

turn and go this way. I don't have any pictures with me to show you on that. I have lots of pictures.

Gasser: Well, then—but this whole area is where they really call the South Pole then?

Stearns: This is right at the South Pole.

Gasser: Well, they always, well, there was no land there. Now, far does that extend? Like you said it's two miles down now but—

Stearns: Well two miles down—here it's about a mile and a half down, and the land shows up a little bit along the coast here, and then there's a mountain range running through here where you can see the land. Otherwise, it's just snow. This is all snow back here. The highest place—I'm going to go to look a map.

Gasser: Don't you feel you're going to sink in the snow sometimes? It's crusty?

Stearns: Snow that never melts. It's always there, and the wind works it, and it gets hard. This station here is about four thousand meters so this would be about 13,000 feet or so above sea level.

Gasser: That's just like Mount Fuji.

Stearns: We're gonna set a new record there for the world's lowest temperature at the surface of the earth.

Gasser: That is?

Stearns: It hasn't happened, yet but it's going to.

Gasser: This one is?

Stearns: The other record—

Gasser: Okay, Dome—what is it, “Domay”?

Stearns: Dome.

Gasser: Dome?

Stearns: Well, it's supposed to be Dome, D-O-M-E, F-U-J-I. Yeah, Fuji.

Gasser: Well, that's right. Mount Fuji is 13,000 feet.

Stearns: Well, the Japanese are putting those in. See, you send the stations to the Japanese, and then they install them up here. We've worked with them for ten years now.

Gasser: Well, now are all these stations still operating?

Stearns: Well, let's see what's not operating. I'm not sure what's not operating. See, these were—these stations—let me put it this way, every year we have to make repairs. They work for about on average about five years. And if you got sixty stations, you see, and they work for five years you got six to repair every year. There are stations here we can't get to 'em.

Gasser: Those are the ones that you came on the helicopter?

Stearns: Yeah, well, yeah, but we can't get to 'em because the ice conditions have been bad. This one we haven't got in there for a number of years because the ship didn't want to go over the ice. It was blocking us or something like that so we're gonna to have the Italians fix that one. I mean, that one is not working right. The wind system is not working. Then we come here, what happened here? The Whitlock. Whitlock ran for nineteen years, eighteen or nineteen years, I don't know how long. And then one year—a couple of years we had an awful a lot of snow, and it got covered up. It covered up the solar panel. It didn't work. Now, it's got twelve feet of snow on it. So we go there, and we raise it up and install another station, and the same exact (??) thing—

Gasser: How can you find the stations then?

Stearns: Well, there's just the anemometer, the little bird on top is the only thing sticking out.

Gasser: It's still sticking out.

Stearns: Yeah.

Gasser: Now, you've said you've got a quite a list of things that you are measuring there. Can you put in a nutshell some of the most important things you're measuring?

Stearns: Well, the actually measurements we're making are gonna be the air temperature, the air pressure, the wind speed and the wind direction, and the relative humidity. And there may be other things that are measured but those are the things people associate with the weather. You cannot measure the cloud height or the amount of cloudiness or anything like that.

Gasser: So now, then how is that going to affect us or the world? What are you going to do with these results?

Stearns: Oh, well one of the things that we are finding out is that this area of Antarctica changes its pattern about a year before the El Niño forms out in the Pacific Ocean. And this is for us proving to be a forecaster for the El Niño events in the Pacific Ocean, and it's started affecting the rest of the world. Now, we are still in the process of establishing all that, but I only got a twenty year record down here, almost ten good years in this area. And we don't have stations in the right place yet. This one is a very important station, but it's only been there for maybe ten years.

Gasser: Well, does it take time to determine these things? Is that it?

Stearns: Oh, you bet. You gotta have data. I am the biggest source of data for Antarctica in the world. I have more stations supplying the data to the world than all the other countries combined.

Gasser: Now, in other words then if you get the data for one year then you accumulate it, and then the length of years of information is helpful.

Stearns: Yes, in order to decide something, even on our weather or climate change or whatever you want to call it, it takes forty to eighty years of record in order to decide whether it's changed or not. A number of people are saying that we've got climate warming, but I don't know.

Gasser: You don't believe that?

Stearns: Well, I am not convinced that it's warming. The record is not long enough. We gotta wait another twenty years.

Gasser: Yeah, well, that's quite exciting, isn't it?

Stearns: Yeah, but we get El Niño forming down here. Now, it may not do it every year, but we do have two very good examples of events in the weather pattern down here that were associated with El Niño but a year earlier. And you see I should have a station here. I should have a bunch of them in here, and I don't have them. I can't get them.

Gasser: Well, what do you predict for the future then? Will they be able to reach them or?

Stearns: Well, I'm not going to go on forever; I got to find somebody else. But that's gonna be their problem. I can't help them on that.

Gasser: Well, it's really exciting, isn't it? Now, how about these stations up here. then. What have they told you?

Stearns: Well, this one always has replaced—well, Byrd Station had a long record of human observations. And we put one in there to continue that record as best we could. One of the interesting things that you find out when you do this and have an overlap with personnel, the personnel are not too good at keeping weather data. The United States is very, very poor at that.

Gasser: Poor over—I mean, in continuing—

Stearns: Worse than any country in the world.

Gasser: You mean picking up where you left off?

Stearns: No, in collecting accurate weather data.

Gasser: I don't understand that.

Stearns: I don't know.

Gasser: You have to do that humanly?

Stearns: You have to—well, you do in places. You have to do it in places. United States cannot do it well. Other countries do it very well.

Gasser: Oh! What's the matter?

Stearns: I think it's lack of education in our schools, and also the lack of fear. You know, you should let these people know when they're working at a station like this one here, you should let 'em know that if their weather data isn't right you are going to kill 'em. And that does help them to take better measurements, but the United States, let's be frank with you, stinks.

Gasser: How are they going to get killed?

Stearns: I'd do it. [both laugh]

Gasser: Well—

Stearns: All right. Now, so these stations are in an array in here to see what's happening in Siple Dome. They're set up so that there are certain elevations. So it's a—there's three stations at 500 meters, three stations at—oh, I got my stations wrong here. It's probably—yeah, these three are 500, these three are 1,000 meters, and these three here are 1,500 meters. What we are looking at is what's happening on this slope, and there's big

changes in this slope going from here to here, and we are finding out. This station is in to start getting a record where they are going to drill an ice core. We're starting to get—we're getting a meteorological record because they are going to drill an ice core at this region. And we'll get a prior record on what's happening there on the weather. And we did this on Greenland. I had six stations on Greenland; that's what I was working on this morning here before I came here. And what we have established so far with those six stations around the crest of Greenland is that when it snows on Greenland the wind associated with the snow blows the snow up to the crest. In other words, nature can make a dome. I also am finding out—I have the snow temperature profile I have here down to ten meters. I had 'em on Greenland, and I am raising serious questions about what people are saying is happening in the snow or what is stored in the snow because there are changes that are taking place in that snow from one year to the next that could alter that record. So I'm going after people's conclusions about what's in an ice core. A lot of stuff based on that, talking about climate warming, climate cooling, and CO<sup>2</sup>, and blah blah, and all this stuff, all of which has not been checked out. And I want to check it.

Gasser: The whole thing about it is that's the problem in they announce things before they really know of something.

Stearns: That's right. They have a tendency to do that. See, I am telling you, well, El Niño forms down here. Ah, a little question on that. A few years doesn't define things for all time.

Gasser: Now tell me what do you eat when you're down there?

Stearns: Excellent food, everything; anything you want. Fruits—

Gasser: They come in on the ship, the food, or how?

Stearns: Some of it comes in on a ship—lot of it comes on the ship with the fresh vegetables and stuff.

Gasser: Now, do you eat in a dormitory then or?

Stearns: It's a big mess hall.

Gasser: Yeah, it's sort of like—yeah, well, okay a mess hall. Is it a cafeteria then?

Stearns: Yeah, it's cafeteria size.

Gasser: Sort of like a military cafeteria where you pick—

Stearns: It's a thousand people down there.

Gasser: Like a military cafeteria you pick up what you want.

Stearns: Yeah.

Gasser: Is that right?

Stearns: Well, within reason, sometimes it depends on what they have. They do have excellent food.

Gasser: Like in your room, you have a bath and everything, or do you have to share that?

Stearns: No, no. Ah, used to be a real water shortage till they threw out the—

Gasser: Yeah, is there a water shortage?

Stearns: Not anymore, but when they started—

Gasser: Why did that happen?

Stearns: Well, it's because they used a lot of fuel, and they used Navy type evaporators to make fresh water. This is where they evaporated the water and then condensed it so that it didn't have salt in it. So we would take a bath about or take a shower about once a month or once a week or something like that. But now they put in these reverse osmosis systems that will make fresh water, take the salt out of it.

**[End of Tape 1, Side B]**

Stearns: And you can get all the water you want. They're not fussy about water.

Gasser: Well, then what do you do in your leisure time? Do you have movies?

Stearns: Well, in general when we're down there we don't have any leisure. We'll work all the working hours.

Gasser: Do you work at night sometimes?

Stearns: Well, we would--our general habit was to put in about four hours in the evening. We'd work a twelve hour day.

Gasser: You can't work in the dark though.

Stearns: No, we always had plenty of light.



Gasser: It's daytime all the time?

Stearns: Yeah, when we are down there.

Gasser: So you can work all twenty four hours if you—

Stearns: Yeah.

Gasser: But you don't do that, do you?

Stearns: Well, we gotta get some sleep.

Gasser: What if you did have some extra time? Do they have movies or shuffleboard?

Stearns: We've got movies and stuff like that.

Gasser: A game room?

Stearns: Yeah.

Gasser: But now it's your own drive then how many hours you put in.

Stearns: Well, we're going to put in the hours that we need to. You see, we'll come down there, get there, we've gotta set up a lab. We've gotta get all our equipment together. We have to make stuff. We gotta to test it all, and we just run as fast as we can because all of a sudden, you know, we got airplane flights coming up, and stuff has gotta be ready. And it's gotta be down there a day early and all that kind of junk (??).

Gasser: Well, what's got to be ready? I mean—

Stearns: Our stations.

Gasser: Okay, your stations are already there, and each year you may set up some new ones.

Stearns: And set up some new—we'll do replacement jobs, too.

Gasser: Oh, I see. Okay.

Stearns: And we're gonna go out—this station didn't work this year. We're gonna fly out there and fix it.

Gasser: How did you know it didn't work? Because of information?

Stearns: It wouldn't receive—the satellite wasn't getting it.

Gasser: Okay. Then what about these airplanes coming and going? What does that got to do? I mean, you said all these airplanes will start coming in. Who's in these airplanes?

Stearns: I don't understand.

Gasser: Well, you said you've gotta get this stuff set up, and you've got—

Stearns: Well, we've got an airplane. We may have to fly to South Pole, and we have to fly to [unintelligible].

Gasser: Oh, you mean they're coming to pick you up?

Stearns: Well, they were there, and they're going to take us there.

Gasser: Yeah. So you have to—

Stearns: We gotta be ready.

Gasser: Yeah, I see. And you have to have the materials ready for that station.

Stearns: And it's gotta tested.

Gasser: Before?

Stearns: 'Cause you never know what's going to happen to somethin' when you ship it down, but we may go out—this year we didn't have to do anything. Everything was working.

Gasser: So, the station is shipped to you, and then you have to check it out?

Stearns: We make 'em and ship 'em down.

Gasser: You make 'em before you go—

Stearns: Yeah.

Gasser: And then you ship them down, but when they come they might be broken?

Stearns: They might be, yeah.

Gasser: Well, where do you make these stations then?

Stearns: Oh, the lab down at the University.

Gasser: At Madison?

Stearns: Near my office, yeah.

Gasser: Well, then that's some expense shipping that stuff around. About how big is a station?

Stearns: Oh, it's got 200 pounds of batteries about if it's in this area.

Gasser: Two hundred?

Stearns: Two hundred pounds yeah, about that. They're in boxes, a box of three batteries. We could use six at about 200 pounds.

Gasser: And that whole structure that you showed me—

Stearns: That's the biggest thing, the tower—twenty pounds—

Gasser: What's twenty pounds?

Stearns: That tower is twenty pounds, but there's 100 pounds of chain that we use for anchoring.

Gasser: Okay, so there is no wood involved in the making. It's all made out of iron or steel or what metal?

Stearns: The tower is metal, and then the roof box with the station in it, and that's thirty pounds or forty pounds.

Gasser: Is that similar, I mean, to anything that you made for Sputnik? I mean, is there a relation between?

Stearns: Well, yes 'cause the stuff we made for Sputnik involved transistors, and we were using these transistors to count something. And of course all along these stations we've got chips now that have got transistors in them. And they do similar things to what we did rather crudely in 1957.

Gasser: Yeah, well it's interesting, isn't it, and beyond my comprehension. I guess this is the same principal that Edison didn't really know how electricity worked but he knew what to do.

Stearns: Something [laughs] like that, yeah.

Gasser: Well, so it sounds quite exciting. How long does it take to get from here to your station?

Stearns: Oh, you mean down here?

Gasser: You call this the South Pole, what do you call this?

Stearns: We call this McMurdo.

Gasser: Actually, wouldn't an ordinary person refer to that as the South Pole, too, the whole area?

Stearns: They corrupt it a little bit.

Gasser: But I mean, that's what I always thought the whole area was the South Pole.

Stearns: Well, the whole area is Antarctica.

Gasser: Oh, that's right we learned that in third grade [laughs].

Stearns: This whole thing is Antarctica.

Gasser: Then the Pole is just at the Pole.

Stearns: Yeah. One spot.

Gasser: Yeah, I guess that's sensible. Well, is there anything else now?

Stearns: I might refer you to this spot here in Manuela. It's a spot where in 1911 Scott's Northern Party—oh, did you see that article about Scott and his trip to the South Pole? Did I send you that?

Gasser: No, uh-uh.

Stearns: Well [Momentary pause in recording] This spot here which was right here, Manuela site is on an island called Inexpressible Island. In about 1911 Scott's Northern Party went up here, and they were loaded. A ship took 'em in and they dumped 'em off and said we'll come back in a couple of months [Doris laughs]. Well, what happened was there was a layer of sea ice out here, and the ship couldn't get back into the spot, and they were stuck. Well, they didn't have enough food, and they got themselves—it was kind of a hole, a snow cave, that there is a monument at right now which I've seen. And these guys had open water here, and they could kill seals and penguins so they lived for eight months on seals and penguins. They all survived, and when the sun came up enough so that in the spring when the sea ice was still solid they walked back to McMurdo. And they couldn't think of an appropriate name for this island because it was so

damn windy there. They called it Inexpressible Island. And what it was, interestingly enough, the wind is what saved their lives because it kept the sea opened here, and they had the seals and penguins to provide them with this great diet. They [laughs] were miserable.

Gasser: What year was that?

Stearns: I think it was 1911, 1912.

Gasser: So how long have stations actually been down there then?

Stearns: My station's been there since about 19—well, I got a date in the table here. It's better if I get the actual date rather than makin' things up. Yeah, February '84 I put it in.

Gasser: And it's still there?

Stearns: Still there, but—

Gasser: It needs repair? Every six years—

Stearns: Well, I'll tell you something. That's one of the windiest places on earth.

Gasser: On the earth?

Stearns: Yes, at sea level. The average wind speed there is about forty-five miles an hour in the wintertime. The wind speed gets up to an order of 130 to 150 miles an hour sometimes. Most instruments start flying apart, and that's what's happened. The damn thing is fallin' apart, and that's from strong winds.

Gasser: So each station has its own unique—

Stearns: Oh, yeah.

Gasser: I mean some of them—that must be the windiest you said, and then you have some that are—pardon?

Stearns: That's the windiest I've found. I got 'em all along this other coast, too.

Gasser: How about some of the other descriptions where you said some you couldn't even land on with a helicopter, okay. How about—

Stearns: Some we couldn't land on 'em with the helicopter. We had to sling it over and then set 'em down.

Gasser: And you only find that out by going there? I mean, you don't know that in advance when you go to set it up.

Stearns: We always try to find out, but it's kind of hard to find out about things which people don't know anything about.

Gasser: That's correct.

Stearns: Oh, yeah, here's the map. This coast has also got stations located in the worst—the windiest places on earth, but none of these are as bad as the one at Manuela.

Gasser: Now, these aren't your stations?

Stearns: Oh, yeah.

Gasser: Oh, they are? So how many stations did you have all together?

Stearns: About sixty.

Gasser: Well, that's a lot of stations. Yeah, you said that before didn't you?

Stearns: And you know if you lose ten percent, they run for ten years, did I say? At six stations a year and we'd run very close to that.

Gasser: Do you have to put in a complete new station then, or just go there and repair it?

Stearns: Well, we can't repair it there so we go there with the unit, put it in, come back, and repair it, and that can go someplace else.

Gasser: But then the old one doesn't just stay there. You take it away?

Stearns: Take it away and you repair it and use it again.

Gasser: Oh. Mm-hmm.

Stearns: Now, you see, we build 'em ourselves.

Gasser: But you can't repair it on the spot it. That'd be too—

Stearns: Well, you're out there. It's cold. You have no facilities.

Gasser: Okay, you said it was like March, but it must get colder when it's windy like that.

Stearns: Well, there's places where it's colder than it is. See McMurdo which is right here what I'm sayin' is like March. But McMurdo is warmer than it is here and warmer than it is here and warmer than it is here and warmer than it is here and warmer than it is here. And that's because there's some winds that come over here. Well, actually it's really interesting. The winds are coming out of the south, and they hit this area in here we call Windless Bight. It flows over this 500 meter high ridge down here to McMurdo. What's happening is that this ridge allows the warm air, and you see it gets warmer as you go up. So the warm air comes over from McMurdo, and the cold air goes around this way. It's just--

Gasser: There's no rhyme or reason? It just does that? I mean, you don't have an understanding of why the air goes—

Stearns: Sure, sure, sure. Well, as the warmer air—the temperature under these conditions down here most of the time the temperature is increasing as you go up in the atmosphere.

Gasser: Oh, that's the reason.

Stearns: For short distances-- so this streams off the warm air, and it comes over on this side, and this is warm, and the cold air is streamed off and goes around here, and this is colder over here. This is a switch. So that's something you find out, and it took a while to do it.

Gasser: Well, that's quite interesting. I don't think I'd be able to set up a station [laughs].

Stearns: Well, this is another place where the cold air comes down in this direction, and the cold air goes around here and by Linda's site, and the warm air comes down and goes down into this area.

Gasser: And it all depends on the elevation, is that it?

Stearns: Yeah, yeah.

Gasser: Well, and that's sort of standard any place, right?

Stearns: Mm-hmm. Well, within limits, within limits, but, you see, when you get down here you don't have all that much sunlight even though the sun is out twenty-four hours. It's still not very much.

Gasser: Is it not a very strong sunshine?

Stearns: Well, it can be a clear sky, but, you see, such a low angle to the sun (??).

Gasser: But it does—you know, March can be cold. It does get cold. In some stations it is colder than others, right?

Stearns: Yeah.

Gasser: Well, what else do you think we should know?

Stearns: Well, I don't know.

Gasser: So, you stayed there how long then?

Stearns: A month and a half about, generally a month at McMurdo and half a month on the icebreaker.

Gasser: Now, you don't have McMurdo written down anyplace. I guess I can remember it. So then you stay there a month and a half. So you have to sort of schedule your own work then to make sure you get it all done, right?

Stearns: Well, we try to. You're controlled by when transportation will be available. And, see, there's lots of people that want transportation for their projects, too. Oh, McMurdo, Antarctica is right in here.

Gasser: And you are talking about either an ice crusher or a plane or?

Stearns: Well, I've gotta schedule a plane, and they've—gotta pay a pile of money.

Gasser: Are these planes mostly our planes or any country?

Stearns: Well, it happens that the C-130s that fly down there which are ski equipped belong to the National Science Foundation. And the 141s which are flown by the Air Force belong to the Air Force. And the Twin Otters are leased, and the helicopters are leased from the companies.

Gasser: But they're all from the United States?

Stearns: Well, no, the Twin Otters are from Canada. But at any rate McMurdo is mentioned here. This is an example. Want me to underline it for you?

Gasser: Well, I—so then you stay there a month and a half, and when you feel—what if you aren't done with your projects?

Stearns: When it comes time to go you got two choices: you either go or you stay there all year.

Gasser: Oh [Charles laughs]. So you're usually there two months, you said?



Stearns: Month and a half. Let's see, I may spend a month there and two weeks on the icebreaker. Of course, I always have to get back to teach a class.

Gasser: Otherwise you might stay there all year.

Stearns: Yeah. Those are the kind of things that happen to you which is detailed in here a little bit. And this is a trip to Cape Webb, and we found a place to land. We were going to move that station 'cause it was [Gerd] Wendler's [climatologist] students that put it in the wrong place. Any rate, what happened was we wanted to put this station up, but we had to go back to the ship to get some stuff 'cause the one station we were going to move was buried in the ice. It fell over. And the ship said, "Well, if you come back here you are going to stay because we're fogged in."

Gasser: Oh!

Stearns: So any rate, okay, so we went back to the ship and loaded all of our stuff up and went back to the ship, and it was fogged in. We didn't see the ship until we were about 100 yards from it. So it was dicey. So that kind of stuff happens.

Gasser: You've got it written down here.

Stearns: Have I? Did you read it?

Gasser: Well, that's very interesting.

Stearns: That summer—another place we went to, Dome Sea. There's some dangerous—

Gasser: How do they get the names?

Stearns: Well, some of these names came from previous places like Byrd, Byrd Station, and things like that. That is an old name. But here these designations are the French designations for certain locations, and then these are old names: Port-mer, Cape Denison. Sutton is the name of a person that worked for me makin' stuff. Then we got Byrd stand.

Gasser: So you named this one?

Stearns: Yeah.

Gasser: Yeah, and where?

Stearns: And then we get Brianna; this is somebody's daughter. Elizabeth is somebody's daughter. JC is a guy that was killed in an airplane crash. Aaron is somebody's [unintelligible].

Gasser: These are all the ones you named.

Stearns: Harry is a pilot, Theresa is somebody's wife. Doug is a mechanic on the Twin Otters. Mount Siple is a place, Siple Dome is a place, Swithenbank is a name of a person in the British Antarctic Survey that helped me. Marble Point is a site.

Gasser: Why didn't you name any Stearns?

Stearns: I might. Ferrell is a helicopter pilot. Pegasus is just a local name. Minna Bluffs is just a local name. Linda works for me, Willardfield is a local place; Windless Bight is a local place. Whiteout, White Island, Cape Bird are all related to the location. Whitlock is a Navy meteorologist who helped me put in a station, and see Skye Island, Young Island and Possession Island are names of islands. Manuela is somebody who worked for me. Marilyn is George's wife. Shortfigure (??) is a professor in our department that helped me. Gill is the pilot on the C-130; Elaine was one of our secretaries. As soon as I named a station Elaine all the other ladies wanted to be named after, but I didn't do that. Lettau is my major professor, Larson, Butler Island, Uranus are all locations. Limbrick was a famous meteorologist in the British Antarctic Survey. Racer Rock was made up, and Bonaparte is a location that is just a name, and this is just a name, and this is just a name. This is a name. And Clean Henry is a pilot on a Twin Otter. Michael is somebody's daughter. I don't even remember who [laughs]. And that's where they come from.

Gasser: So when you head back you fly back to the—where did you start off?

Stearns: You were asking about time.

Gasser: Do you stop, what is it, did you say, in New Zealand, Australia? Where did you come from?

Stearns: When you go to the icebreaker you go through Australia. When you fly directly down to Antarctica you fly to Christchurch, New Zealand.

Gasser: Oh. So then you first go back there. Do you go back on the icebreaker then, or do you fly to?

Stearns: Well, it depends.

Gasser: Whatever you can catch?

Stearns: Well, it depends on what I am going to do, you see. If I can go visit some stations on the icebreaker on the way back I'll do that if they are willing to take me, you see. And I'll do it on the way down if they are willing to take me, but we gotta make arrangements with them, and it depends on where they're gonna go sometimes.

Gasser: Well, then sometimes is it a surprise when a place is blocked with ice? Does that happen suddenly?

Stearns: Oh, about half the time.

Gasser: And then you don't really know what you can do.

Stearns: Quite a few that's right. So you just, well, we can't do it so—

Gasser: Must be quite a surprise for you.

Stearns: Well, I don't—I just don't goof around if I—

Gasser: Is it dangerous when this happens? If you've got an icebreaker is it dangerous?

Stearns: I don't think so. The most danger we had on an icebreaker—well, you have to be wise when breaking ice.

Gasser: It's not like the Titanic.

Stearns: Yeah [laughs], no, it's built a lot heavier.

Gasser: Pardon?

Stearns: What they did was build a lot heavier, but we did have somebody that opened the wrong pipe and flooded the engine room [laughs].

Gasser: Oh, my! Was that a guy who was running the thing or?

Stearns: Well, it was one of the people on the crew on the icebreaker. At any rate, that caused a delay of about three days because the electric motors got soaked a little bit, and they won't work till they get all dried out. So we had to wait.

Gasser: Then how long does it take you to fly from New Zealand or Australia to home?

Stearns: Oh, it takes about eighteen, twenty hours.

Gasser: That's a non-stop flight?

Stearns: No, you generally go to L.A. and then you go another flight.

Gasser: What kind of a plane do you take then?

Stearns: That would be the C-47—I'm sorry, 747.

Gasser: Any American plane? Any plane?

Stearns: 747 or whatever.

Gasser: I mean, like what name?

Stearns: Well, it could be United Airlines 747 or a 777, I don't know, whatever happened to be flying.

Gasser: Well, I just wondered. You know, these airlines are confusing nowadays, but not all companies can fly around the world. Which ones are around the world? United Airlines, American, are those?

Stearns: Well, American tends to favor South America, but I have no idea whose flying where. I just know that United Airlines goes to New Zealand.

Gasser: And that's the one you take then?

Stearns: You got to take the bus that takes you there [laughs].

Gasser: Well, it sounds like it's exciting. Is there anything you want to say in conclusion? This has been very interesting.

Stearns: We're using taxpayer money to do this, and I do hope you get your money's worth [Gasser laughs]. But we chew up a lot of money. I got four people full time. I don't collect anything now that that amounts to anything as I'm retired, and I don't need it.

Gasser: Well, I thank you very much. This has been exceedingly interesting, and goodbye.

Stearns: Are you worn out?

Gasser: Oh, do you want to talk some more? You've got some more to say?

Stearns: No, not really.

Gasser: I mean, I just thanked you because I felt you kind of covered quite a bit of stuff, and if I ever learn that all I'll be quite brilliant [Charles laughs]. So thank you anyway.

Stearns: I'll send you all my fascinating articles to you.

Gasser: Yeah.

**[End of Interview]**