

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
VOICES ORAL HISTORY ARCHIVES

IN PARTNERSHIP WITH
NOAA HERITAGE AND THE NATIONAL WEATHER SERVICE

AN INTERVIEW WITH REAR ADMIRAL WILLIAM STUBBLEFIELD
FOR THE
NOAA 50th ORAL HISTORY PROJECT

INTERVIEW CONDUCTED BY
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Molly Graham: This begins an oral history interview with Admiral William Stubblefield for the NOAA 50th Oral History Project. The interviewer is Molly Graham. Today's date is Monday, November 16, 2020. It's a remote interview with Admiral Stubblefield in Martinsburg, West Virginia. I'm in Scarborough, Maine. I wanted to revisit a couple of things from last time that you brought up in an email that were really intriguing. One was a story in Antarctica about Robert Falcon Scott's hut. You'll have to first say who Robert Scott was.

William Stubblefield: Yes. Robert Scott was the Englishman that made a dash to the South Pole in Antarctica. While staging for his effort to reach the South Pole he built a hut near McMurdo Sound, and we visited when we had the icebreaker in McMurdo Sound. There was some seal meat that he had killed. As I remembered it, we even sampled a little bit of the seal meat. [Upon] reflection, I'm not sure that we were allowed to do that. Anyway, as I have told the story over the years, we had sampled it. Scott was an interesting gentleman, was loved by his men, [and] wanted to be the first person to travel to the South Pole. When he got to the South Pole, he realized [Roald] Amundsen (Norwegian explorer) had beat him there by about two weeks. Amundsen was using ponies, whereas Scott was using dogs. On his way back to his home base, Scott was caught in extremely cold weather. He and his men – he had three companions – all died within maybe two days' march of the relief station. As the story goes, Scott tried to get his men to desert him, knowing that he could no longer travel, and staying together meant certain death. But the diaries of all the ones that were there, all of them turned down the opportunity to abandon their leader and save themselves, which was fairly remarkable. I had a chance to meet Scott's son [Sir Peter Markham Scott] when I was in Antarctica. He, in his own right, was well-known. He had been an ornithologist, or was an ornithologist, and did a lot of research in the Second World War with carrier pigeons. Why carrier pigeons in the Second World War? I don't know. Anyway, he was knighted for his work. Accomplishments of the Scott family ran deep. The story that I wanted to weave into this – a NOAA scientist back in 1999 and early 2000 was part of a group that was looking at the ozone hole over Antarctica. While down there, she became fascinated with Scott and his journey. The meteorologist with Scott was a gentleman by the name of George Simpson. Simpson was extremely well-respected, but he spent much of the rest of his life feeling that he had let Scott down, that he had not predicted this extremely cold weather. What Dr. Susan Solomon and her colleagues discovered was that there was a fifteen-year cycle which had not been detected until much more recently, and every fifteen years, was an extremely cold summer in Antarctica. That's what they got caught in. It was in this fifteen-year cycle that no one knew about. If Simpson had known about this, or if Simpson had been told before he died that there's no way that he could have forecasted the weather for Scott, probably he would have felt better. I've been a big admirer of Scott, but now I will introduce you to another big Arctic explorer that I'm very much an admirer of, [which] is Ernest Shackleton. We'll tell that story in a few minutes later.

MG: What was the impetus for this mad dash to the South Pole?

WS: Exploration. Back in the early – oh, you're about to get me on a story now. Back in the early-1800s and late 1800s to the first couple of decades in the 1900s, the Arctic and Antarctic exploration was the thing to do. The North Pole in the Arctic had been thought to have been discovered by [Robert] Peary, but recently looking at the records, it has been determined that Peary did not actually get to the North Pole. The North Pole is all an island anyway. It's all

floating, so it's kind of hard – it's not fixed in place. The gentleman I mentioned last time was Dr. Joe Fletcher. Joe is now recognized as the first person to set foot on the North Pole, but he did it from an aircraft. Anyway, going back to the South Pole, the South Pole became really en vogue for conquest. This is what got Amundson down there, got Scott down there, and got Shackleton down there as well. Shackleton was ill-fated but let me come back to that later. I'm doing a little bit of rambling just now. But another explorer in the Arctic was John Franklin. Franklin was a very ambitious young man, was executive officer on a ship doing exploration in the Arctic in the early 1800s and was very successful. The ship came back from the Arctic, a British ship, and John Franklin and the captain got a lot of kudos for the exploration they did. Well, because there was a reward for this type of exploration, because of what Franklin had done, Franklin was sent to Australia as its first Lieutenant-Governor. Australia at that time was largely a penal colony of the British Empire. In this new position Franklin was an absolute disaster. If you could have done something wrong in management, Franklin did it wrong. He was relieved of command a couple of years after his disaster of a tour began. He got back to England and wanted to recover his reputation. He thought the best way to do it was to return to the Arctic – exploration in the Arctic, with the intent of discovering the Northwest Passage or a way across the Arctic Ocean north of Canada and Alaska. He had one other ship with him. After laying over in the ice for one winter, both ships (the Erebus and the Terror) disappeared along with 128 officers and men. Franklin's wife, who was a very talented persistent lady, wanted to find Franklin. She had money and she financed some expeditions herself. But she also put a lot of pressure on Russia, England, Norway, the United States. Anybody that listened to her, she would insist that they go look for her husband. Well, they never found the husband, but they ended up exploring approximately ninety percent of the Arctic, all because Franklin had died. Now, just very recently, within the last five years, they have found both of Franklin's ships near King William Island. Because his wife was very persistent, much of the Arctic was explored.

MG: That's so interesting. I think Ernest Shackleton will come up a little bit later.

WS: Yes, very much so. I would not tell an Antarctica story without Ernest Shackleton.

MG: I want to make sure I'm not missing anything before I ask you about your experience in Grand Turk.

WS: Yes. There's one thing. Grand Turk was a wonderful place. Well, it's a desert island. I think I mentioned last time it's not physically attractive. The water is great for diving. The people are great. Prior to going there, I was stationed in Bermuda, and just before I went from Bermuda to Grand Turk, there was a murder. One of the sailors and a lady of the night were on the beach, and he stuck her head in the sand, and she was suffocated. There's only one small jail cell on Grand Turk, at least on the Navy base. As such, he was right beside my office. But the instructions were that no one could speak to him. This guy was totally isolated. I don't remember if his folks or any family ever coming down. A general court-martial was held, and he could have been sentenced to death. They brought navy personnel in from the States to serve as jury. One of the guys, the Commander in charge of the court martial, shared my room since we didn't have a lot of extra room in Grand Turk. I remember most about him was that he was a hard partier. He went out the night before the verdict was rendered, after listening to all the

evidence before the trial came in. He stayed out all night, swimming and partying – the whole bit. He came back in horrible shape which he recognized. He felt he could not justify sentencing the guy to death, which everybody thought that he would. The sailor was sentenced to life imprisonment. I don't know what happened after that. He went to Leavenworth, and I lost total track of him. But the fact that if this more senior officer had not been such a party guy and had such a hard night the night before, we probably would have had not only a guy in jail but, conceivably, an execution on Grand Turk. That would have been more press worthy.

MG: Do you know the motive for the crime?

WS: I think passion. They were out on the beach. Even though I think she was –this all happened slightly before I got there. I think she was a local prostitute. Who knows? Perhaps she was asking for more money or not giving him what he was expecting to have. He was in a state of passion. You have to remember so many of the sailors at Grand Turk were quite young. They're probably in their late teens or early twenties and really learning about life as they go. This guy made a mistake that he paid for the rest of his life, as did she.

MG: Did that disrupt relations with the locals?

WS: Good point. There was a lot of concern. Again, I was not there the day of the murder. I got there probably two weeks after that. We were still fighting with the repercussions of it. I do remember that we were very concerned that we had a relationship that we had to preserve with the island itself. We had a relationship with Great Britain, which controlled all the islands. Obviously, the US was closely monitoring what was happening. It was a juggling act for the captain and executive officer. I went as the operations officer. I became the executive officer shortly after the trial. But there was a lot of consternation that if it was not handled professionally, it could have backfired. To the best of my knowledge, there was never any criticism of the way it was handled.

MG: You wrote about your time there and that you formed some lifelong friendships. I was curious if that was with other guys in the service or people who lived there?

WS: Mostly the people who lived there. In fact, the blog that I was looking at that I referred to a few minutes ago reminded me of a couple of the guys that were there. One fellow who worked for me actually lives not too far from me in West Virginia. Unfortunately, I didn't remember him from our time in Grand Turk. He remembers me; even though I didn't remember him from Grand Turk, during the past few years we have become good friends. My real close ties were with the British, the Brits, and especially the chief of police, who, in his early days, had duty in Africa, had duty in Burma. He fought in the Second World War behind the Japanese lines. He was highly decorated. Years after Grand Turk, my wife and I became exceptionally close to him and on several occasions visited with him and his wife in England. She was a second mother to me until they both died in the early 2000s. Let me circle back around to him in just a second. But a couple of others were the banker and his wife; we've remained very close. In fact, the wife died of coronavirus just a few months ago, and it's quite sad especially in that our efforts to console are limited to the telephone. A result of the pandemic. The head nurse, had been a member of the Hitler Youth corps. Then, after the war, she went to England and became very

much of an English lady in every way and was a wonderful nurse and friend. It was this cadre of people that we remained in touch. We were in touch until they died and remain in touch with the ones that are still alive. Our friendship is fifty years plus, and some of my closest friends were that group of Brits from Grand Turk. Let me circle back to the chief of police very quickly. I always try to challenge the folks that I work with, especially the folks that I'm in charge of. Our submarine monitoring station in those days, was highly classified. It was a criminal offense to let anyone anywhere close to where the targets were being monitored. You could not even talk about it. If you worked in what was called the green building, it was a court-martial offense to mention the work being done to your barracks bunkmates who did not have access to the green building. We treasured the green building and the security of it. Part of an effort to challenge our crew, I decided to test our perimeter defense. I arranged for this chief of police, who had experienced in the Second World War with guerrilla warfare, to get some of the locals to attack us at the naval base. Well, they were good. They were much better than we were. I didn't realize at the time how much better they were. The next thing I knew, they were on the verge of getting access or getting inside the green building. They were already inside the cubicle that led into the green building and were in the process of breaking the door down. I said, "Wait a minute. The drill's off. You won." If they had breached the green building, I probably would have been court-martialed and still be in jail somewhere, even though the security classification was really magnified much more than what it should have been. It was not that top secret. But the military plays games like that. Anyway, my drill worked well. It got everybody all enthused. It was nearly a disaster, though, because our opponents were much better than what we were.

MG: Is there anything I'm missing about this experience in Grand Turk or up to this point?

WS: I don't think so. Again, I guess it reminded me that the beauty of a place can be both physical and the people. I took my parents down there once, and my mother could not swim, but she was holding on to me as we swam in the water. The water is so alive with fish. It's one of the best places in the world to go diving. I think she would have stayed the rest of her life just looking at the fish. She was totally infatuated. Beautiful. Bonnie and I went back there maybe five years ago and spent a week on the island and saw some old friends. The local who picked us up at the airport was quite a talker. He made some comment, and I mentioned that I was coming back after fifty years. I don't think he remembered me, but he acted like he did. He would go to somebody and say, "You remember Aunt Susie? Aunt Susie lives over there. And Uncle Ben. I'm sure you remember Uncle Ben." He'd pull into somebody's yard and say, "Hey, Aunt Sally, look, Lieutenant Stubblefield. Lieutenant Bill is back. Come and say hello to Lieutenant Bill." Getting us to our hotel took about four times longer than it should because he was visiting everywhere. But it was fun watching the reaction of the people. Again, I don't remember him. I don't think he remembered me, but he sure acted like he did. But that's how he got big tips. He was very skilled in what he was doing.

MG: You talked last time about how this was a period where you were itching to further your education.

WS: Oh, yes.

MG: What was giving you that feeling?

WS: Well, as I mentioned, I had been a mediocre student. In my undergraduate, I got through okay. But I thought I had the ability to do more. That was the major driver. I left active duty to go back to graduate school. I went to the University of Iowa. Why the University of Iowa? It was the only school that would accept me in a graduate program without an undergraduate background in geology. I only had one course in geology. Normally, most schools say, “Come on back as a fifth-year student, and after a year of picking up all the undergraduate courses, we’ll let you in the graduate school.” Not the University of Iowa. Like a lot of places you go, you develop some close friends. The faculty there, I think, saw me as what I wanted to be, more so than what I had been. I had a really good career at the University of Iowa. I finished near the top of my class. I learned that the older you get going back to school, you’re not any smarter, but you work a lot harder. I worked very, very hard, and I did quite well at the University of Iowa.

MG: Why did you choose to study geology?

WS: I was in Seattle while on the icebreaker. This is before Grand Turk, but I already had a burr under my saddle to go back to school. A colleague and I were going to take a night course at the University of Washington. As we were getting ready to go and sign up, we were looking through the catalog and flipping a coin. Yes, we would go; two, we’d not go. Geology was a coin flip. I took a night course in geology, and the instructor was extremely good, probably one of the best instructors I’ve had. So even though I knew nothing about geology, he lit a fire under me, and it was a good choice. Even though I did not have an undergraduate background in geology and very little in the preparatory work, it was a field of study that I enjoyed immensely.

MG: At this point, was the NOAA Corps [National Oceanic and Atmospheric Administration Commissioned Officer Corps] on your radar?

WS: No, absolutely not. I just had a master’s at that stage. The common practice was going into the petroleum industry, and that field was going gangbusters. I’d done well enough at the University of Iowa that I had several very attractive job offers in the petroleum industry, and that’s where I was leaning. But I had enjoyed my service on the ship very much, I enjoyed wearing the uniform, and I enjoyed the science. Someone told me that NOAA – at that time, it was ESSA, Environmental Science Services Administration – had this niche of officers that served, and did research, and went to sea or aircraft. To me, it sounded like a great job. I did some research. The more I looked at it, the better I liked it. I flew from Iowa to Seattle and talked to a recruiter. You hear what you want to hear, and I wanted to hear that this was a perfect match for me. In those days, what is now one of the leading – Eddie Bernard. You interviewed Eddie. He was in charge of a group called the Pacific Marine Environmental Lab – a state-of-the-art, one of the very best in the country. But before Eddie got there and before it had the reputation it has today, there were a few officers working where the ships tied up. The recruiter took me by the arm and carried me where the scientists were. They were all geologists, and they were doing the research. The ships were in the background; you could see them through the window. He said, “Now, when you need to get some data, you check a ship out, and you check the crew out, and you go out, and you collect your data. You come back here, you’ll

analyze, and you write the paper.” Well, that was too good to be true, and it was. Here, a young scientist, able to check a ship out anytime he wanted to and collect the data and write the paper – that was great. Immediately, I said, “Sign me up.” I said, “I do not want to go to the oil patch, and this would be marrying my uniform and my love for science.” Well, they sent me to the officer training school – by that time, it had gone from ESSA to being NOAA – in Long Island. The NOAA Officer instructor, on the very first day, was telling us what we were going to be doing. After about two hours, I stuck up my hand and said, “Hey, this ain’t what I was told.” [laughter] Do you mean that I’ve got to be assigned to a ship; I don’t just check a ship out before I collect the data. I was pretty frustrated for a while. It was on pins and needles whether I would stay in NOAA. I opted to do so. Obviously, the very best decision – the second-best decision I ever made. The best decision was marrying my wife. But the second-best decision was NOAA. It is an organization that’s like no other – great people, great jobs, great memories.

MG: I wanted to ask a little bit about your time in the master’s program. This was during a pretty tense time on college campuses.

WS: Yes. Very much so. It was during Vietnam, and I was from the military, had spent last six, seven, eight years in the military, and I wore my uniform with pride. I had trouble recognizing why anybody would challenge the military or challenge what we were doing in Vietnam. As I’ve gotten older, I think I’ve become more tolerant of others’ views. But as a young man, I was pretty rigid. That’s when they had some real problems on campus. I think at the University of Wisconsin, there was an explosion, and a couple of people were killed. There was unrest at the University of Iowa and Iowa City, but never to the degree that they had on other campuses. In hindsight, I’m very glad they did not because I was probably at that age in life that I would have been pulled toward the conflict. But it was never a situation that I was asked to make a statement either way. Most of my classmates had not been in the military, and they felt differently about the Vietnam War than I did. But it never became a source of conflict between us. We respected the other’s opinion. But yes, you’re exactly right. It was a very volatile time in our history.

MG: I didn’t know if that played a role in choosing to go to the University of Iowa, that as a serviceman, it wasn’t a campus like the University of Wisconsin or the University of California, Berkeley.

WS: No, it was not. But that was not the reason I chose Iowa. I chose Iowa because that was the only school that would accept me as a graduate student without having the prerequisite undergraduate courses. So that was just out of convenience. I don’t know if you’ve ever been to Iowa or not.

MG: I have.

WS: Driving through, or did you spend any time there?

MG: Just a weekend in Dubuque. I used to live in Madison, Wisconsin, and Dubuque was not too far away.

WS: Yes, that's right. Well, I found Iowa to be one of the most livable places I've ever lived. It's so genuine, so honest. You turn the radio on in the morning, and you get news coverage from throughout the state. It's not just Iowa City, but the whole area. I would have been very happy to live in Iowa. In fact, when I got ready to retire from NOAA, we'd had this beautiful piece of property in West Virginia. But, if I thought that my wife would have gone to Iowa – she's from Massachusetts – I might have made a full-court push, but I knew that she would never do it. I have fond memories of Iowa, but I have not lived there since graduate school.

MG: I think for people who are from the coast, it's hard to live too far from the coast.

WS: Yes, I think you're exactly right. Yes. I've kept in touch with the Iowa group. We've gone on several fun trips with them. Bonnie and I went down the Colorado River through the Grand Canyon on wooden dories and spent, I think, twenty-one, twenty-two days with my University of Iowa advisor and fellow graduate students, and later went through the Green River with canoes. Bonnie and I both have kept in touch with the University of Iowa geology group through the years.

MG: Good. The other thing I wanted to ask about from this time period was – you graduated among the top in your class. I was curious about what that was like for you and if it was reassuring that you were studying the right thing and heading in the right direction.

WS: I'm not sure I was reassured that I was studying the right thing. It was one step in proving to myself that I could accomplish more than what I did as an undergraduate. Actually, my undergraduate days were a springboard into a lot of my success, but not the way that most folks think of a springboard. Mine was with the dissatisfaction of my undergraduate years academic-wise. I did well socially but not academically. That was a major motivator for both my master's and then subsequently my PhD, and, I think, also my success within NOAA.

MG: What else do you remember about your recruitment visit? Do you remember who you talked to from ESSA?

WS: No, I don't. [laughter] As I was thinking for this interview – my first assignment was on a ship out of Seattle. I guess I'd been waiting to see this recruiter, but he had already left ESSA by the time I got there. I only had one person to blame, and that was for me for being so naïve. But that got me into NOAA, and whether it was under false colors or not is immaterial. Whether I would have gone to NOAA without the woven story, I'm not certain I would have. I probably would have gone where the dollars were with the oil patch, but joining NOAA was the best move of my life.

MG: You mention having maybe gone into the petroleum industry. Would that line of work have been impacted by the energy crises of the 1970s?

WS: Exactly right. That was one of the things – when you're young going in, you don't think of those. But through my life and more so with Bonnie –when Bonnie was doing her advanced work at the University of Rhode Island, several of her colleagues had been bumped out of the oil industry. What is kind of bad about the oil patch is that the more senior you are, the less security

you have. Because they can bring in new folks and train them and pay a lot less than more experienced people. When there's a downturn in the petroleum industry, the ones that are most vulnerable are the more senior. So yes, I would have been caught up in that. I've kept in touch with several friends from the Iowa days and also, subsequently, the Texas A&M days, and most have weathered this waxing and waning of the job opportunity in the oil patch. It's a nice place to work, an exciting place to work, but the job security is not very good.

MG: What else about your time in Iowa? Can you tell me about any internships you had or other experiences?

WS: Well, I'm not sure there's anything that really stands out. It was a lot of things on a day-to-day [basis]. You learned to appreciate the beauty of the cornfields, the geology. I did my master's work and my thesis in Minnesota. It was interesting times, fun times, my teachers were first rate and well respected in their fields. Do these lend themselves to an exciting story? No. It's just kind of like looking at Iowa through an automobile window as you're driving through. Everything is wonderful. It's very pastoral. It's very comforting, very warm. But you get to the end of Iowa, and somebody asks, "What did you see?" and it's kind of hard to pull it out. But some of my warmest memories are from Iowa. But my most interesting stories to tell are not from Iowa.

MG: How soon did you go to training in Kings Point after graduating from the University of Iowa?

WS: Within just a short time. I went home to Medina, Tennessee. I think I spent probably a couple or so months at home. I remember a very good friend giving me the oath of office. He was the postmaster, so he could give the oath of office. Then, Kings Point was not the memorable experience that I had in Naval Officer Candidate School, where it was cold. We went there in the fall, and it was beautiful weather. NOAA Corps is a small organization. You get to know a lot of people and keep in touch with them. With this pandemic, I've started a Zoom group of NOAA people. Cheryl Oliver has been able to access some old photographs. As a group we've been methodically going through the various training classes, starting probably in the early 1960s, and then working our way through. The folks that we went to training class with a lot of them, we've stayed close friends through the years. It is small enough that you can afford to do this because you served with the same person several times in your career, whereas in the Navy, you rarely ever see the person again.

MG: Your training was in the fall of 1971.

WS: I think so. Yes.

MG: NOAA was just a year old at this point.

WS: Exactly right. It had been ESSA.

MG: What did you know about the agency and its beginnings?

WS: Other than what I told you a while ago?

MG: Yes.

WS: I did not know anything about the agency and its beginnings. Through the years, I learned quite a bit about the agency because one of the real drivers in the early days of NOAA was a gentleman called Ned Ostenso. Does Ned's name ring a bell with you?

MG: Yes.

WS: Ned not only became a very close friend, but he was also a professional mentor. Ned pushed me more than any other one person to get to know NOAA and to understand what NOAA is about. The fact that he had been on the ground floor and was very close to Robert White, the first director, and with John Byrne and the whole group. Ned knew the history. He was also a very warm, caring dear friend.

MG: Admiral Harley Nygren was the first director of the NOAA Corps. Did you have any interaction with him?

WS: Yes. I don't think I met Admiral Nygren in my first couple of years. Maybe I did. But I believe that my first real contact with Harley was when I was at AOML [Atlantic Oceanographic and Meteorological Laboratory]. Now we're skipping over a little bit, but you asked [about] Admiral Nygren. I got to know Nygren when I was deputy director of the Marine Geology Lab in Miami, part of AOML. You learn lessons from certain people, lessons you never forget. One of the most important lessons I learned from Harley Nygren was – he came down to visit AOML. He visited all the officers in every duty station throughout NOAA at least once a year. I did not know Harley well at all. I knew of him but did not know him. During my interview, I was sitting behind this big mahogany desk, and Harley was sitting in front of me. I had recently been asked to serve as Deputy Director of the Marine Geology Laboratory and I was feeling my oats. Undoubtedly, I was posturing, and I was probably doing everything you're not supposed to do. Sub-consciously, I was showing Harley what an important person I was. Harley listened to me very patiently for several minutes and finally said, "Lieutenant, this organization was here before you arrived. It'll be here after you've left." That's all he said. But, Molly, it made such an impression. Never since that day have I set behind a desk when talking with someone. Regardless of where I was, how senior I was, I always made a point to have a coffee table or just chairs. As soon as someone comes in, I always moved out from behind the desk because I never wanted to be caught doing again doing what I did to Admiral Nygren. I never wanted to try to sell myself as being too important, and desks tend to do that. People tend to hide behind desks to show their importance. By doing so, the person that they're talking to is at a disadvantage. Harley did not teach me that lesson intentionally, but with a statement, I learned the lesson very quickly. Let me spend a couple of minutes – we have the ability to come back and forth. There were other lessons I learned. I think I ended up being a pretty good manager, and my management skills were a direct product of specific lessons learned. Another lesson was in Guatemala [from] a little shop stall owner. Bonnie and I went to Guatemala on our honeymoon. We were in a remote part of the country in this little Indian village where there was a local market. We were the only non-Indians there. I have a fairly strong personality, second only to

my wife, who has even a stronger personality. We both were told you bargain and barter, and it was important that we barter. We took that seriously. We went into this little stall to buy a knickknack. I don't know what it was – immaterial. But we bargained, and we bartered this lady down. We finally got it at our price. We left, not thinking anything of it, and came back an hour or so later, walked into the same stall to buy another knickknack. She would not sell us anything. We could have paid her a year's salary. She would not have [sold] us anything. We'd insulted her. We'd carried it too far. The lesson learned in that case – and I've done a lot of negotiating since then – I always leave something on the table for the other guy. I don't care how much of an advantage I have; when we walk out, both sides will feel they won something.

A third lesson that I learned was just the opposite [of] the little lady in the stall in Guatemala. Admiral John Albright, who's, to my way of thinking, the finest officer I've ever served with. We were visiting the ships in Hawaii, Honolulu. We made a courtesy call on CINCPAC [Commander in Chief Pacific] Fleet [Headquarters], who is in charge of all the Pacific's ships, aircraft, and personnel, a four-star. Even though I was a two-star admiral at the time, I still had the old Navy hangover of being conscientious and intimidated by stars. Here I was talking to a four-star in the Navy. John and I were both a little nervous. We walked in to meet the CINCPAC Fleet, and we're in the lobby. Just a couple of minutes after that, his deputy came out and very casually said, "What is the definition of chewing the fat?" Do you know the derivation of chewing the fat?

MG: No, I don't.

WS: Nor did we. The three of us were standing around discussing the derivation. As we were talking the CINCPAC Fleet stepped out and naturally joined in the conversation. So here the four of us were talking about this inane subject of what was the derivation. Then we migrated into his office and had one of the most productive, one of the most at ease discussions I've ever had. All of my nervousness about CINCPAC Fleet was immediately put to rest. I am convinced it was staged. The deputy and CINCPAC Fleet did that intentionally so that we would be relaxed for a friendly discussion. That's another lesson I learned. I never would ask someone to come into my office. I always walked out to greet them. We would do banter talk initially. I don't know if I ever used "chewing the fat" again, but I would use something like that. Occasionally, I'd meet my visitor in a long hallway, so we would always walk to my office side by side. And I never sat behind a desk. I've always greeted them outside, never in my office. Other lessons learned were – a guy by the name of Harris Stewart – does that name ring a bell?

MG: Yes, at the Atlantic Oceanographic and Meteorological Laboratory.

WS: Exactly right. Harris Stewart was a gentleman's gentleman. He knew everybody and knew all about them. I thought this was just a natural ability. Later, I got to know Stew extremely well and we became very good friends. He was a professional mentor, as well. Stew knew everybody. One of the stories was with President Lyndon Johnson. Stew's wife was a lady of very direct words, and when Johnson did something, she did not like she wrote a personal letter to President because she knew him. Johnson knew that it was from Stew's wife and he sent it down to Stew to answer. Stew answered the letter, sent it back up to Johnson, and Johnson sent it to Stew's wife. So [Harris Stewart] knew everybody. But also, when I got to know him better, I realized that prior to any meeting, he would go through his index cards and refresh himself –

who the wives were, who the children were, what the person was doing. When he walked up to them, he paid the ultimate in flattery by knowing something about them. When, Stew, unfortunately, went blind at a relatively young man, but he never lost the skill of personal recognition. Instead of doing it visually, he did it by hearing, and it was amazing. You'd listen to this Stew and think he was a natural. It was not. He worked so hard on personal relationship. The only person Stew really did not like was Jacques Cousteau. [He felt] that Jacques Cousteau was not a credible scientist. When Stew retired from the government, he got a job at Old Dominion University. There, the University's President decided they were going to establish a Jacques Cousteau library or center. It was Stew's job to set up this Jacques Cousteau library, and Stew would fuss and fuss – "Of all the people that I have to pay homage to, it's Jacques Cousteau."

Stew possessed a lyrical mind. When Bonnie and I were first married, Bonnie had an oceanographic cruise immediately following Stew's. Upon arriving in the Chief Scientist's stateroom, Bonnie found, on the back of a navigational chart, numerous limericks, attributed to famous persons, but all written by Stew. One which I can remember "When things go bump in the night, don't get your dander up, get your Commander up." He also published a small book called "Id of the Squid." This book can still be purchased today on Amazon with a descriptor "Outrageous rhymes about Oceanography" by Arch E. Benthic, which was a pseudonym used by Stew. My memories of Stew, all wonderful, would fill a small book.

I guess one last example of lessons learned, and we'll circle back to Ned Ostenso. Ned had this unique gift of putting people at ease in meetings. I discovered he would always have a scapegoat that he would pick on, and I happen to be that individual. After a short time, I knew exactly what Ned was doing, and he knew that I would never take the reference personal and get mad. Whatever the environment was, Ned would use me as an example, and everybody would laugh. I would laugh along with them because it never bothered me. That's another trick I used. I always wanted to start meetings so that there's no tension in the air. We will come back later to the fight for NOAA Corps' survival. I was uniquely positioned to fight this battle because I knew the people on the Hill. The reason I knew the people on the Hill was Ned Ostenso. He would take me along to every meeting that he had. I would prep Ned to give the briefing. As soon as we walked in, Ned would say, "Okay, Bill, you take over." So here I was, talking to the congressmen, these senior staffers. Over several years with Ned, because Ned knew all of them well, I was given this level of familiarity. From all of these folks, I learned lessons; I used – I hope – to my advantage as I moved up the management ladder.

MG: I know we will go over some of this ground again. I just wanted to ask a little bit more about Harley Nygren. He passed away last year. I was supposed to interview him. I know that he broke barriers for women in the NOAA Corps because it was just a year later, in 1972, that women were admitted.

WS: Yes. I'm going to come back to that in just a second. Bonnie and I have a large pig roast at our place every year. This year, after thirty years, was the first time we did not have it because of coronavirus. Harley would drive down from Pennsylvania, about a four-hour drive, by himself every year that we had the pig roast. I took that as a personal honor. Harley was one that I could always go to and ask for advice. He was honest. He was direct. He was a visionary. He did a lot of things for the NOAA Corps. He expanded the NOAA Corps officers from being just hydrographers to include oceanographers, pilots, meteorologists, fishermen – the whole

range. Except for Adm. Nygren, I would have never been able to join NOAA – I’m not a hydrographer and I’m not a civil engineer. I would have had a hard time getting into the NOAA Corps if it had not been for Harley Nygren. I give him phenomenal credit for having that vision. You mentioned women. Yes, he did. He brought women in and insisted that the women have the same jobs, the same working conditions that the men had. This personally came into play when Bonnie and I got married. Bonnie was going aboard the ship as chief scientist; she was a well-known geophysicist at the time. I was assigned to the ship. Well, this was more than the staid structure of NOAA and NOAA Corps could handle. So initially, I could not even be on the ship at the same time Bonnie was, and then they decided, what the heck, I could, but we had to have separate staterooms and the whole bit. Harley heard about it – he was the senior admiral – and said, “What are you folks talking about? This is a husband and wife. They can live together; they can shower together – whatever they want to do. This is absolutely ludicrous keeping these old-age traditions in place in this modern time.” Bonnie and I were the first husband and wife to sail together on a NOAA ship. Bonnie was one of the – I don’t know if I should say one of the first women scientists to sail but we were the first husband and wife to sail together, again, thanks to Harley. Another thing with Harley, how he could be very direct. When we first got under fire, as far as the Corps’ survival, I went and talked to Harley. Harley said, “Bill, I’ll support you every way I can because I think a lot about the Corps. If I find, though, that there are strong reasons, such as economic reasons, that it’s not justified, I will not support you at all.” I took that advice to heart because we had to make some hard choices. One of the choices facing me was to refine the cost structure with NOAA Corps and with our ships. I used Harley’s charge to take some hard action; it was necessary and good. Harley was a man who could be extremely gracious, very polite, very courteous. He could also be very, very direct in making sure you heard what he said. He was, in my view, the best admiral by far that NOAA has ever had.

MG: What was your first assignment after the training period?

WS: Good. I thought we’d come to that. [laughter]

MG: Finally. [laughter]

WS: Finally. Well, it’s my fault, not yours.

MG: No, no. I love all of these stories.

WS: I was assigned to a hydrographic vessel out of Seattle. Again, I had not had any hydrography training. I was not an engineer, so it was going to be a good opportunity to learn. Captain Herb Lippold was the skipper of the ship, he was very talented, a tremendous individual and a great captain. The ship was in Shelikof Strait, off the coast of Alaska. For my first day, I was going to be an observer on a survey launch [with] one of the more seasoned officers. We went out early that morning, but very shortly we ended on top of a rock. We sat all day on top of the rock. Captain Lippold came at the end of the day, towed us off the rock, and said, “We’ve just been told we’ve been decommissioned. We’re going back to Seattle.” My day of learning hydrography was on top of a rock, high and dry. Going back to Seattle, I had the opportunity to watch the ship operation of a NOAA ship. During my many years in the Navy, I observed

several good ship handlers. In route home, while going through the Inside Passage, we went through a place called the [Seymour] Narrows. I was standing a courtesy watch since I had not been on the ship long enough to be a qualified watch officer. About three o'clock in the morning, Herb came up to the bridge and said, "I have the CONN", which signified that he had control of the ship. I thought to myself, "What in the blazes is going on?" Within ten minutes, the helmsman said, "I'm losing my navigational head. I'm losing my steering." We were going through what is called the Narrows known for its wicked currents, and if you're not on top of it, you can lose the ship very quickly. Herb knew where we were, took command, gave the appropriate helm order. As soon as we got through the Narrows, he turns it over to the OOD [officer of the deck] and says, "You have it. I'm going back to bed." I thought to myself, "Man, I am in the league of professionals now. Nothing that I ever seen in the Navy would compare to this." That was a point that I remembered throughout, and I do think that NOAA officers are probably the most skilled ship handlers of anywhere in the world.

MG: Was this the *Pathfinder*?

WS: That was the *Pathfinder*. Golly, you've done your research. Yes, that's right. My job on the *Pathfinder* for the next couple or so months was inventorying everything that we had. I was told to do that. This comes back to my early days of not being pleased with my undergraduate [experience]. If I was given an assignment, I wanted to do it to the best of my ability. We inventoried everything – every nut, every bolt, every piece of everything you could imagine, every tablecloth. Some of the chiefs thought we were overdoing it. But Herb had asked me to do an inventory, and that's what I did. When the ship was laid up, we knew where everything was, and everything was accounted for. I've been subsequently told – I've been through several ships' decommissioning in the past, and all they do is get the hull number and the metal, and then everything else they just group as one piece. But the *Pathfinder* was well-inventoried. Go ahead?

MG: No, you can keep going.

WS: I was going to shift to the *Rainier*. The *Rainier* was on its way to the Los Angeles area to do hydrography. I was not on the *Rainier* very long. I knew I did not want to be a hydrographer but a scientist. I made a request to go to AOML, and thanks to Harley and NOAA Corps, I realized that my interest and my background was more geared toward geology and toward AOML. Thus, I short-toured on the *Rainier*. In the Navy, I'd accumulated a tremendous amount of sea time. As a result, I ended up in my career with probably more time at sea than most other officers, but a lot of that was front-end loaded in the Navy. But then, I went to AOML, and what a wonderful experience that was. Guys like Harris B. Stewart, Jr., George Keller – does that name ring a bell?

MG: I don't think so.

WS: George was head of marine geology laboratory, eventually went to be vice president of Oregon State University, and, like so many of these folks, became a lifelong friend. I remain very close to George and his wife. He was a long-standing friend of John Byrne. George, unfortunately, died a couple of years ago, and I went out to see his wife a few months after that.

On the same trip, I was able to visit with John and Shirley Byrne. John has changed little since he was the Administrator of NOAA. Anyway, AOML was fun. I worked with some of the world's leading scientists including Don Swift, who was a prolific researcher. Others were Bob Dietz who coined the term "seafloor spreading" and Ants Leetma, who would later head NOAA's Geophysical Fluid Dynamics Laboratory, one of the foremost institutions for predicting the track of hurricanes. Besides the opportunity of working with these premier scientists, AOML gave me the chance to dive in the submersible Alvin, and George Keller was instrumental in making this happen and had a lot of interesting stories with the Alvin. One of which was – has anyone described the Alvin to you in your interviews?

MG: A little bit. I interviewed Dick Rutkowski.

WS: [laughter] I should have read Rutkowski's interview. I have a couple of Rutkowski stories. I will not tell them.

MG: I would love to hear them because he's a character.

WS: He is a character. He is very much of a character. I'll just let it go with that. I'm not going to walk down that path. Anyway, the Alvin was a very small sphere. You had two scientists and a pilot in a very, very close space– I think eight-foot, maybe ten-foot diameter sphere. It was chock-a-block full of equipment as well. A dive would constitute about ten hours. It took two or three hours to get to the bottom and a couple of hours to come back to the surface. The ALVIN is carried to the ocean's bottom with weights, and once on the bottom, one half of the weights are dropped. When you are ready to come to the surface, the other half of the weights are dropped. Descending to the bottom, the ALVIN goes through what is known as the photic zone, the limit of penetration of sunlight. The Alvin passes through this zone without any light because their lights would attract the fish. There are several noteworthy stories of vehicles being attacked by tuna or other large fish. In one case, George Keller was actually in the Alvin, when they heard a thump. Later after they surfaced, after several hours, they found a large sword from a swordfish that had penetrated the plexiglass canopy. If it had hit one of the viewing windows, it could have been a major problem. The result, they came up with a souvenir of this large sword. Very cramped spaces, cold, but tremendously exciting – the whole evolution. My wife would never go down because she knew that she'd have to go to the bathroom. Since this is not going to be on public television, I'll tell a quick story. Again, very cramped spaces. When the call of nature occurred, as a male, it was tough, but we had certain advantages. The women did not have the same advantage. On this one occasion, a hefty lady – and I'll not use her name had started the dive, only a few minutes into it, she had to go to the bathroom. The pilot gave her a little glass jar we were supposed to use. She said, "You know, I can't do this. You'll have to hold it for me, but don't look." So here he was, his hand behind him, holding this glass jar, and he could feel this warm liquid running all the way down his shirt, all through his clothes, thinking to himself, "I have another ten hours to survive this." [laughter] But he did survive. But he swore that he would never dive with that lady again. One of the stories with the Alvin – we each have our own series of stories. One of the fellows that was diving with me, the first time he dove – and the first time anyone dives, your imagination runs wild with you. We were eating lunch. When you are taking a break, that's when all the fear and trepidation pops up. He said, "Well, what happens if we cannot get to the surface?" I said, "Well, we die." He said, "What, the Navy

has all these deep-diving rescue vessels.” I said, “Yes. They only go down maybe two-thousand feet at the very most. We’re sitting at twelve-thousand feet. There is absolutely no way that we can get out of here. Nobody can come and rescue us. We cannot rescue ourselves. We’re finished.” He was typical of most all of us – that first recognition that you’re really at the edge. You had to take care of yourself. If you could not take care of yourself, you would not get out. One of the situations, where they [were] not really in a position to take care of themselves, was diving in the Mid-Atlantic Ridge. George Keller was on this particular dive. With the Alvin, the viewing windows are facing forward and downward, so you can see quite well down in front of you and a little bit to the side. But you could not see above you, nor can you see behind yourself at all. You have very limited visibility of the area around the submersible. As a reminder, you get to the bottom by throwing off half of the weights attached to the sub, and you go to the surface by releasing the other half. The submersible had driven into a submarine canyon on the Mid-Atlantic Ridge. They did not know if there was a roof to the canyon or not. If they tried to back up, they could potentially damage the screws and the sub itself. But if they threw off the rest of the weights, and if they drifted to the top and if there is a roof on top of this little box canyon, they’ve never would have been able to get out. This particular expedition was being monitored by *National Geographic*, which is meticulous in the way they write stories. Keller and the group called to the surface and said, “We need help.” The surface said, “We don’t have the capability of telling you whether there’s a roof on that canyon or not. You are on your own.” They gambled that they had to back up. Sure enough, there had been a roof over this box canyon. When they got to the surface, telling the story, the [artist] from *National Geographic* who had drawn this event depicted it exactly right. The scientists diving said, “You’ve got to take the roof off. I know you don’t want to do it for your readers. But if our wives see this, they’ll never let us dive again.” So that’s one of the few examples that *National Geographic* does not portray the picture of how it actually happened.

MG: Can you say what the purpose of the Alvin was and what you were down there looking at?

WS: We were looking at submarine canyons. In fact, most all my dives were in submarine canyons– the Abaco canyon in the Bahamas and the Wilmington Canyon of the East Coast. So most all of my work was with submarine canyons.

MG: How did you take to those dives?

WS: I loved them. I loved every moment of it. Yes. I enjoy the fact that I’ve been where few people could go. I relish the element of risk involved, even though there was not too much risk. I dove in several small vessels while I was in NOAA; one of them I came very close to not getting out. I’ve forgotten the name of the sub. As the observer I was lying flat on my stomach, looking out the porthole in front with the pilot right above me. We were being launched from a leased vessel, and the crane literally broke in two, like a matchstick. We fell into the water very quickly. Fortunately, the pressure from the hull pushed us away from the ship, and the crane fell right beside us. If it had fallen on top of us, we probably would not have been able to get out. The sub was called the Delta.

MG: Can you talk about the role of submersibles in this kind of research?

WS: Kind of the same as, I think, manned spaceflight. There is a romanticism to it, and everybody wants to be part of it. But there is a cost factor. There is a risk factor that often makes the use of a submersible totally unnecessary. Bob Ballard deserves credit more than anybody that I know of. He was very much of a proponent of the submersibles. He dove in the Alvin often, but eventually came to the realization that we had the technology to use ROVs, remotely operated vehicles. There is very little that we cannot do with a ROV today than we can do with the Alvin. The Alvin, I think, is staying around, as are some of the other deep submersibles because of the romanticism and the fact that people hate to give up a tool. They like the adventure. They like the excitement. But there's not much that cannot be done by an ROV. I feel the same way with manned spacecraft. It makes the program so much more expensive and much more at risk. The Mars lander has proven that we can gather practically everything we're looking for with a remote satellite.

MG: There's a forthcoming interview with Robert Ballard in the collection

WS: Good man, absolutely good man. I don't think Bob will object to this – I'm going to preface this – what I'll say in a couple of minutes, I don't think he'll object to. I put Bob Ballard and Jacques Cousteau in the same basket, but I view them totally differently. Both of them are promoters of the oceans. Both add excitement to the oceans. Because of their activities, there's a greater awareness of the ocean. The difference being, though, that I do not think Cousteau was anything more than a promoter and a questionable promoter at that. He would take advantage of something for promotion. One quick example was where he showed a now famous picture of a reef, a very live vibrant reef, and then one which the reef appeared to be dying because of sea water warming or pollution, I have forgotten which. Come to find out, it was the same reef, one photograph taken during the day, one taken at night, but he was painting a totally different picture than what actually existed. Ballard, on the other hand, did just the opposite. Ballard was professionally honest, professionally thorough in what he did. He was enough of a visionary that he would push a research tool such as the Alvin and then switch into more efficient technology. Some of the stuff he's done is second to none. I think that Bob is one of the real great pioneers of our ocean and its history. Now, the story I'm going to tell that I don't think Bob will object to. Bonnie and I were going to be doing some dives in the Alvin. We were delayed one week because Bob had also requested a similar time on the Alvin, and Bob had a lot more horsepower and muscle than we did. He needed the Alvin to look at the Titanic. He discovered the Titanic, and he was going to use the Alvin to maneuver a ROV inside the hull of the Titanic. I don't know if you've seen those film clips or not, but every night, we were fixated on nightly television: this is what Bob discovered today. This is what he discovered this day. Every day during the week's dive, we saw newer insight with this little ROV that Bob had, being driven from the Alvin. Well, Bonnie and I got on the Alvin, and we said, "Man, you folks had a phenomenal week, the previous week, with Ballard, with all these discoveries." They said, "No, not really. The first day everything worked like clockwork. The rest of the week, nothing worked." Bob was able to parcel out little bits and pieces, but it was all honest, all legitimate. Most of us thought it was incoming every day, but it was not. I'm glad you're interviewing Bob. I do not know Bob well, but I have phenomenal respect for him.

MG: I should say that someone else will be interviewing him, but the interview will end up in the Voices Oral History Archives collection.

WS: Okay. Before we leave the submersible stories, I have one more to tell. In the mid-1970s, a four-person submersible, the Johnson SeaLink, while on what was thought to be a routine dive in the Florida Keys, became entangled in the cabling surrounding the hull of an intentionally sunk destroyer. The result was two of the four-person crew died; the subsequent Coast Guard findings concluded that pilot error was a main contributor to the deaths. Shortly following the findings, Bonnie and I were guest lecturers on a large cruise ship; her idea, not mine. Following one of our lectures, I was asked about the accident. Something told me not to tell the full truth. I could see Bonnie's agitation as I avoided a truthful answer. After the lecture, a lady came up and introduced herself as a member of the pilot's family. She had been hearing that the deaths were attributed to her nephew and was pleased to hear that was not so. Sometimes it pays to hedge on the truth.

MG: You mentioned Bonnie. Is this where you met her.

WS: We met at AOML, yes. Bonnie had gotten a master's degree from Rhode Island, came to Miami as a very well-known geophysicist, got a PhD at the University of Miami, and did some of the early gravity work on the Mid-Atlantic Ridge. I went back to get my PhD because Bonnie had hers. I was sitting around a table one night with Bonnie's friends. I looked around, and I was the only one without a PhD. I said, "Man, I can take care of that." So that's why I went to get my doctorate.

MG: Was she the first female PhD at AOML?

WS: She was the first one in marine geology. I think there may have been a lady in the sea/air interface lab with Theo Ostopof, but I've forgotten her name. But, in reflection, I don't think she had her PhD. But yes, Bonnie may well have been the first woman with a PhD in AOML; there were several women students there working on their PhD. One was Dr. Nancy Targett, who among her many achievements became President of the University of Delaware.

MG: You don't have to talk about this, but I'm curious how your relationship unfolded. What were your first impressions of Bonnie? She's very accomplished. She's a big deal.

WS: She is a big deal. She's very smart. We were a little bit older in life when we got married when I was thirty-five, and Bonnie was thirty-three. I have phenomenal respect for her. She's one of the most honest individuals I've ever known, one of the most gifted people I've ever known. I found, during our courtship – and I find this to this day – Bonnie never asked me for anything. Absolutely nothing. But when she makes up her mind, she sets a time limit. But she'll never use the time as leverage. During our courtship, she had set aside long enough for me to propose. If I had not proposed, she already had another job in Texas, and she was getting ready to accept the job on a Monday. On that Saturday, without me knowing about it, I took the big leap. I proposed. She told me about this all after the fact. That is typical Bonnie; she never asks anything of anybody. She made the move up through the US Geological Survey, never asking for a promotion. She was hired from NOAA. She did not ask to be hired, but USGS approached Bonnie and set her up in a lab in Miami. Her condition was that she had to move when I was [moved] because I was mobile, being a Corps officer – that if I moved, she would

have to be assigned as well. USGS said, “We’ll take care of that. Wherever your husband’s assigned, we will find you a working place in the USGS.” That got us to DC, and then Bonnie was perfectly happy doing research. They reached down and said, “We need you to work in our marine geology as a deputy chief.” Then, eventually, without ever asking for a promotion, she was made associate director. For a while, when there was not a political appointee in the Agency, she was the director of USGS. I’m quite proud of her.

MG: Yes, she’s very impressive. I have a note that you were with the Environmental Research Laboratory in Miami. Was that at the same time? Was that an office within AOML?

WS: AOML is part of the Environmental Research Laboratory, which in turn is part of NOAA’s Office of Oceanic and Atmospheric Research (OAR). Confusing huh? .

MG: How long were you in Miami for?

WS: I think I was at AOML for about two, maybe three years. Then I went to the *Researcher*. Then, from the *Researcher* – I was on the *Researcher* twice. Then from the *Researcher*, I went to get my doctorate and then went back to AOML. That’s right. I was at AOML, went to the *Researcher* as operations officer from Miami, and then I was assigned to Texas A&M to get my doctorate and went back to AOML to work in the laboratory – again, in Marine Geology Laboratory. Then, I went back to the *Researcher* for a second time as Executive Officer. Following the second tour on the *Researcher*, I was assigned for a short time back to AOML.

MG: From AOML, you went to Texas A&M?

WS: From the *Researcher*, I went to Texas A&M. Then, from Texas A&M, I went back to AOML.

MG: Can you talk a little bit about your time on the *Researcher*?

SI: Yes. I served with good skippers. We did a lot of work on the Mid-Atlantic Ridge. We did some work in Mexico. We also did some work on El Nino research in the Pacific, and so we worked out of Lima, Peru. For this trip to Lima, Ray Moses was the Captain, and I was the Executive Officer. Upon arriving in Peru, the first order of business was to provide a money exchange where the crew could exchange their money into the Peruvian peso. This was a job Ray and I did together. Then most of the crew would leave the ship. Ray and I were in our respective staterooms changing into our civilian clothes when we got a call from the quarterdeck that said, “The President of Peru is on board.” Have you heard this story?

MG: No.

WS: I said, “You got to be kidding. The President of Peru would not come in unannounced.” The Quarterdeck Watch said, “That may be, but there are more admirals and generals than you can imagine with this guy.” Ray and I went down to meet the President, took him on a tour of the ship, and sat down in the captain’s stateroom, offered him what we could offer; that would be cookies and coffee. He was a very congenial, very nice guy. He said, “If you’re not doing

anything tonight, stop by the palace, and I'll tell you about Lima and tell you about Peru." We said, "Well, whatever we were planning to do, pales compared to that offer. We went to his palace, and we were met with literally a red carpet with these admirals and generals welcoming us in. He took us on a tour of this phenomenal palace. You'd be walking down these corridors of engraved wood, engraved precious metals, and elaborate wall coverings. When we approached a door, there would be this little arm reaching out to open the door. We would walk through, and then we would hear the pitter-patter of little feet behind these wall coverings. We got to the end of the next corridor, the same thing happened, but we never saw the person, just saw the arms. Then we sat in his office, and I sat in [Francisco] Pizarro's chair, which has been around since Pizarro was, in the 1600s, I guess. We discussed affairs of state. I'm dating myself a little bit here, but Elliot Richardson and Henry Kissinger had each recently been hosted in the same chairs – we were sandwiched by these dignitaries. Ray and I told ourselves that this is most appropriate. We're in the correct company with Henry Kissinger and Elliot Richardson. The President told us something of interest – actually he told us a lot of things of interest. He said, "This is my second time to be elected president. I suspect there will be a coup, and I'll be kicked out of office pretty soon. The first time I was kicked out of office, I taught at Texas A&M and Harvard. And I expect it's going to happen again." We said, "Why?" He said, "In Peru, when the economy is good, the army wants to have control. When they ruin the economy, then there is a revolt, and the army wants to get rid of it, and then the Presidency becomes an elected office. This is a standard pattern. Watch." Pretty soon, there was a coup, and he was out of office again. I haven't followed Latin American politics very closely since then, but I did a little bit. Two other interesting things on that trip – actually, three other interesting things. When we first arrived in Lima we were told not to go into to a particular section of town. This section was down a cross street on the way to the office of the Ship's agent. This office also had a phone which we could use to call home. I went there to call Bonnie. After making my call, I was getting ready to get back in the car that had been provided to us, when I was approached by a policeman. He spoke no English; I spoke no Spanish, but we conversed slightly through sign language. But after a few minutes, I got ready to leave, waved at him, and said, "I got to go." He said, "Well, I'm going to go with you," by sign language. I said, "Sure. Come on in. No problem." We got to this intersection that I intended to go through very quickly, when he said, "Turn right here." I said, "No, no. I'm not going to turn here." He pulled out his .45, cocked it, and stuck it up to my head. It took very little convincing on his part and I said, "Okay, we're going to turn here." I drove through this labyrinth of streets, not knowing where in the blazes I was. Finally, we came to a police station, and he called his buddies out. I thought to myself, "Well, that's good. I survived that bullet. Things will get better now." He spoke to them in Spanish. Then, instead of one person with their pistol cocked, I had five or six with their pistol cocked, all jumping around the car. The only good thing by this turn of events is if I had been shot, I would have been shot by all of them at one time, and I would not have lingered; it would have been over very quick. Fortunately, an older gentleman came later, not too much later, and he could speak English. They explained to him what was going on, and I explained to him what was going on. Anyway, he put it to rest. He hopped in the car and we drove back to the ship. Then he asked at the gate going into the shipyard if I was who I said I was. They said, "Yeah, no problem." Anyway, it was kind of frightening in the bowels of Lima after you met the president one day and being threatened to be shot by the police the next day.

MG: What was what was their concern? Why were you considered a threat?

WS: Yes, we had the same problem up in the Andes. Ray and I took off the next day and went up to the Andes. At the Border Patrol in the top of the Andes, we also were flagged. In that case, one of the crew members, who had borrowed the car, had left a couple of *Playboy* magazines in the back, in the trunk. We swapped; we gave him the *Playboy* magazines, and he let us off. But what we surmised to be the case – it was a rental car. There was something wrong with the rental car, either the wrong tags or something that flagged them. Anyway, it was the car that was tipping them off.

MG: I think you said you had another story or two from this time period.

WS: There are two other stories which are intertwined. We were in Lima over Christmas. Bull fighting is a very popular sport in Peru. During this time of year, there is a special type of bullfighting, and this is where the matadors fight the bull from the back of a horse. These are not the picadors found in most bull fights where the bull is tired prior to the entry of the matadors. In this case the matadors are astride beautiful, exceptionally well-trained white stallions. The art of this bull fight is watching the stallions gracefully avoid the charge of the bulls. But as typical in the bull fight, the matador will stick the bull with his sword, eventually killing the bull. One bull on this day, refused to be killed. The matador finally dismounted and attempted to kill the bull on foot. After several charges by the bull and sword strikes by the matador, the bull was still alive. The audience started cheering for the bull, which meant the bull would not be killed. The matador which had failed to kill the bull was devastated. His colleague picked him up and they rode double around the ring. The crowd roared. I contrasted the scene to a baseball player striking out with the bases loaded in the top of the ninth in game seven of the world series. Baseball fans would have crucified the player; the very knowledgeable fans in Peru did just the opposite. The second part of this story was upon our return to the *Researcher*, we found that a cook had died suddenly. That began a very intense time to determine the cause of death, which was a heart attack, and to get the body out of Peru back to the States. The rest of my time was spent addressing this problem. As I remember, we were able to depart on schedule only after assigning someone to accompany the body back to Miami.

Besides Ray Moses, the two other Captains under which I served on the *Researcher* were Bob Franklin and Phil Taetz. From all three I learned a lot. Phil Taetz was the consummate gentleman, Ray Moses was a skilled manager, and Bob Franklin a gifted ship handler. Franklin also enjoyed basketball. The *Researcher's* flight deck was readily adapted to a half-court game. The only problem was keeping the ball on the ship. Even with some netting, an errant pass carried the ball over the side, into the water. In that we only had one or two basketballs, each over the side ball resulted in a man overboard drill to recover the ball. Little wonder why the *Researcher* produced officers well trained in ship handling.

I enjoyed both of my tours on the *Researcher*. We did a lot of interesting stuff. We were on the forefront of El Nino research. We did a lot of work in the Mid-Atlantic Ridge, the Caribbean, the Pacific and some work in Georges' Bank. Most of our work was in oceanographic research with some fishery research.

MG: Your next step would be going back to school for your PhD.

WS: Yes.

MG: You mentioned catching up with Bonnie and some other colleagues who had doctoral degrees, but why else do you want to pursue your PhD?

WS: Well, this comes back to my recurring theme that [during] undergraduate school, I had not performed as well as I believe I was capable. The idea of a second advanced degree seemed most natural. I was fortunate that I went to A&M with a research data package. Working at AOML, I'd done some fairly significant research in the Mid-Atlantic Bight on the sand waves off of New Jersey. I knew that I had an interest in going back to A&M. So instead of publishing my research as a publication, I held it for my PhD thesis, and then I turned around and published it after receiving my degree.

MG: Was this considered a NOAA Corps assignment?

WS: It was. It was a Corps assignment, strictly Corps assignment. Another credit to Harley Nygren – Harley saw the value of advanced degrees, either a PhD or the masters. It was something that is the legacy of Harley that I was a beneficiary of.

MG: This was 1978 and '79 that you were in Texas pursuing your PhD?

WS: I think so, yes. I got my PhD, and, I think, a year later, my assignment back at AOML was just to finish my PhD, my dissertation, and then publish it. The result was a solid piece of research of which I owe NOAA Corps and AOML a lot of credit for allowing me the time to do this. So instead of doing it at night, while doing another full-time job, I was able to do it as my principal job.

MG: Yes, that seems like such a nice feature.

WS: Yes, it really was. Both the organization and the individual benefit. It is common within all branches of the military and in NOAA. I was the beneficiary of what I consider to be a very aggressive philosophy in trying to promote advanced degrees. I was acutely conscious that if I had made this a multi-year effort, NOAA's patience would have run out. I worked pretty hard to get it finished with only one year on campus and one year at AOML finishing the Dissertation. This time frame is short compared to most PhDs.

MG: When you did finish, that's when you went to the *Researcher* or AOML?

WS: I returned to AOML. Then from AOML, I went back to the *Researcher*. My second tour on the *Researcher*, I had a PhD in hand. I was short toured on the *Researcher* to return to AOML, where I was assigned to work with the Coast Guard and the private sector if there was a chemical spill –HAZMAT [hazardous materials]. I'm sorry, it was a HAZMAT type of program. If they had a chemical spill, they would send an expert on-site and work with them to get it cleaned up. As is fairly common, people think a PhD is a PhD is a PhD. If you have a PhD in one area, you automatically have a great depth of knowledge in other areas. That was not

the case, certainly for me. I did not have a good chemistry background. I did not have an appreciation of the pharmaceuticals, plus the fact that I had trouble pronouncing them. My communication skills were limited. I could write them out occasionally, but I couldn't pronounce them. So that was short-lived. I spent very little time in the HAZMAT program, maybe six months or so, and realized I was poorly fit for that assignment. I made a request to go to DC as part of Sea Grant. Ned Ostenso was the director of Sea Grant at the time. But I want to take my hat off to RADM Kelly Taggart, who was in charge of the NOAA Corps, and also Larry Swanson. Do you know Larry? Do you know the name?

MG: No.

WS: Unfortunately, very recently Larry died unexpectedly, two or three weeks ago. Among his several duties the HAZMAT program reported to Larry. When I expressed my unhappiness with my role, Larry was extremely accommodating, as was Kelly Taggart. Both of them, I felt, realized they would rather have a happy sailor than someone that was discontent because HAZMAT was something that I did not feel qualified. Anyway, they honored my request to go to Sea Grant, and that was my first exposure to Ned Ostenso and, in time, with the Joe Fletcher, who I mentioned earlier, with the Ice Island. I ended up having something like a fifteen, sixteen-year association with Sea Grant. First, in the main office for a while. [Telephone rings.]

[Tape paused.]

WS: With Sea Grant, I eventually, much later, joined the advisory board. Sea Grant was very professional, in large part because of Ned Ostenso and the work they were doing. It also gave me an opportunity to work with a host of universities. I was in seventh heaven. Sea Grant had a wonderful association with OAR and from both I have benefited many times over the years

MG: Was this HAZMAT program that was later become known as Office of Response and Restoration?

WS: I don't think so. I really lost touch of what it was. HAZMAT – I think that was the name for it. I think it was eventually dissolved or eliminated. I'm not sure just what happened to it, but they did not have restoration as part of the tag. But they did some good work. They were instrumental in some of the major oil spills. They provided much-needed expertise to the Coast Guard and also other government agencies in trying to understand how an oil spill – the shape it's going to take based upon the current and the wind and the like. They did good work. It's just that it was something that I was not geared to. That was one of the very few jobs that I did not enjoy every moment of it. That, and the minesweeper, going back many, many years before.

MG: Can you say a little bit more about what you were doing for the Sea Grant Program in Washington?

WS: The way the Sea Grant is set up, you have what they call subject areas specialists, and monitors. All the subjects were represented, and by people that were fairly knowledgeable. I was in the geology part, along with another colleague. There were chemists. There were oceanographers, meteorologists, and the whole bit – anything that might interface with a

university. You also had responsibility for one or two or three universities. That meant that you would monitor their progress, what they were doing. You would also arrange site visits for a specialized group to go monitor the program. I had a couple. I had MIT [Massachusetts Institute of Technology], and I think I had Woods Hole for a while, also had Texas A&M for a while. You had the chance to not only look at them through the eyes of the discipline, but you had to look at them through the management eyes, administrative eyes. It's a very good program, and one that has passed the test of time. Bob Abel was the first director, and then Ned Ostenso became the second director. They've have had only four directors since then. It's a program that has a lot of continuity and leadership. It's still alive and well. I don't know if you're familiar with Sea Grant now or not. But there's a lady in your part of the woods, Judy Gray, who is on the current Advisory Board. I think she's in [Block Island, Rhode Island]. She was also deputy director for AOML for several years, and she started off as a NOAA Corps officer. An exceptionally talented, skilled lady.

MG: Was this during the era at NOAA of cooperative programs being collocated at universities?

SW: There were cooperative programs being led. Are you talking about the research side, the fisheries side, or what?

MG: I'm thinking mostly actually of the weather and satellite side. There are a lot of cooperative institutes, and I didn't know if that NOAA-wide initiative.

WS: Yes, it is. There's a lot on the oceanographic research side. There's one in Boulder. There's one in Seattle. There's one in San Diego. There's one in Miami. There are probably one or two others. There's one in Princeton, the GFDL, Geophysical Fluid Dynamics Lab. Yeah, they're throughout. I'm more familiar with the ones in oceanography or meteorology than I am the Weather Service. I don't think the cooperative institutes are unique to NOAA. I think the military has a lot of this, and probably a lot of the federal agencies have something similar. In NOAA, the tornado lab, the extreme storm lab [National Severe Storms Laboratory (NSSL)] in Norman, Oklahoma, is world-renowned, as is the GFDL model that tracks hurricanes. As I previously mentioned a good friend by the name of Ants Leetmaa was the director of that for several years.

MG: I have in my notes that you were assigned to the position of Chief Scientist for the Undersea Research Program. Where in the timeline was that? Was that after Sea Grant?

WS: That was after Sea Grant. The chief scientist of the Undersea Research Program was a program from which I was a beneficiary in a couple of different ways. This wonderful piece of West Virginia property that we call home is a direct product of the Undersea Research Program. Its Director was Elliott Finkle – Elliott was very skilled in running a program with little or no resources. However, when he developed more resources, and it became a significantly larger program, he ran it the way that he had done when there were no resources. He went from being a very skilled manager of a small program to a manager of a large program that was on the edge. Ned Ostenso was Elliott's boss, and Ned knew that he had a problem as the program got larger. Ned knew that my approach to things was totally different than Elliott's was. He assigned me as chief scientist to the Undersea Research Program. Again, the PhD was probably the reason for

this excuse. I enjoyed it, but management by the seat of the pants was something with which I was uncomfortable. So, in very subtle ways, Elliott and I started going from best of buds to locking horns. Ostenson, on the sidelines, knew exactly what was happening. He knew that if I kept my sanity long enough, he would get exactly what he wanted out of it. And he did. There was an opportunity for Elliott to take another job with more hands-on. Elliott was happy, and Ned was happy. They brought in a new director that was more in line with Ned's thinking, and I got this piece of property because of it. Bonnie knew how close to the edge I was. She knew I was a frustrated farmer, so she found this piece of property on the Potomac River in northeastern Panhandle of West Virginia. Elliott and I remained friends. He's no longer with us, unfortunately. But it was just the fact that you can approach things from a couple of different ways. It takes a wise man to make changes without causing major upheaval. And that's Ostenson. He could have made the change a couple of different ways, but it would have led to embarrassment, and it would have led to a lot of unhappiness. He chose a way, knowing fully well the personalities involved, and if there was a loser during that time – it was the only job I've ever really had, except for that very short HAZMAT job, that I felt uncomfortable doing. But again, I realized what Ned was doing, and that was fine. These few jobs in my thirty-five years of government service that I had a, let's say, less than a comfortable feeling, were dwarfed by the number of jobs that I felt I was the luckiest man around. Sea Grant was one that I felt this way.

MG: Good. The next thing I want to ask you about is your time on the *Surveyor*. I'm wondering if you want to take a little bit of a break.

WS: Molly, it does not make me a lot of difference. I know you're going to hate to hear me say this, but the *Surveyor* and its stories are more fresh in my memory than the others and I have a feeling we have a ways to go yet.

MG: I do too, which is fine by me.

WS: I do feel a little embarrassed. I feel like I'm taking too much of your time.

MG: Not at all. My interview with Joe Friday took about the same amount of time. There's a lot of things you saw and experienced, so it's really exciting to be able to talk to an eyewitness of all these changes in NOAA. I think we'll also spend a lot of time on what happened with the NOAA Corps in the later years.

WS: You mentioned Joe Friday. Let me tell you a quick story, but it was not with Joe. Richard Hallgren was the director [of the National Weather Service] at the time, and Joe was his deputy. They were a dynamite team. Both of them, were exceptionally talented. The winter storms coming up the coast, as Joe would tell you, are the most difficult to forecast as far as intensity. There was a storm that hit on Columbus Day – fortunately, it was a holiday and the government and most of the businesses were closed. And the Weather Service blew the forecast. They got to the point where they would go outside with a yardstick, sticking it in the snow, it came to ten inches, said, "Ten inches." They'd go back two hours later, and twelve inches, fourteen inches. I think it ended up being about thirty, thirty-five inches. It totally crippled the city. Nobody was at work that day, except Hallgren and his son, and as they were walking home from the office, they went into this fast-food place. The room was chockablock [with] not very happy people.

Hallgren's son said, "Dad, I'm going to tell everybody you're head of the Weather Service." He said, "If you do that, I'm going to kill you on the spot." [laughter] So let me get my calendar.

MG: Sure. Well, I want to thank you for your time today. We'll pick up with your time on the *Surveyor* the next time.

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