GEORGE HAMPSON

ORAL HISTORY

WOODS HOLE OCEANOGRAPHIC INSTITUTION

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Tape 1 of 4

TAYLOR: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. [Tape shuts off, then comes on again.] Today we're at the Archives at the Woods Hole Oceanographic Institution to start the oral history of George Richard Hampson, oceanographer emeritus with the Institution. To start off, with George, can you tell me a little a bit about when and where you were born?

HAMPSON: Well, I was born in Holyoke, Massachusetts, and that was very interesting, right from the start, because I was baptized in a Catholic Hospital which no longer exists. It was very interesting, and they tore it down. So then that happened. My school, my grammar school, which I went to visit, was torn down in Holyoke, Massachusetts. My grandmother's house, where I used to visit, occasionally, was torn down, so it was a series of these things. So I was born in Holyoke. I was the son of a textile manufacturer in Holyoke, Massachusetts, and my father told me that although he'd love to have me in the mill, he considered that it wasn't the best kind of life, and he would hope that I would go some other avenue of endeavors, so he would hope that some day that I would go to college, and so forth.

TAYLOR: What was Dad's name?

HAMPSON: Walter Hampson. He was the son of the textile manufacturer himself. He came over here at a very young age and settled in New Bedford. Their roots were there, and then, in Rhode Island, and then eventually ended up in Holyoke, owning his own mill.

TAYLOR: How about Mom?

HAMPSON: Mom was Czechoslovakian, born in Bohemia. She was an excellent cook, was very supportive of me and watched over me, as mothers do. She came over here at about 5 years old, a little bit older. As I sawy obviously cooking during those years was everything, and she was an excellent cook. The one thing that I failed to mention about Dad is that he manufactured silk during the Second World War, and most all of his silk was used in military applications, both for parachutes, but, more importantly for parachutes for bombs, so that the parachute would be jettisoned from planes--propeller-driven planes, mind you--at low altitude, and then the parachute would open up and allow the chance for the plane to get away before the bomb was delivered on target. So he used to work 75-80 hours a week during those times. He was one of the most gifted people I think in the field of textile manufacturer in the early ages of the development of textiles in the United States.

TAYLOR: So nothing you went to college for. It was something you learned on the job, and . . .

HAMPSON: Yeah, right.

TAYLOR: . . . developed your skills over the years.

HAMPSON: Yup, yup.

TAYLOR: Now did your Mom come over here for her parents, I assume, looking for better economic opportunities, or . . . ?

HAMPSON: Most of these things are generated by--in her case, I'm sure--during wartime. They either knew something was spinning up. I can't remember the years when she came. Usually it's unrest: a reason for getting away, getting out of here, coming to the United States, where a better way of life, and perhaps to escape the inevitable, which was a development of war, because if it wasn't the First World War, or the Second World War, they anticipated something else was going to happen. It was just always unrest, especially with Czechoslovakia. They were always subjected to things.

TAYLOR: You know how she happened to end up in the Holyoke area?

HAMPSON: Actually, what it was was New Bedford. They ended up coming to New Bedford, and that's where my mother and father met. It was the Hathaway Mills, which ironically I drive by all the time. I always wonder whether it was the same area where they used to meet. My father was a foreman, and what they did is: he was trying to keep the group together to manufacture whatever product they were doing, and my mother was one of the workers, so that's where they met.

TAYLOR: During that particular period, a lot of people escaped from Europe, a lot from Middle Europe too. My mother came over from Poland during that period with her parents. But the Polish group was looking specifically towards the shoe industry in the Brockton area . . .
HAMPSON: Yup.
TAYLOR: And they had ready-made jobs there, so to speak, at low levels, really. I imagine the same sort of thing for . . . .
HAMPSON: That's right, yeah. It was interesting, also: my father at times, when he was working part-time in shops and markets and things, he would try to learn a language--speak French and speak German. And my mother helped him with that, I think, helped him to learn the languages. But it turned out that he was very valuable working at the market, because he could speak the language--just enough to get by, obviously. He wasn't fluent, but I remember specifically him talking about speaking French and German. He had a classification during World War II. It was the equivalent of the Manhattan Project, because he kept on trying to get my brother out of the Service, because they needed him in the mill. This was the time at Holyoke. So my brother kept on being sent home. He couldn't understand why. He tried to enlist, and then he'd get bounced. He didn't know what the hell was happening. Well, what my father was doing in the background was having him pulled out, because he had this clearance, and he needed him at home, so he never got to that point of enlisting. Eventually he did get in, but it was mainly because of my father, I guess at one time slipped up. But during those times everybody wanted to go to the War. You wouldn't stay home, because people'd look and say, "Why aren't you in there? Everybody else is." So my brother wanted to get into the Navy, and because of this clearance, and the reason being is that my father told him, He said, "Look, if you take my son away, you're taking away my right arm, and therefore I won't be able to deliver on the products that you need." And the Navy said, "We'll get somebody else to do it." And my father said, "Well, go ahead, that's fine by me." And when they checked up, my father was the sole source of the particular source of the particular silk that he made for the Allies. Now normally the Navy doesn't like to be caught in that situation. It's very scary. But that was an aside that I thought was kind of neat, and it was mainly my brother persistently trying to get into the Service [laughs], and he never knew why he kept on getting bumped, and it was my old man working in the background. [Laughs.] So that's kind of an interesting aside.
TAYLOR: What was your brother's name?

HAMPSON: I had four brothers, and two of 'em are living, and one sister, and it was Clinton. Clinton was my oldest brother. He worked in the textile mills. The mill was called Clinton Silk Mill. My dad named it after him, obviously. And then there's Walter Roy Hampson, and he worked in the mill also, and he was in the military service, and then my sister Milada[SP?], named after my mother, which is Czechoslovakian for Mildred, I understand. And then two twin brothers, which is interesting--identical twin brothers: Frank and Bob. And then myself. There were eight years between my twin brothers and myself, so I was sort of the one that snuck in under the wire. My mother had me when she was about 40.

TAYLOR: What was life like in a family that size? I'm assuming that the older brothers and dad had to spend many, many hours at work.

HAMPSON: Yeah, that's right. I had actually two fathers. I had my father, and I had my oldest brother. I was born at a time . . . . My brother had gotten married, and I would hang around with him. He would take me everywhere. So actually people who would meet us on the street and so forth would think that I was their child, 'cause I was so young, so my oldest brother: he was my father. He took me all over. Now, obviously, Dad probably had more, working at the mill, the time he would spend working at the mill. But I just remember that, and then my older brother, Roy, again the same thing. He was the one that I latched onto. But as far as my twin brothers, I was the thorn in their side, so to speak. Wherever I showed up--of course they're trying to impress girls and stuff. And I show up, and they just want me to go away. So essentially, towards the end of the years, since I had a big family, you'd think I had all kinds of people around me, but then came a time when I was alone, so I was an only child, which was kind of interesting. I went through the only-child idiosyncrasies and problems related to what towards the end, 'cause everybody was married. Everyone went away, and I had years that I spent alone.

TAYLOR: My dad always talked about that. He was 20 years younger than his next oldest brother . . .

HAMPSON: Wow.

TAYLOR: . . . and so he was essentially an only child. So your older brothers really had what you would think of as a parental influence on you?

HAMPSON: Yeah, yeah, I would say, yeah. That's correct, without question, yeah. And remember, now, two brothers in the War, and we went through that time. I mean, I span a time of sitting by the radio with the light on, only. That's the <u>only</u> lights we had in the house, 'cause

we were in an air-raid exercise. And that was kind of scary as a kid. I remember that radio. I really do, and remember, "God, my brothers are over there!" And my brother, Roy, the second one, was on an LST, so he saw a lot of Jap Zeroes coming in. My other brother had a terrible time. He never got anywhere on the ships because he got seasick, tremendously so, so he damn near died just from loss of weight and other things. But it never worked out for him. But Roy is the one where they saw the most service in the Pacific.

TAYLOR: That's interesting. I lived through that period, also, and it really is formative at a very early age. Because I can clearly remember that there were rationing stamps.

HAMPSON: Oh, absolutely.

TAYLOR: There were no toy counters in places like Woolworth's and Kresge's, and so forth, because all of that material was being used in the War effort.

HAMPSON: Yeah.

TAYLOR: I can remember, at one time, I had just gotten my allowance, and I was in the downtown Boston Woolworth's, and they got a special supply of nylon stockings, so I bought a set for my mother, because she couldn't get nylon. And you would see neighbors who had had Blue Stars in their windows turn those into Gold Stars, and things like that. If you remember, the gold star designating that the serviceman had been killed in action, and so forth. So I can remember Roosevelt making his "Day of Infamy" speech, listening to it. So it was really kind of a formative thing. I think a kid at that point probably grew up a little differently than a kid from some other period, so what kinds of things . . . .? What were your entertainments, and what kinds of things could you do?

HAMPSON: Well, remember, I had a lot of hand-me-downs, so I never got too many new things. I would either get used clothing or used bicycles. And the first thing that I ever got that was important to me was a scooter, and we lived on a hill, so I was on that all the time. And for some reason we didn't have a dog. And I took, almost adopted, a dog in the neighborhood. It was my dog. It didn't belong to the owners. The dog was always with me. So as a child I grew up with a scooter and this dog next door. And I'll tell you, I don't know what happened to that dog, but--I really don't to this day--but all of a sudden it was gone, and I was jut heartsick, you know. But also we didn't get a lot of things. My father tended to buy things on bulk. In other words, if jackets came available . . . . I remember one time, I don't know what in the world these . . . . He would get like six jackets and bring 'em home. Now it wasn't a case of whether you

wanted them or not or liked them, or liked the color It's just, being textiles, I guess, we would get them. And then, when the bicycles came, I got everybody's bicycle, so I never got anything new. But one Christmas morning I remember the new Schwinn bike with the little seat in the back, a backpack and stuff, that was one of my newest toys, if you will. But you ask, what was things like. Aah, although we were fairly well off, being textile manufacturers, we didn't have an affluence of stuff. There weren't a lot of toys all over the house. There were very few, and it wasn't just us, it was everybody. During the times of the rationings and stuff, I remember that very well, too. I'd go down to the store, trying to get bread, even without the rations, sometimes I could get bread, because everybody knew me down there.

TAYLOR: Well, it was a different time to grow up . . .

HAMPSON: Yup.

TAYLOR: . . . that is for absolutely sure. Now about your education? Was it all in Holyoke.

HAMPSON: Yeah, and I want to tell you something about something that really made a mark on my whole life and it got me through college. It got me through exams and everything else. One school that I went to: I think it was a . . . . It wasn't junior high school, grammar school. And I remember being in this room and the teacher said, "I wish to ask that all you folks, all you kids out there who want to go to college, please stand." So I stood up. I didn't know whether I was going to college or not, but I stood up, because I figured, "Hey, might as well not say that you're not, 'cause it might come to pass." So she went through the room and talked to everybody, and when she got to me, I remember the words as if it was yesterday. She said, "George Hampson, you'll never go to college." Now, I don't know why she said that. It could have been my attitude, without question, but I just remembered those words, and those are the words that carried me through life, 'cause every time I remembered those words, I would say, "You're not going to get your way. I'll show you!" So whether she did it in a positive way, knowing that I would be like that and react to it, or not, I don't know, but it was an earth shocker to me.

TAYLOR: Hardly what we would call a mentoring in the traditional sense. [Laughs.]

HAMPSON: Good way of putting it.

TAYLOR: Now, I'm chuckling, because my junior year in high school my German teacher told my parents exactly the same thing.

HAMPSON: No kidding!

TAYLOR: Absolutely.

HAMPSON: ”He’ll never go to college.”

TAYLOR: Yeah.

HAMPSON: Or, “You’ll never go on.” Boy, those words are so devastating to a kid, you know. “You got to change your attitude if you want to go to school. You cannot be acting the way you have been in this classroom. We hope you go to school.” “You’ll never go to college.”

TAYLOR: Know the feeling. [Laughs.] Know the feeling well. When you went to school. What were some of your favorite subjects, things that you really liked to do?

HAMPSON: OK, I would say science. And the reason being is that my brother Bob was a scientist in his own right. He was very, very gifted. He worked down in our cellar making things all the time, science fairs, and I emulated that. I thought that was really neat, and what I would do is listen to all the compounds that he was making, and I would memorize them, so when I went into chemistry at high school I was way ahead of the class, ‘cause I knew all the combinations and all. And I was very proud of that, almost to being too proud, really, because every time a question was asked I was the one that had the answer, and that didn’t happen very often. In other courses I didn’t know the answers, but in chemistry I did, so I was very good. So I guess that’s there the science thing started. You never know. It might be in your genes. I just don’t know, but I always leaned to that fact-finding, pay attention to details, and of course as a kid you had other things you did, so you don’t really think that deeply about things. You know? I mean we would go hiking and other things, play basketball in the middle of the night, so who knows? But anyway, now that you bring it up, then I would enter things in the science fair. But I didn’t have anybody looking over my shoulder like we do now. You were on your own. If you did something for science fair, you’re on your own, unless you had a father who was a scientist, and said, “Oh, you got to do it this way.” We just did things. You just brought it in. And so I remember that part.

TAYLOR: Any teachers that you particularly liked or that . . . ?

HAMPSON: Oh, you know, you always think of teachers that you were fond of. I go back to grammar school, like in the second grade, Mrs. O’Connor[SP?], and she was friend to all the kids. She liked everybody the same. She didn’t care if you were French of German. It was a melting pot in Holyoke. Keep that in mind. Always. And whenever we had a tooth that was loose she would wiggle it to figure out if it was ready to come. You couldn’t imagine a teacher

removing a tooth that needed, ... And nobody complained,. Nobody complained in the system. She would set it up, and all of a sudden chhhk! The tooth was removed, and she'd hand it to you, and that was part of her job. Can you imagine a teacher doing that now? And it was spelling! God almighty I couldn't spell worth a damn, and she was so patient, second grade teacher. And then there were others. Mrs. Tierny[SP?] I think was science teacher, or she taught science, and very, very special. But other than that, I can't remember too many teachers, 'cause what I'm going to do is take you from this area, public schools, to private school, because I wasn't getting anywhere in our public schools. And it's not because public schools are bad. It's just that I was bad. I wasn't learning. I wasn't getting anywhere. So my dad said, "We got to do something different here."

TAYLOR: Now let me ask you a question on this. Was it because you simply weren't trying, or was it because you didn't really think you had the goodies to learn this stuff?

HAMPSON: Number one, I wasn't trying because our school only catered to the bright, I think and the ones hat were going to go on to college, and they focused on them. If you had any indication that you weren't up to their caliber they sort of just let you go by, and at our high school, Holyoke High School, we had a little bit o the "blackboard jungle" in that things were not very well run, particularly study hall. It was a zoo, an absolute bedlam. So the foundation for learning wasn't there unless you were bright. And there was no mechanism for saying, "Oh, that kid really <u>is</u> bright. I think he's got possibilities. So we'll give him Special Education." There was no Special Education. You didn't have a chance. If you were going to fool around, there was only one place you were going go to: graduate and go nowhere, or go to a tech school and get a trade. But if you horsed around, people would just say, "That's it." You'd end up on the floor[?]. So that's why I think my father figured out that, if I don't go to a private school I wasn't going to get anywhere. 'Cause I told him one time. And maybe it was a carryover: what that teacher said. I said, "Dad, I'm never going to go to college. No way." I said, "I just don't have it." And he said, 'You'll go to college. It'll work out." That was the positive thing, see. 'Cause normally a parent , if they're going to be negative to you, you just say, "Well, if you feel that way, you never will go to college." He said, "You'll go to college." It was a <u>positive</u> thing. I I never forgot those words too. But that whole thing ties in: what I was told in class that time, and my attitude was, "Hey, maybe that teacher's right. I'm never going to go." And then when Dad said that, that supported. I said, "Geez, maybe I will. Maybe I will."

TAYLOR: It's not too uncommon from that period. You just recently were a presenter at the Massachusetts Marine Educators Conference at U. Mass./Dartmouth, and that was a very nice group of kids that came through.

HAMPSON: Yes, it was.

TAYLOR: They were very, very receptive. But a lot of kids like that. I used to claim when I was teaching, you could put 'em in a locked room and slide books under the door and they would come out educated. The ones you really had to educate was the group that was just beyond that and that needed some guidance and needed . . .

HAMPSON: Yeah.

TAYLOR: . . . some mentoring and needed some of their interests enlarged upon. And I guess, because you're sounding very much like my school upbringing . . . . I got into college 'cause I was a good football player. It had nothing to do with my academic background, and I was one that really didn't think I could quite do that kind of work. 'Cause I'd never been encouraged in it in any way. So at least that's one positive change has taken place in education . . .

HAMPSON: Yes. I would say. Just amazing how things have changed, when you think about how students are handled now. If they've having trouble, and you go talk to the right people it really helps.

TAYLOR: You see, I could get lost. I was in a big-city school system. But you were in a relatively small town.

HAMPSON: Well, Holyoke was pretty big.

TAYLOR: Not in comparison to Boston or . . .

HAMPSON: Yeah.

TAYLOR: . . . somethinhg like that.

HAMPSON: Yeah, you're right.

TAYLOR: So you had one high school, right?

HAMPSON: We had one high school.

TAYLOR: Yeah, see, we had like seven or eight.

HAMPSON: Oh, boy!

TAYLOR: And so I guess what I'm wondering, if you got yourself on what looked to be like a nonprogressive track, there was no kind of horizontal moves you could make to get out of the

same system, bing, bing, bing, right up through high school. You were going to go in with the same classmates, and . . .

HAMPSON: Yeah.

TAYLOR: . . . with the same records following you along.

HAMPSON: Yeah.

TAYLOR: Which I think makes it kind of difficult.

HAMPSON: Oh, yeah. Yeah.

TAYLOR: Now when you found that you were going to go to college, were you the first one in your family to go to college?

HAMPSON: No. My brothers, my two twin brothers, and my oldest brother --he went to a college for a short period of time. I can't remember. It was in Rhode Island some place. I think it probably was either night school or something like that, he was taking courses. But my two brothers, my twin brothers: one was accepted at Harvard, and he went to Exeter and then to Harvard, which is . . . .The door opens to Harvard at Exeter. And then my other brother went to Tabor, and he went to Rensselaer. So those were the two. And my brother did not stay with Rensselaer, nor did my other brother stay at Harvard. See, we always wanted to have a doctor in the family--why I don't know why you had to have a doctor in the family. But my brother really didn't like it, so he just transferred to University of Mass., Amherst. and took courses that he wanted. But anyway, I had them to emulate. They were going to college. Maybe I have a chance. And then my track changed. As soon as I left Holyoke, and it's not to knock Holyoke. I'm not doing that. It's just the times. The times were saying, "If you don't want to be educated, just go away." And they had ways of making you go away. [Laugh.] They really did. So the magic school was Tabor Academy. And I hated it at first, but we'll get there. Tabor.

TAYLOR: Well, from the generation that both you and I came from . . . . Your dad's generation was lucky if they got through the eighth grade.

HAMPSON: Yup.

TAYLOR: And the generation that followed that were pretty happy to be high-school graduates. And then our generation, to go to college was just the ultimate aim for most of those parents from that earlier, and in a lot of cases they lived their college experience, if you will, through the children that actually did go, so an awful lot of first-generational college people in our bunch, our age group.

HAMPSON: Yeah.

TAYLOR: You had a very different slant as to how you ended up thinking about college and going to college than a kid today would have, because you may be either the first or second in your family to ever have this kind of opportunity. So Holyoke High didn't do it for you, but you said Tabor did?

HAMPSON: Yeah.

TAYLOR: How did all that come about?

HAMPSON: Well, first of all, when you go to Tabor, keep in mind I had been home all the time every day, and now I'm going to this school where you have to board. Now keep in mind we also made it a shift. My parents actually built a house down in Falmouth and at Nye's Neck, and it was in 1951 the house was built, and so they more or less moved and took up residence in Falmouth. So here I am, being at home every day, and I go over to school, over to Marion, and I stay there overnight. [Laughs.] Now, you might think, "Geez, any kid would give their eye tooth to . . . . " But I wasn't. I liked home, see. Maybe things didn't work out well at home all the time, but I still liked home. I liked my freedom. All my freedom was taken away. We had more meetings during a day at Tabor Academy that you could imagine. They had meetings just to check you in. And then the meeting was over, they had nothing to discuss. They were always checking you in, I guess so that you couldn't run away. But the attitude was academics. It wasn't the case that, "<u>if</u> you were going to go to college," it's a case of <u>where</u> you're going to go to college, or what branch of military service. And usually that was as an officer. We had military training at Tabor. We marched in the spring an the fall. We all had to wear uniforms. I met people from different walks of life all over the United States and foreign countries, and frankly, a lot of the kids were a different-type attitude. They had all the clothes in the world, and . . . . "Preppies," there's the word. Preppies. I was not a preppie. I couldn't stand 'em. So I was from Holyoke, and I was brought up . . . . We played basketball and I knew the street scenes and stuff like that. I was never violent, nor did I get involved with the law or anything, but I was not a preppie. But I met friends theer. I met kinds from Nantucket, and they put you together with people who were your same type. And so that's what carried me through, and to this day we have reunions at Tabor Academy, not the college. [Laughs.] Tabor Academy. [Laughs.] Yeah.

TAYLOR: So that was really . . .

HAMPSON: A big change.

TAYLOR: In retrospect, was it a great experience, or did you grow to appreciate it as you were going through it.

HAMPSON: I learned to appreciate it as I was going through it. And when I first got there I didn't like it, but I wasn't the type of person that wouldn't like it and just make up a reason for not going, so I tried and tried and tried. And I met people, for instance, the coach for the football team. Everything was Holyoke High School. "This kid here. He knows what it is to play football. He's from Holyoke High School." See, up there, it was just like Pennsylvania. It was just like playing for the Packers. It was unbelievable. You either played football for Holyoke, or you were nothing, see. So he knew what my roots were. [Laughs.] I wasn't very good, but he knew I had an attitude about me. And so that's one of the things that helped. And people are nice to you, but as far as academics! Man, I was so far in the hole I needed a big shovel to get out, because I mean in English I didn't even know what they were talking a bout. I mean, they were talking about Beowulf and prehistoric English. I mean, god, why am I here? Chemistry--way ahead, way ahead. But, as you know, that doesn't last, because what happens is the kids catch up after awhile, and now you're learning new things, so you got to be careful. So Tabor Academy changed my attitude and it made me respect people. People from the outside said I'd changed a lot in attitude and in being more polite, things like that.

TAYLOR: So your world was starting to expand at this point, then.

HAMPSON: Right.

TAYLOR: Was Tabor Buoy there then?

HAMPSON: Yep, yep.

TAYLOR: Now, did you have a chance to [??]. . . ?

HAMPSON: Tried to get aboard that. But it was sort of a clique. People that were on there. It could only take so many. So you want to get on the Tabor Buoy as crew? Yeah, I'd love to. Ta-da-ta-di." So you put your name in Well, they'd select about seven people from the freshman class, if that. So obviously, they're going to get peple with all the experience, so I never had a chance. So I said,"OK, I'll play football. I'll play soccer, or something," so that's what I did. And it all worked out. I never was crew on the Tabor Buoy, and it's probably best I didn't, because I had other things to do.

TAYLOR: Now how many years were you at Tabor?

HAMPSON: Two years. I repeated my junior year at Holyoke High School. That's what the headmaster said. He advised me to repeat my junior year. He said, "This is not unusual. It's not to say that your son can't do it." He said that, "In our experience, best to start here and then have one more year in the next grade, and then that way it won't be such a trauma from what he had to go through to do this junior year." And my headmaster, Mr. Wickenden, Barbara Wickenden's father. [They laugh.] And so I saw Barbara grow up. She was my boss later on, and I said, "I remember you when you were in pigtails." I don't know if she had pigtails, but that broke her up. But anyway, I was associated with the Wickenden family. He was masterful. He was a benevolent dictator. You'd never cross up Mr. Wickenden. Yeah.

TAYLOR: Now, if you went to Tabor today, you'd see a relatively new, three-story marine-biological facility.

HAMPSON: [Laughs.]

TAYLOR: Well, from that point, then, had you started to say to yourself, "Yes, I am going to college.

HAMPSON: Yeah, as I said, you went and crossed the line, it isn't a case of whether you're going to college, it's which one. [Laughs.] So you apply to these schools that you never have a chance to get in, and then they would arrange it so that, you know, at least you get into school. So to this day I don't even know where I applied to. I really don't. But whatever it is, everything for a reason, and it works out. It works out. It works out. I think the way I look at is, we all have shortcomings, and what you do is you try to overcome for those shortcomings, and that's what I did throughout my career. So I didn't graduate from Brown, or I didn't graduate from Harvard. But I graduated from Northeastern, and that was my area. I can handle Northeastern. At times it was hard, but I made out all right. But that's what I finally got into

TAYLOR: OK, on Commonwealth Ave. by the YMCA.

HAMPSON: Boy, oh boy. Talk about a kid out of a hometown going to Boston. God almighty! I didn't have a friend in the world. I didn't know where I was, where I should go, went by the YMCA. That's where I was going to stay. That's where I had a room. They didn't have any dorms. And so I signed in and immediately started meeting people. The YMCA was terrible. God, there was nobody there, no students. I got out of there in a hurry and joined a rooming house nearby. Very few dorms.

TAYLOR: Well, the kids all used to live over on Symphony[SP?] Road and . . . .

HAMPSON: Exactly! And that's where I found a place, not too far from there. And it was safe. You could walk anywhere. Never have any problems. It was wonderful. We had erople from schools from all over Boston at our rooming house, not just Northeastern.

TAYLOR: Well, it started off there were rooming houses like yours for college students and then a lot of those homes were single-family homes.

HAMPSON: Yes.

TAYLOR: One family owned the home and it was on four stories, and . . . .

HAMPSON: Exactly, yup. So I had a good chance to talk to students that were in different universities and what they were going. Plus we had maybe five or six kids from Northeastern.

TAYLOR: Now, were you pretty excited about going to college?

HAMPSON: No, I wasn't excited. I was worried, fearful that I might fail. No, I couldn't use the word "excited." I said, "One thing I'm not going to do is I'm not going to fail." My father financed me through college. I didn't get any scholarships. But I made up my mind that if he gave me this amount of money to go to college that I was not going to pee it away. He had another word for it. And I was not going to be in that category. So if I couldn't survive I'd tell 'im right off: "Dad, I cannot do this. I'm not going to waste your money. Period." And [laughs] from Day One I stuck to the books. I played my basketball at time, intermurals and stuff, but I studied, studied, studied as much as I could, 'cause I wasn't a brain job. It was hard. Every step of the way was hard.

TAYLOR: Right. You had made a fundamental change. You had gotten out of the secondary-school situation, which had not been a huge success for you, but this was a start again kind of thing, and you kind of made up your mind, "I'm going to do this."

HAMPSON: Yup, that's right.

TAYLOR: What were you majoring in?

HAMPSON: First of all, the first year at Northeastern, almost everybody took the same courses. We had engineers in there, electrical engineers. And I was going for biology. But we all took the same courses. So I remember we would study together for chemistry courses and so forth for that first year.

TAYLOR: Just let me interrupt one sec. Do you remember what the first year was, what date it was?

HAMPSON: Yeah, I graduated in '56 from Tabor, and so it would have been '56.

TAYLOR: ’56. OK, ‘cause a lot of the colleges then, local colleges were into what they called “core” courses then. Everybody was taking . . .

HAMPSON: Yes.

TAYLOR: . . . the same basic knowledge kind of things--English literature, music appreciation, that sort of thing.

HAMPSON: Yeah, Yeah, and I remember again, going back, meeting: freshman class. We get in this big room. Guy gets up there, and he says . . . . And I knew this was coming. And he said, “Welcome to Northeastern University. I want to tell you you’ve got to study,” ta-da-ta-da-ta-da-ta. And he said, “Now look at the person to the left, and then look at the person on the right.” The same ol’ crap. And then I’m thinking, “Jesus, I get it in grammar school, and here I am . . . .” I said, “Guess what? This guy in the middle. I don’t think I’m going to fail.” And so, I don’t know if every kid is brought up this way, but I don’t really value the scare tactics. I don’t think it’s good. I think there’s another way of doing it. And so I remember that. And telling us we were all going to fail. So it’s no wonder, when I got into that rooming house I didn’t go on fooling around and go off and play around. I just didn’t do it. Everything was concentrated.

TAYLOR: It was a Darwinian period in education--the “survival of the fittest.” [Laughs.] And in my own case they always tried very hard to make sure I didn’t feel I was one of the fittest, but somehow we managed to get through. [They laugh.]

TAYLOR: It’s interesting to me, and the only reason I’m interjecting some of my own things is because, having grown up during the same period the story sounds so familiar.

HAMPSON: Yeah.

TAYLOR: And it’s interesting to me that college represented a new thing to you and a new way to go. That kind of opens up a whole new world. Now why did you pick biology?

HAMPSON: Well, uh you know again, keep in mind, during the time that we grew up, you had to have a doctor in the family. And I said, “Well, maybe premed,” ‘cause remember now we’re in that core education system, so if you wanted premed you could take the biology and then go off to premed, and that means you would have to leave . . . . At that time, Northeastern, it means you would have to leave, because they didn’t continue on. But my idea was, “Hey, I’ll be a doctor. I think I could live with that. I like to help people. So I’ll be a doctor. I’ll take the biology courses, the chemistry and so forth, and if it doesn’t work out, I can go over and take, perhaps, just marine biology or something like that. So, we didn’t know what we were going to

do. Nobody does. There are some people that their fathers are doctors, and so forth, you can actually know who they were, and you knew they were going to be premed, 'cause they were geared to go in that direction. But I was going to be a doctor, but I wasn't . . . . Down deep I wasn't firmly convinced that this was a foregone conclusion that that's what was going to happen. So that's why biology.

TAYLOR: It's interesting that for the majority of young folk going to school then it was a case of going and waiting for some kind of epiphany to help you to "Where am I going to go?" [They laugh.] with this.

HAMPSON: Yup.

TAYLOR: The period was so formative. I started in biology because of that. If you talk to one of my old buddies, you'd find my nickname is "Doc," because I was going to be a doctor too, in terms of the . . . ., That's why I took biology. That was the premed that you took in those days.

HAMPSON: Yeah.

TAYLOR: And you're absolutely right. There were those that were going to follow (we used to call it) the Old School Tie with dad. You were going to have the same college, same profession, usually a doctor. And then there were folks like myself that got in and the school systems had never prepared me for any kind of idea as to what was really out there that I could be studying for, what kind of things I might do with my life. So, as I say, I was waiting for that big epiphany to happen too. So you got through your four years there, and how did the biology wear on you?

HAMPSON: Well, we're in college now, right? Taking a step back, if you will, remember that we're living on Cape Cod, and we would drive around the Cape at times. Maybe visitors would come, or maybe we'd just go for a drive. During those days it was fun to go for a drive. We would drive from Picasset and we would drive over to Woods Hole, and I would look at Woods Hole and just look around, you know, see the buildings, actually Bigelow Building. So it was always there. I was always interested in marine life and so forth. So just remember that seed has been planted and perhaps it's going to be growing. And so when I went to Northeastern my biology professor there had roots in Woods Hole. His name was Nathan Reiser[SP?]. So he knew a lot of the people down here at Woods Hole. And when I was trying to get a job towards the end of my time at Northeastern, remember that we had . . . .

[END OF SIDE 1]

HAMPSON: . . . decide if you were going to go straight through or go in the co-op system. So I'm saying to myself, "Well, geez, well I could go on the co-op system, but gee maybe it's best if I go during summers, because that's when they need people down at Woods Hole. I'll just go straight through, four years instead of five, and so I'll apply down at Woods Hole." And so that's what I did. I applied for work first thing, as soon as I could. And that brings up a story in itself. If I remember I was still at Tabor, and we could apply for jobs at the Oceanographic, and, as you know, the jobs were few. So I put my name in, went over to the so-called personnel office, and put my name in, and I got a phone call. Remember I'm still at Tabor at the time. And the person said, "Hey, you have a chance to have a job, if you want." And I said, "Really." "Yup." He said, "You have to come down here and talk to us, and it looks like you might have a job for the summer." I said, "Well, that's wonderful." So then, a few days later, I get another phone call from Woods Hole, and they said, "Geez, we're very, very sorry." I said, "Sorry? What's wrong?" They said, "Well, we meant to call up another individual, and by mistake we called you." And so, I'm saying, "Well." Things to me like this, they happen. I just joke aboutit. Other kinds it would just kill 'em, but . . . . I said, "Aw, Jesus, that's too bad." They said, "Well, if anything turns up, we'll let you know." So like a week later goes by, I get another phone call from the Oceanographic. They called me and said, "Remember that job we were talking about?" I said, "Yup, I remember." They said, "Well, the person that we were going to give it to has another job some place else, and they're not going to take it. So it looks like if you still want the job, you can have it." The thread was so thin of my association with the Oceanographic, and that was it. Somebody was watching over me.

TAYLOR: Right place at the right time.

HAMPSON: So once you started to meet people and so forth, so I worked with--not Nathan Reiser--John Ryther.

TAYLOR: One of the big names.

HAMPSON: And before . . . . I'll make a correction. John Zeigler was in geology and so he was my first boss, John Zeigler. Eventually, I ended up working for Ryther. He was the department head. But it was geology, beach geology. Summertimes, from Northeastern were spent at the Oceanographic. And so that's the way it started. By accident.

TAYLOR: Now when you were at Tabor and you were living down here, were you the kind of kid that like to wander beaches and that sort of thing?

HAMPSON: I did, to a certain extent. I would study every chance I got, and I was still a homebody. I wanted to get out of Tabor every weekend I could, the reason being is because I had a family. I had people that cared for me. My mother cared for me, didn't have any people down here. We didn't have any kids during those times. I mean, a subdivision such as Nye's Neck, we were like the fourth house. Falmouth was like 12,000 people. So I didn't have too many friends. But it gave me a chance to study without interruption. Just go in my room, and that's what I did. And then I'd go out and hit rocks in the water. We had waterfront property and all that. But, and I'd try to get out every chance I got. I went up to Mr. Wickenden. I'd say, "Sir, do you mind if I go home tonight with my parents?" [Laughs.] I had a ticket to ride. We were only allowed so many weekends to go, but I was a homebody. Hey, I have to admit it. That's the way it is.

TAYLOR: That's OK. Again, not untypical for that particular period. And college was really supposed to be the first go-away, and yet even in those days an awful lot of youngsters that went to college were commuters . . .

HAMPSON: Yup.

TAYLOR: . . . who lived at home and went to school.

HAMPSON: Yup. That's what Northeastern was.

TAYLOR: Yup. OK, so you got your degree at Northeastern. You didn't do much in the way of social kinds of things in those years?

HAMPSON: Yes, I did. I did. At Northeastern, a marvellous thing occurred. Remember I told you about when I first came to Northeastern I was lost, and I'm walking on Huntington Avenue, and the damn trolleys were going by. I knew what a trolley was, but not really. And I'm walking up, and there's these two [laughs] people coming the other way, young girls, and I said, "Hi." I said, "I'm from Cape Cod." Who the hell do they care if I'm from Cape Cod. I said, "I'm up from the Cape, and," I said, "I'd just like to know where I should go to sign in. L'm a freshman. They were. They said, "what a jerk," you know, under their breath, "What a jerk!" And they said, "Oh, such and such." Well, the girl that I talked to that day, my first day at Northeastern is the girl that I married.

TAYLOR: [Laughs.] Your life was taking really rapid changes through these years, wasn't it.

HAMPSON: It's amazing isn't it? The first people that I talked to at Northeastern was one girl on the left was my wife. So anyway I signed in. So about a year later we grew interested in each other, mind you.

TAYLOR: What was her name?

HAMPSON: Barbara Nylund [spells it]. And she's presently now in Falmouth. But we had courses together and so forth, and of course the fun thing was, I used to hell her. I said, "You know, these education courses are gut courses. You don't have to study like I do. So I have to really pay attention to what I'm doing. You can go out and play and have some good time. But I can't." It was light-hearted joshing, but in a lot of ways [laughs] it was true. But anyway, that became the socialization part. I joined the glee club. I joined the Silver Mask, which was our . . .

TAYLOR: Drama society?

HAMPSON: . . . drama society. So what is the most important course I took in Northeastern? You going to ask me that?

TAYLOR: Yeah.

HAMPSON: The most important course that I took in Northeastern was public speaking. I do a lot of it. I know what to have eye conta t. I know what it is not to be prepared and foul up miserably. And it was the guy that ran the Silver Mask is the one that taught that course. So I knew he taught the course. We had these electives that we could do. I went into that. Barbara was in the course, too, so we had fun things to talk about. Anyway, a lot of the electives turned out to be important things to me, elective courses, the non-science courses, believe it or not.

TAYLOR: It's interesting that you say that, and particularly when you follow it up with "believe it or not." When I started doing these oral histories my assumption always was that when I would ask a scientist what the most important courses or the ones that meant the most to them, they were going to tell me their chemistry or their biology or something like that. Almost invariably

HAMPSON: [Laughs.]

TAYLOR: . . . it will come out to be literature or the arts, or public speaking, to the point where I was so perplexed I talked it over with my wife one time. I said, "I don't understand this. I spent my life as a science teacher, and these people that . . .

HAMPSON: Yes.

TAYLOR: . . .are in

HAMPSON: Yes.

TAYLOR: . . .the

HAMPSON: Yup

TAYLOR: . . . field are . . . ." She said, "Well, you have to remember that in order to be a good scientist you have to be a very creative person. And the kinds of courses you're talking about are the courses that lead toward creativity," to be able to extemporaneously speak or make it look that way. To be in drama and things like that, or to have an appreciation for literature or painting. That's the real creative side to the scientist.

HAMPSON: Yup.

TAYLOR: The biology, the physics, the chemistry, that's the trade school side, so to speak.

HAMPSON: That's interesting. Interesting way of putting it.

TAYLOR: So I was not at all surprised when you said that. Because when you come to an institution like this, if you don't fit that mold you're not going to have a full career here.

HAMPSON: Yeah, it helps.. It helps.

TAYLOR: It really does.

HAMPSON: Particularly public speaking, so I often tell that to kids. In our joint endeavors, with talking to kids.

TAYLOR: So you had spent your four years at Northeastern, and your summers working here?

HAMPSON: Yeah, that's right.

TAYLOR: And now what happened when you graduated?

HAMPSON: OK, so I graduate. Now, another thing that our young people don't understand is we had a thing called the draft. And it wasn't a case of <u>if</u> you were going to get drafted. It was <u>when</u>, so I am going to get married in June to Barbara, right out of Northeastern, and so we get married, but see that doesn't prevent you from getting drafted. It's best if you're married with child, and child can keep you out. But the marriage might. OK, it's always a chance. But you never know. It's a guessing game. You have to sign up. You're definitely registered. You have your draft card and all that, and I said, "I'm going to plan my own destiny here. I am not going to get drafted and go in for two years, 'cause at this point in time I don't want to have that happen to me." So I signed up. I signed up for the National Guard, and that appears in my resume here. And I got into the National Guard. It's essneitlly the same as the regular Army.

We're all together. So that's what I did. So that gives me six months in active service and five-and-a-half years of reserves, and to spin up that quickly, I spent Ft. Dix basic training, which was an eye-opener, I'll tell you. It really was! [laughs] I mean, talk about things that you never forget, you know. The way all your life you are respectful of people and treat 'em nice and then all of a sudden you get treated like an animal, like a dog. So that was an experience. So then we went from there, and I was in the medical corps, so I went to Ft. Sam Houston for training. And then back home, and then 2-1/2 years or so with the National Guard, training at Otis, and so forth. And weekly meetings. But then the funny things happened is, which is important to you here, is that I had a chance to switch from the Army to the Navy reserves. I could change. I didn't have to stay in the Army. They said, "Yeah, you could spend the rest of three years. If you don't sign up within a certain amount of time, we'll draft you. I can guarantee you that. So you have to continue." It was broken up in two three-year terms, so the second three-year term I elected to go into the Navy. So what did that do? Well, just so happens we had a naval reserve unit at the Oceanographic. And one of my colleagues was Mary Sears. [They laugh.] It was a naval officers' group. But they still had enlisted people. So I spent time there, and eventually I completed my military obligation, with everything I had to do, but I got a full seabag and everything. I got a whole new set of uniforms for Navy gear. I never went aboard a ship. So that's the end of my military service.

TAYLOR: Well, I can remember . . .

HAMPSON: Mary Sears.

TAYLOR: . . . opening a letter that said (It's engraved on my mind forever.), "Greetings . . .

HAMPSON: Uh-oh.

TAYLOR: Your friends and neighbors have selected you to represent them in the armed services of the United States of America." That's what your draft notice had to say. As I say, it's engraved in my mind. [Laughs.] 'Cause I got one.

HAMPSON: And you passed everything, the physical and all that?

TAYLOR: Oh yeah.

HAMPSON: Oh, yeah.

TAYLOR: Yeah.

HAMPSON: Two years, huh?

TAYLOR: Well, it started out as two years, but I didn't want to do what they were going to have me do. My major at the time had been physiology, so they figured that was an expert in diets. [Laughs.] I kid you not.

HAMPSON: I can belileve it.

TAYLOR: So one of the ways of getting out of all that was to volunteer for airborne. So I volunteered for airborne training and ended up down in Ft. Campbell, Kentucky, in the 101st Airborne . . .

HAMPSON: Ohmigod. That's a charged word.

TAYLOR: . . . with the Mohawk haircut. [laugh]

HAMPSON: The 101st. Oh!

TAYLOR: Yeah, the "Screamin' Eagles."

HAMPSON: Ohmigod.

TAYLOR: So for me it was a little bit longer because of that.

HAMPSON: Yeah.

TAYLOR: But on the other hand, I think back now, and I say, well, gee there was some pretty formative stuff going on then, and when you said that the way you were treated at Boot Camp made me think. I remember once when I was going through Boot Camp, the drill sergeants mistakenly thought we were the six-monthers rather than the ones that . . . .

HAMPSON: Yeah.

TAYLOR: And they were all over us. And then when they finally learned we were not

HAMPSON: Ohhhh.

TAYLOR: . . . in for just six months, backed off a number of cases.

HAMPSON: No kiddin'!

TAYLOR: So I think you . . .

HAMPSON: so that's what it was!

TAYLOR: I think you guys probably got a real Zap that . . . .

HAMPSON: I mean, some sergeants I liked. They actually were trained to look out for our welfare, but boy they had a hell of a way of showing it, you know?

TAYLOR: [Laughs.]

HAMPSON: God! I said, "Man, I have never been treated like this all my life.. And people don't know. You know, mothers and fathers of this generation have no idea about their kids

getting in a situation like that! That is lost forever! Ohmigod. I mean, going under barbed wire and machine-gun bullets over your head. Man! I want to tell you, you keep your head down.

TAYLOR: The old infiltration course.

HAMPSON: Uh!

TAYLOR: I remember you'd get up behind a little pile of sandbags, but they'd have a half block of TNT in there and let that one go!

HAMPSON: [Laughingly.] Yeah.

TAYLOR: Then at the end you were supposed to fix bayonets and go and charge. Yeah, every time I say something about the Army, my wife says, "Well, this is the New Army."

HAMPSON: Um-hum.

TAYLOR: In retrospect, did that have any effect on you and the way you developed?

HAMPSON: It makes me really get sort of short-fused when people knock the military service, because right after that, when you had Vietnam, I never went through that. But I've seen the pictures and all the things on TV, so I find it . . . . When I see the amount of demonstrations against US being present in certain areas and so forth, when these poor buggers have to go there. They have to do the job, and I see them when they came home and all the disrespect, it really [??] Because if it was the fact that training that I had to go through, I would never had had the appreciate. I would think, oh they give you a diploma, and then you go and. . . . You don't have to do that if you don't want to. Well, I got news for you. Some of the things you've got to do. You can't get out of it. You can't say, "Sarge, I don't think I want to do this any more." You're stuck. And then you might get the short straw and end up in a very serious situation. So I have a lot of appreciate for the military and people who are involved in that. Especially now, obviously, we all do.

TAYLOR: So that had to be, I guess as it was for me, really formative in some ways. It was sort of a growing-up period?

HAMPSON: Yeah.

TAYLOR: I mean, it was an away-from-home where you couldn't say, "I think I'll just go home this weekend." You were really on . . .

HAMPSON: Yeah. You've got it.

TAYLOR: . . . your own for the first time.

HAMPSON: And guess what? There was no headmaster Whitenden there to say, "Can I go home tonight?" No, I had to have a special award in order to get home. And that is, you know, if you shot a rifle, if you got a high score you could have an extra weekend. So I think I got so many hours for that.

TAYLOR: It must have been really difficult, having a new wife and all that.

HAMPSON: Exactly. Marriage [laughs], and child coming. That was the other thing, too. We were having a baby, born in '61. So by the time I got out, I think the baby was born. But she was carrying a child all the time I was at Ft. Dix, and all the time I was in training.

TAYLOR: And as a six-monther she didn't have the opportunity to be kind of a camp follower and go from camp to camp.

HAMPSON: No.

TAYLOR: She stayed here and you were there.

HAMPSON: Yeah, no question. Yeah, there was no thought of doing it any other way. But you know something, I made friends in the military--kids, you know, young kids. I was an old timer. I remember Sarge saying, "How many of you guys went to college. And about seven people raised their hands. "Come with me." He would give us some lousy detail. You know? That trick? But I met kids that hadn't even got out of high school. I met kids for the first time in my life that couldn't read. I'd say, "Well just read it, for god's sake, read the thing." And the kid said to me, "I can't read." I said, "What?" Can you imagine coming from Massachusetts and everything, knowing that people out there can't read? Wow! I said, this is the real world." You see what it does for you? People from all walks of life, from different areas, all across the nation, meeting for the first time.

TAYLOR: Takes you out of your little insulated shell.

HAMPSON: You betcha. You betcha. Kids that need help, they'd come to me. I used to cut hair. I'd say, "You, ta-da-ta-deh, it'll all work out, you know." You always had to be careful, 'cause a lot of kids took their own life, you know. 'Cause they're away from home, and nobody to talk to. So we'd kind of work together. So that's again one of these reasons why the military is so important, for helping people, if you will, and then gaining an assessment of where you fit into the world or the United States, and how lucky you are as a matter of fact, right? So that was it. Didn't have any . . . You know, I just did my thing, wounds and all that stuff, and training, training, training, training. We had the same thing that you did, except there was a time

at which you probably went on. But I didn't like the military mainly because of the sergeants, busting us, always. [Laughs.]

TAYLOR: Well, you lost your basic right of choice.

HAMPSON: You've got it.

TAYLOR: And that was kind of the killer. What most people see . . .

HAMPSON: [Laugh]

TAYLOR: . . . in the movies is this constant, constant excitement, and if ylu've been in you know there are moments of excitement with huge gaps of utter boredom in between.

HAMPSON: How about humility. How about humility. Chee!

TAYLOR: [Laughs.] The decision to switch on your National Guard duty from Army to Navy was just because it was local, or . . . .?

HAMPSON: I've always wanted the Navy. I would have gotten anything to have the Navy, but the Navy didn't have this program. I would have gone to the Navy in a minute, but they didn't. Then, when I saw, "Cheez, I could get in!" So I switched over. And it was fun, 'cause I was down here, and eventually I went over to New Bedford. They have a Naval Reserve Center over there and that's where Dave Owen was, as a photographer. So but there's retirement points and stuff like that. I didn't get any really, maybe very, very few, towards Social Security or whatever. It was just a fun time. Mary was there. I can still see Mary Sears in that room, [??].

TAYLOR: Could you tell me something about her?

HAMPSON: Mary? She was a very dignified person. I remember . . . . I'll jump ahead, out of the military. I was one of the first, the founding members of the 300 Committee, and at one time I guess I was like the second or third president, something like that. And so everything would come through me. Wed set up a donation request, and the money would come back. And I got one. I opened it up. I said, "Jesus. Mary Sears, $100, something like that." So we read it, thank you, and I signed my name, sent it in." Then about two months later I opened one up, "Mary Sears, $100." And I said, god almighty! Mary's losing it. I got to call her to find out, you know?" So I called her up. I said, "Mary, this is George Hampson." She said, "Oh, hello, how are you?" "Fine, fine." I said, "Mary, "I'm getting your second donation for the 300 Committee, and you've given us another hundred dollars. I just wanted to make sure that you rememberd the first one." And she said, "Oh, no," she said. "I haven't lost my memory." She said, "I just think you're deserving, that this is a very deserving organization." And there was a

little bit of a hurtfulness. No matter how I said it, Frank, no matter how I told Mary that I think that she had forgotten, she said, "No, no, no, I didn't forget. That's your money." So she was very good to us as far as conservation, and during Town Meeting, she had the ability to stand up and everybody w9uld take notice. Certain people can do that, and Mary Sears was one of 'em. She was a scientist from Woods Hole. We were bug counters as far as the town concerns. We were a special breed of people that stuck to ourselves at Woods Hole. We really didn't care about the town. We didn't contribute. But Mary was different. Here's this woman that . . . . she was an officer for the Navy, an educator, mind you. But yet she's a Woods Holie. They couldn't figure out where she fit in. See? So she crossed all these different barriers.

TAYLOR: Besides her field--she called herself a planktonologist . . .

HAMPSON: Yup.

TAYLOR: And she did the military. She had to go another country to go on a research cruise. She couldn't do it out of here. And yet one thing that she doesn't get an awful lot of credit for, but I think is one of her major accomplishments, is she put so much of the history of oceanography together in volumes that she became kind of an editor for that kind of a thing.

HAMPSON: That's correct. Yeah. I'd see her up there all the time.

TAYLOR: Yeah, enormously valuable. Because this is a new discipline. We're talking 50-60 years that this has really been . . .

HAMPSON: Yup.

TAYLOR: . . . I'd guess what you'd call a discipline, although you could still get an argument on whether it's discipline or not. But were' only going back half a century of a little more. A few expeditions before that, but not like a Woods Hole or a Scripps institution, or things like this, so it's a very valuable service, and she never . . . . There were never any historians around in her heyday that got her to sit down and tell her story or to do a history with her or anything like that, so anytime I can keep any little thing of her.

HAMPSON: OK, very dignified woman, very dignified. When you got to talk to her, you felt as if it was the same mold as Columbus Iselin. There were certain people that you would look at, listen to them talk, and know that they came from class, real classy people. And they were very reserved, and they wouldn't talk about other people, stick to what you asked them, or whatever, and Mary was like that all the time. Yeah.

TAYLOR: Now when you met her, through the Reserves, had you hoped to get a full-time job at Woods Hole?

HAMPSON: Well, . . .

TAYLOR: 'Cause you'd done summer work here.

HAMPSON: . . . remember now, remember, see I'm coming out the military, right, and I'm doing my Reserves. Now when I did my reserves, I already had a job at Woods Hole, because my job can in '61. What I did is I got out of the military looking for work. Couldn't find work anywhere, and this starts the next one of the things that somebody's watching over me. 'Cause I don't know where I'm going. So I'm looking for jobs all over. We didn't have any work in Falmouth. You want to talk about jobs? Lack of jobs? You had jobs for the summer. You had jobs working as a laborer or a carpenter. It was nothing. So, I said, "Damn, it doesn't do any harm to go down to Woods Hole." So I went down to Woods Hole, and I saw my own boss, Howard Sanders, and I said, "Howard, do you know if there's any jobs around here that, anything open up?" And he said, "Well," he said, "we're going to expand our jobs here, and our particular work in benthic biology, and we're going to be going more into the deep sea. And we'll be needing somebody." And that started it, right there. So I said, "How, when and where, you know, what tou do." And, "Well just put your application in. Now I know that you're interested, and we'll see how things go." Well, it was forever before I got hired. Seemed like it. And it wasn't till the spring, but I just haphazardly took a walk down at the Oceanographic and met him and talked to him, and got myself a job. I don't even think I went through the personnel department. I just went around. A lot of people did that during this time period. But he knew what my work habits were, and so forth.

TAYLOR: What was the physical plant like then?

HAMPSON: Bigelow Building. [Laughs,] I remember Bigelow Building and the Smith Building, and the Bigelow Building we had biology and Hessler--this is where Hessler comes in. We were on the basement, and my room was where the old freezer was, and Howard and his operation was down the hall. And them Chemistry was up on the second floor--actually the first floor if you will, the basement, being the basement--the first floor. Chemistry was up there. And I think they were also up on the next floor. But it was close enough that I could hear Nat Corwin laughing. Whenever Nat would laugh, I could hear him down in the basement where I was, so then that godawful laugh of his, you know, to this day . . . . So we were down there, and a lot of

intermingling of people, for coffee, whatever. We'd carry on all discussions. Of course, I didn't know whay the hell to say, 'cause I was young kid, so I didn't add much, so I just listened. I would always listen, listen, listen. And we've bump into Mary, and of course we had Peanut-Butter Club. The whole institution would turn out--everybody--Columbus Iselin. He was always there. I can always remember him smoking. But he was class act. He was class. He was just like Ted Williams or the President of the United States. Wherever he was he was just an emblem of "This Is Our Leader!" Make no mistake about it! And he was gentle. He was a gentle man, you know.

TAYLOR: He was on the cover of Time Magazine when it was really important to be on the cover of Time Magazine.

HAMPSON: Yes, And if I asked him a question, he had this way of joking all the time, laughing, maybe a . . . . And he would tell you, but he would never be curt or tell you that, "Don't bother me," or anything like that. He was just a gentleman. And again, same class as Mary Sears, that same dignified air to him, you know?

TAYLOR: So you were finding the Institution to be a good fit for you?

HAMPSON: Oh, god. I just said, "I hope I fit in here," you know, 'cause they were all around. This guy here, he's very important. He's Al Vine. He's very important. And this guy over here is . . . . Of course, my boss has just started, so he's not--Woodcock, I can't remember his name. The gentleman that you said [??].

TAYLOR: Oh, Al Woodcock?

HAMPSON: Al Woodcock. Yeah, Al Woodcock's there, and then we had professors from Harvard, you know, summertime coming in. So it was a pretty charged thing, pretty charged.

TAYLOR: Actually, when you came in, that was . . . . The Institution was really into what I think of as its second genesis. When we talk about the Al Woodcocks. Al was a high-school dropout.

HAMPSON: Wow. [Laughs.] I didn't know that.

TAYLOR: Al had had 27 jobs in his short life before he came here. This was his 28th job, and he came here to be a crewman on the *Atlantis*, bringing it across from Denmark, and managed to hang on, and managed to end up with an honorary PhD. from C. W. Post at the other end of his career. So he came from that generation where you didn't have to have a strong academic background. I would almost call them naturalists today. When you came in, though, that was

the time of a lot of the big data collectors and things like this. And it was getting a lot tougher to get through the front door.

HAMPSON: Yeah, it was, I would say. I snuck in, I guess, huh? I snuck in somehow by fate.

TAYLOR: Now you had a lot of interesting people aruond when you came. You said John Ryther was your boss?

HAMPSON: He was the department chairman. I meant to say "Zeigler." I get "Zeigler" and "Ryther" mixed up. But Zeigler.

TAYLOR: What specifically were you hired to do?

HAMPSON: Well, specifically, when I worked for Howard Sanders, is to get ready to prepare for the beginning of the offshore expeditions in benthic biology. We were to get our rigs together, get our dredges together, get all the equipment together. I was in charge of all the containers, ordering the formaldehyde and getting all the devices that we would use built. Had a wonderful carpenter shop. It's always been wonderful. Mr. Aldrich was there at the time. And my first job I remember as if it was yesterday. We had this net, and I had to join the two halves of the net together, and there's a certain kind of a weave that you learn, so when you're done it looks like a continuous net. And so I did that. That was my first job that Bob Hessler gave me. Bob was here at the time. And then from then on I prepared everything for the cruises. Bob would ask me, "How about this, this, this?" "Yup, yup, yup, yup, yup." We'd go to sea and it was all ready to go.

TAYLOR: One of the things that's always struck me as I do the oral histories is how you come in with an academic specialty, but you really have to become a total jack of all trades . . .

HAMPSON: Yup.

TAYLOR: The idea of being a seaman/scientist was really true of this institution. I'm not sure it's that true today, but certainly during that period that was.

HAMPSON: We didn't have any buoy lab, remember. Buoy lab is incredible. Gets a lot of people out of trouble. Scientists come in and they want something rigged they go to John Kemp and find out, "Oh, it won't work that way. You'd better do it this way. But during our time we had to do it all, 'cept the carpentry. Carpentry was done for us. But and then we had that wonderful crew on the *Atlantis*. You know who they are, right? Dick Colburn[SP], and also the bos'n of the *Knorr*. The name escapes me right now. It'll come back. Jerry Cotter.

TAYLOR: Jerry [spells as a question[C-O-T-T-E-R?

HAMPSON: C-O-T-T-E-R.

TAYLOR: [Simultaneously with hampson:] I have heard some awfully good things . . . .

HAMPSON: I have a picture of him up on the rat lines, 3-D, three dimensions, with Jerry Cotter and this other gentlemen who I can't remember his name, and also our electronics person is still working here in electronics, who is an EMT. Damn! You know, sometimes the names come, but . . . .

TAYLOR: Believe me! [Laughs.] I just say "senior moment," and it'll come back to you.

HAMPSON: Yeah.

TAYLOR: It's interesting, because during your initiation into the Institution. You came in as a biologist. You're in the Biology Department, and I keep thinking it's almost like you're a taxi driver who has to know everywhere to go, but you have to build the taxi too. And it's so typical of what that , , ,

HAMPSON: Yeah.

TAYLOR: . . . period was like here at the Institution. Yes, you're a biologist. Now, let's build some dredges. Let's see if we can improve dredges. Let's see if we can improve dredges. Let's see if we can get them that will do the job more efficiently, which was not something you were trained for. And it wasn't too much earlier than that. Oh, I can't even remember the mineral that the Institution was looking for that they were using in little piezoelectric devices during the Second World War to measure the force of underwater explosions. There were looking for a mineral that they couldn't find in large supply, so I actually found a letter in the archives where they had sent to a miner out in Las Vegas. Now, this is a guy with a donkey and a pick over his shoulder, to go out to see if he could find a [sound of hands clapping] certain amount. That is so WHOI [They laugh.] and you came in towards the end of that kind of thinking and way of operating, where you had to be an engineer too.

HAMPSON: Yeah. I mean, we had to do it all. And then the samples came back But you know, that still exists today, only that you have advice. You have advisors. You have modelling to keep you out of trouble. I mean we're going offshore. We're going to lay down this wire. At 2,000 meters we're putting wire out. We don't even know if the dredge was going to hit the bottom. We didn't have any pinger to tell us the dredge was going to hit the bottom. That was another thing all to itself, and Hessler and I . . . . See, Hessler was like that. He was my mentor, really, because I looked up to him. If he said that something isn't perfect, then I would do more.

But Howard, god bless his soul, he didn't know which end of the bolt to put the nut on. With Howard I remember, we went fishing once, and I said, "Howard, here. Here's this bag. You need just a small sinker, so open the bag and put one on." 'Cause I didn't have time. So he got the bag, and it was a Ziplock bag. So he looked at that Ziplock bag. And the way he figured to get into it was to tear the top off. [They laugh.] That was the end of the Ziplock. I said, "Howard. Howard, look." See, you open it up like this, and then you can reseal it." "Oh!" And it was new, but not that new. They'd been around, but that's the way Howard was. God bless his soul. His strength was something else we'll get into. But anyway, given that, I worked with Hessler very, very closely. I said, "Bob, is this OK, ta-da-ta-da?" "Yes, yes, yes, yes, yes." So we'd check everything out, and I'd form lists so that we had cruise lists. Nobody had cruise lists. I'd form these lists, so we knew every time. And I'll tell you something. Going out on the *Atlantis*, doing those dredge hauls, it was all new. And the *Atlantis* was the reason the crew--Dick Colburn[SP] and his wonderful crew--was the reason why we got those samples. And now, you talked about Hessler, about this too, about the fact that when we went out during those times, the deep sea was a few large organisms , poverty stricken, not much life, right? Howard's idea was, the reason why they didn't find much life is they didn't use the right kind of screens. "Really? :How do you know?" I didn't ask him this, but I'm saying to myself, "How do you know?" I mean, "You're assuming that they didn't use small screens, and that's why there's no life." But he was right. The screens we used, those small screens? Guess what! We had the diversity of life that never existed any place on the planet to this day, as Fred Grassle says, and it's because that 0.3 mm retained most of the animals. Obviously, things go through. They always do. But that was the difference, and we had more new species that we fond in that very short few years at Oceanographic than had been ever found in the history of benthic biology in the deep sea. We set the standard. Hessler told you that, right?

TAYLOR: Well, what he said was that, yeah, you set the standard, but it was one of those little things that Howard Sanders never got the appreciation he should have gotten, but he intuited that you needed this different tool, and that opened a lot of stuff up.

HAMPSON: Yeah, I guess so. I guess so. But you know, you say that people didn't get credit. Well, National Academy, you know? National Academy. People coming from different parts of the world, in and out of Howard's lab, asking. The problem was that most people go out. They

retire. Howard, I swear to god, he had the advent of early Alzheimer's towards the end, you know. And it was hard. You want to talk about tough things, you know?

TAYLOR: Oh, yeah. Give me an age reference about this. About how old were you during this period?

HAMPSON: I was 20-something, 23, 22, 23, 22, 24.

TAYLOR: OK. Just a kid.

HAMPSON: Just a kid. This was '70-some odd here. 1970. We're talking about '62, maybe, our first crew was '62-'63.

TAYLOR: Now, were you really tickled pink to be hired by the Institution?

HAMPSON: Oh, yeah.

TAYLOR: Not just 'cause it was a job but because it was the Institution?

HAMPSON: Well, first of all, it was a job!

TAYLOR: Very important.

HAMPSON: This business of having your pick of the jobs might apply now, but when we were coming out, you had a job. Geez, I got a job on Cape Cod. You know what, that's really something! So I think it was that. Plus I had the best people in the world. I mean, they didn't have to say, "You will do this. Do this, do this, do this." I'd go to Bob and say, "Bob, can you help me with this?" and he'd very methodically tell me, "Ta-di, ta-di, ta-di, ta-di," and then I'd do my thing, and he'd always give me accolades for what I did. Perfect kind of people to work for!

TAYLOR: About how old was Bob at this point?

HAMPSON: He was 30-something. I think we were about 8 years or something apart.

TAYLOR: See, he was another one that couldn't get a job when he got out of the University of Chicago.

HAMPSON: Yeah, who's going to hire . . . ? You know, he worked on trilobites?

TAYLOR: Yeah. Yeah, and he said, just by chance that Howard Sanders was looking for someone at Woods Hole to classify . . .

HAMPSON: Yeap.

TAYLOR: . . . different kinds of things, and he got the job.

HAMPSON: Yeah.

TAYLOR: So, it was interesting. You looked to Hessler as a mentor, and Hessler looked to Sanders as a mentor. That's kind of that family . . .

HAMPSON: Yes.

TAYLOR: . . . environment that Woods Hole . . .

HAMPSON: Yeah.

TAYLOR: . . . has . . .

HAMPSON: Yeah.

TAYLOR: . . . always engendered.

HAMPSON: Yup. I think Bob mainly, because when he gave a lecture it was the best lecture that you ever go to. He was so detailed in what he said, and his words . . . . He would speak loud enough so you could understand him, and to this day, when I give a lecture it's Bob Hessler. I told him that too. I told him. I said, "You know, ..." Because if I don't keep up to that standard it's so easy to go on the downside, and you flop, and you don't want to do that. Everybody does it. You don't want to do it too many times. 'Cause when you do it's a horror show trying to fall asleep at night. So whenever I talk to the kids, try to get everything, engage their attention, talk to them. Don't talk at 'em. Talk with 'em. So that's the part that Bob Hessler played. Details, almost to a fault, sometimes. God almighty, he was so crazy he used to put--and this is fun. I'm not talking about him behind his back. He;d have his socks. In order to make sure that two socks wore together he would put a color code on the sock, so you'd have a little pink thread so he knew that these two socks went together, and so that's the way he did it. We'd kid him all the time about that. But that was the extent of how detailed he was. Talk about rotating tires! Jesus, I mean, he would color code some of his clothing like that! [Laughs.]

TAYLOR: He's going to try and pay a visit this summer.

HAMPSON: Good.

TAYLOR: I will be sure to let you know, 'cause he said there's a lot of people he wants to get together with.

HAMPSON: Oh, I'd like to get together with him.

TAYLOR: And he said he'd buy the first beer.

HAMPSON: Yeah.

TAYLOR: I'm going to stop this for a minute.

[Tape stops and starts again.]

HAMPSON: Remembered a name too, which I'd forgotten, which is very important, cause he's one of the most important people at the Institution.

TAYLOR: Before we took a short break here, George, we were talking about your early years at Woods Hole, the fact that Bob . . . .

[END OF SIDE 2]

GEORGE HAMPSON ORAL history

APRIL/MAY 2002

INTREVIEW BY FRANK TAYLOR

2 OF 4 TAPES

Transcribed by Arel Lucas July 26, 2004-07-26

HAMPSON: Yeah, I wanted to add to that, in that, remember, all the time I was here at the Oceanographic . . . .

[Tape stops and starts again.]

TAYLOR: . . . whole new field, and you wanted to add to that.

HAMPSON: Yeah, I wanted to add to that in that, remember, all the time I was here at the Oceanographic, John Zeigler--I would talk to him about future, and he just said, "Just remember, the choice that you're making to go into the field of oceanography, because you're going to be away from your home and your family for a good part of your life because of this field. " And then he also said, "And it's imperative that you get a Ph.D. and you go beyond." So those were the things that were in my mind. And as far as the Ph.D. is concerned, keep in mind that I worked hard to get through college, and then I went into the military, and then I applied for graduate school, and I had a check of a time trying to get into graduate schools. It would have been a fighting, fighting, fighting, fighting. Now to me, and this is me, family mans a lot more.

So I decided, "I'll do it my way." I've always been a rebel in that way. If I can't do it, I'll do it may way. So I did it my way, and I think I've done pretty well. I think I've exceeded my expectations of what I could be. And that's not to say that I don't keep on striving for something else, but I've done it another way. What I try to do now is give back, give back to the community, give back to kids who need a little bit of assistance which maybe I didn't have, and that's why I participate with you in these different programs. 'Cause that's what I tell kids every once in a while. You don't hear the talks, but somewhere along the line I just say, "Hey, you know, if you ever get down on yourself, and if you need help, ask teachers still willing to help you, and so forth. So that's what I'd like to tell you, because there's that thing: "Why didn't you go on?" Well, I tried to, and I applied to three or four schools, and because of my grades at Northeastern, which were struggling grades. They weren't As and Bs. They weren't, and so at that time they were looking foe the cream of the crop, and one thing that I can tell you is that there was one of our colleagues that Howard used to work with, from the University of Chicago. He was Bob Hessler's teacher. And he told me that, "If ever you want to go to graduate school, I'll get you in." So I had that, but god it was like 10 years here working at the Oceanographic. That would have been kind of hard to go back to graduate school. But anyway, I had that. And so it was tough for me. People say, "Well, why didn't you go on?" At that time I wasn't accepted. That's what it amounts to, you know. [Clears throat.] And one of my good friends that was on the *Atlantis* during that time was Alden Cook. [Laughs.] And you could hear him swearing all over the ocean. [They laugh.] And he'd hit his head once in awhile on something on the *Atlantis*. Jerry Cotter, Alden Cook, Dick Colburn.

TAYLOR: OK, well, that's where I think I'd like to start next time. I'd like to . . . .

HAMPSON: OK.

[Tape stops. After a space end-of-tape beep sounds and voice comes on.]

TAYLOR: Testing, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. [Tape stops and starts again.] We're here at the Archives at the Woods Hole Oceanographic Institution, with our second oral-history session with George Hampson. During the first session we talked a lot about his early life, his educational background and what ultimately led him to the Woods Hole Oceanographic Institution. George, when you first came here, what specifically was your job going to be? What did they tell you you were going to be doing?

HAMPSON: Well, I've got to be careful the way I say this. Howard Sanders was a benthic biologist, probably one of the foremost in the world, it turns out. He really was. And he came, and his area of research was more shallow-water research. He had discovered--and I'll talk more about that later--a cephalocarid, which was a living fossil. And so all his efforts were spent in Buzzard's Bay in shallow water. Well, the Institution essentially told Howard that if he did not partake in deep-sea research that he might as well just leave. It was an ultimatum. So, in a way he was forced into the deep sea, which was a wonderful thing, it turned out to be, because a lot of his ideas came from the work that we did in the deep sea. So, right from the start I was given this netting and was told to sew up these two edges, because this was the dredge we were going to use. We immediately start putting gear together for our first oceanographic expedition between Bermuda and Woods Hole, what you call the Bermuda-Woods Hole transect Gayhead, actually, Gayhead--the name was changed. So that's where we were headed for. And I think as soon as I arrived at Woods Hole, within two or three months we were off to sea. We put everything together. That's where I started putting lists together, to remember, "Gee, we got to have this, this, this, and this." And of course it wasn't complete, 'cause the first time we went out . . . . But that was, as far as I know the first effort by an oceanographic institution in this country to take deep-water samples and process them through a fine screen. After we did this, and I'll say it now, it seemed like all the countries were following the technique that we used. So again, The Oceanographic set the standard. And we were doing it by the seat of our pants, just methodically going through, doing something that we did in shallow water. We applied it to the deep sea. And the discovery, we found out, in very short order, was the information that we information that we had received from past expeditions, mainly the Galatea expedition, that the sea in fact was not depauperate, the fact that the sea was an abundance of life forms, and there was many new species. Most of the stuff that we collected we couldn't even identify to class, or some cases we couldn't identify 'em to phylum, much less to species. And so we had these experts, so my job was logistics. Get this thing ready. "If you need something let us know." We had a direct life to NSF. If we needed help, we got it. We just picked up the phone. We didn't have. [Laughs.]. That's the way our <u>funding</u> was done. So maybe that gives you a little bit of a background.

TAYLOR: Um-hum. Howard Sanders was kind of an environmentalist. He was kind of a shallow-water enthusiast. He did do this deep-sea stuff, and yet the people that were working for

him,that he esentially kind of mentored, became some of the biggest names in deep-sea biology, and had talked at length about how what you folks did showed that, rather than being a very desert-like, with very little life down there, that there was quite a lot of life in that area.

HAMPSON: Yeah.

TAYLOR: So that was kind of fortuitous that you ran into a guy that, in a sense was kind of a visionary.

HAMPSON: Yea, absolutely, without question. And [??] was like that. That's one thing that . . . . I talk about going on these trips with these groups, and I'm always looking for something that's unusual. And if I see it, if I see something that's peculiar, I want to know why, and I investigate that. That's because of Howard Sanders. I never realized how much effect. . . . . Sometimes you don't You don't realize how important somebody is until they're gone, and they're not around any more. And essentially Howard's been gone for a long time, because he hasn't been able to think clearly for a long time, and then he passed away. So that aspect, I certainly give him credit. And I've seen it many, many times. I go back in my mind. I say, "Gee, I wonder if this oil spill and what he was looking for, and then I'm doing the same thing..

TAYLOR: One o the things that strikes me when we start to think about these people that were in those kind of middle years. Woods Hole, in its developmental stages, originally (1930s up to '40s), I'd call the people almost "naturalists." And then after that it started to be the period where people collected massive amounts of data, and then, with guys like Sanders and yourself and whatnot, you started to do something with all that data, and a lot of science came out of it. And yet an awful lot of the people were not academically trained in the field they were working in, and yet I've found that the people at this institution had this wonderful ability to look from outside the box in and see things in different ways, and as a result get a lot more research done that becomes kind o the way that oceanography now does it.

HAMPSON: Yeah, when we get into the oil-spill research that we got involved in, you'll see a direct relationship to what Howard, the way he observed things, and what I did when we started working on that oil-spill work.

TAYLOR: Now, when you first found out you were going out to sea in that short order, was that kind of exciting to you?

HAMPSON: Yes. All during my period I didn't know what to expect. You come here, and they say, "Yeah, we're going to go to sea. Yeah, you're going to go down in *Alvin*." I'm so

conservative that I don't believe these things until they happen. "You're telling me I'm going to go down in *Alvin*. I'm never going down in *Alvin*, but I did." I went down on quite a few trips. And it was the same thing going to sea. And then it gets to the point where you're going to sea a lot. [Laughs.] Three years of my life, conservatively, was spent. So, but it was hard work, because we were talking about the *Atlantis*, and with the *Atlantis* there's very few things that you've got to work with in order to get a sample out of the water and then aboard and then process it. And again it gets back to the people, not because of the machinery. The machinery was archaic, but we cold trawl. We trawled right to the bottom, great depths of water, with that wire and everything else. But so anyway that was the initial part, Gayhead-Brrmuda. And we methodically started in shallow water and then worked our way down to deep water. But we wanted to get there, and that first cruise we wanted to get to deep water so we could bring back the results. The hypothesis was, "Yes, there's life there. Much more than you anticipate," and I probably didn't know that. I probably didn't know what Howard hand in mind. But we sure as heck got a lot of animals. We had enough animals to name after every ship we had and every person that ever worked for us. [Laughs.]

TAYLOR: Well, was that exciting when those dredges came back up? Could you kind of draw a word picture of what [unintelligible simultaneously with Hampson] ?

HAMPSON: I will. I'll be able to envision this very, very clearly. What we did is that dredge that I was working on, that net. It was called an anchor dredge. What it was, it was almost like a a block plane, if you will, but only the cutting blade of this block plane was opened up quite a bit, probably about 5-7 inches in thickness. So this dredge would plow along the bottom, and there was a bag attached to the rear end, so the mud would simply slip through the cutting blade and go into the bag. The idea was, it was going to be quantitative, because we knew the depth of the blade. We knew the width of the blade and how much sediment you got in the bag you could figure out how much area we covered. Well, that was a pipe-dream, because it wasn't a really good quantitative dredge at all. But it did capture the organisms. We were able to wash them out. The sediment--you've seen the sediment many times. It's a soft sediment, foram ooze in the deep sea, and when you look at it you can't see anything. You just literally--it's just mud, greasy type of a mud, very fine, sort of a light tan color, no blackened sediment that I could ever remember. It was mainly all sort of a light tan color. We would take this and put it in an ashcan--really! a big ashcan with a pour spout. And that was our elutriator. We just didn't take the stuff

and throw it through a screen and blast it. These animals, we figured--they're delicate. We've got to treat them fairly delicate. So here's the *Atlantis*. We've got this big bladder full of mud. They hoist it up. We cut the pucker string, which was a funny thing. We got this on tape, by the way, when the pucker string got away, and the mud was all over everybody, all over the wheelhouse, all over Galbraith[SP?]. [They laugh.] And so we would then put it in this ashcan, and then a source of water into the ashcan with a spout like a firehouse, mind you, into the can, and then we would tip the can slowly so the pour spout would go in the direction of a screen. We would hold the screen there and then bubble the water through. And as that bubbling continued, the light organisms would be carried off the container, through the pour spout onto our screen, and then that's the time when we found these individuals. But you know, when a thing comes on the screen, you can't identify it, because it's so small, so it was only when we got back to the lab we really could appreciate what we had.

TAYLOR: Now, what was the preservation process you'd go through at that point.

HAMPSON: No problem. We'd get through with the screen. We had enough material in the container. The only thing that was bad--we had five-gallon jugs that were very, very delicate. You've got to be careful in carrying those. We would take our screen, wash it in one corner and pour it into these five-gallon containers. Again, it's in water, now, salt water. And then if we had too much water in the jug we could pour it off. Ultimately, the best preservative, even today--formaldehyde, 40 percent formaldehyde. You try to get the solution about 10 percent when you get through, 10 [percent or less, 5 to 10. That's what we figured we had it. And once that was fixed, you would roll the container gently so that the formaldehyde would mix and get to the bottom, because if you don't do that, then you end up with a bunch of sediment there that never gets the formaldehyde, so you have to roll it. And that's where the care came in. Because if that bottle ever broke, you'd lose your sample, but also you'd get formaldehyde all over. And we did break a couple that way. And that was the precarious. So, here I'm a young whippersnapper. Two things I said to myself: No. 1, we will never use glass again. I'm going to find about some other container, and that's when we got into Nalgene. Again, set the standard. Everybody was using Nalgene from then on. We still have the original bottles that we used on that vessel, the *Atlantis*. We have 'em in storage. That Nalgene still holds up to this day. And they were taken back in the early '60s.

TAYLOR: You can't go into an outfitter's store now without finding anything but Nalgene bottles. It 's . . .

HAMPSON: Yeah.

TAYLOR: . . . replaced all the old canteens, all the . . . ,

HAMPSON: Yeah. And I was surprised, because I figured the alcohol would attack the Nalgene. See, I've told you about the fixation. Now we washed the samples in salt water, 'cause we couldn't have an excess of salt water on the ship, right? So we washed the samples with salt water, tried to get rid of all the formaldehyde, and then we'd switch it over to alcohol, and we'd bring 'em back home in alcohol. If we couldn't do that, then we would do it on land--leave it in formaldehyde, put it in alcohol when we get back home. And that's the way all these samples were preserved. Obviously, you know, you never do the first trip right. I don't care who you are, how much preparation, you always do things, and then look back and say, "God if we had only known!" And so, as careful as we tried to be, we could have used other systems to make sure that those animals weren't damaged. Sometimes we got perfect animals, however, even with this archaic system that we used. But to this day the technique is very, very similar, only that we tend to take the surface of the mud, where all the animals are, and treat that a little bit differently.

TAYLOR: I don't think most people would realize this, but every time you go out to sea, that's a brand-new expedition.

HAMPSON: Yup.

TAYLOR: Expeditions landwise and mountain-climbing and all that sort of thing take enormous amounts of planning to ultimately get things right. And yet you would do it one, two, three times a year. Or maybe even more in some cases.

HAMPSON: Yes.

TAYLOR: So this was a whole learning process, then , of . . . .

HAMPSON: Right. And that anchor dredge, although it was archaic, it was our way of trying to get some assessment of the density. See, we had to establish that. You just don't go out and say, "Oh, we've got all these animals, and they're all new species." The first question is, "Well, where did they come from and how many?" And of course, "Where did they come from?" We've got LORAN A, which is a funny thing, and that gets back to my good friend Alden Cook and the few curse words that he would say as he banged his head on the ceiling a few times

trying to get the LORAN-A to work so we could find out. But generally, there's so much area within a depth zone that you would likely get the same kind of organisms. Generally--that's not completely true, but what I'm saying is if you're a little bit off, by 300 feet, 500 feet, you would generally get the same kind of animals within that area. So you don't have to be precise, GPS, you know, military standard.

TAYLOR: Of course, that was one of the great advances in oceanography, where you'd be able to tell exactly where you were and where you were pointing, and that's only been in relatively recent years.

HAMPSON: Recently. Correct. Yeah. And thank god, because it saves us so much grief--losing something, being able to retrieve it, find something unique and go right back to it. We all know the stories of *Alvin* and the way they found things. They mapped the damn bottom! Theyi mapped the bottom, and they said, OK, now we're here again 'cause I can recognize the little valleys and all that. That's the way they did.

TAYLOR: That's right.. I remember Dudley Foster telling me, "Well, I think I saw that little hill over there the last time."

HAMPSON: [Laughs.]

TAYLOR: We had talked about the fact then that this ability to know exactly where you were made such a huge . . .

HAMPSON: Yeah.

TAYLOR: . . .difference. Not only in the biological field, but also in the geological field, and so on and so forth. We got started here in terms of what you did at sea, and then you said in hindsight you might have done some . . .

HAMPSON: Thing differently?

TAYLOR: . . . things differently. Could you kind of take us through, as you had developed a little bit, sort of the whole genesis of an oceangoing expedition in your field of expertise--what you had to do in port for planning. How did you get the stuff onboard? Do you have guys that rush up to your place and carry all the stuff down for you? Or is this something you have to do yourself? How about instrumentation? You talked about these dredges. Do you make recommendations as to how that might be modified or any of that sort of thing? And then what a workday on the ship was like. I don't think that you're stretched out in lounge chairs during much of that cruise, with someone serving you drinks. [They laugh.] I one time said to the Argo

crew, I said, "Well, gee, you guys must work about 12 hours a day," which brought about huge gales of laughter, because that would have been their short day.

HAMPSON: [Laughs.].

TAYLOR: So could you go through the whole thing. OK, "George, we're going to sea."

HAMPSON: Yup. OK, Bob Hessler. I worked through him. See, Howard was a wonderful man, but he was the guy when I handed him the package of sinkers when we were fishing, that he tore the Ziplock mechanism off the bag. He didn't know that this was resealable, so with that in mind, god bless him, you understand that I didn't work through Howard, because he didn't know. He depended on me. So if I had a problem, I'd go to Bob. Bob was so exacting. I never met anybody exacting as he was. But I only would go to him to bother him if I would end up in trouble. I would try to do everything myself and I remember we ended up at sea on the first cruise, and he said to me, "We need another 3/8" shackle." And I told him, I said, "Well, geez, I don't have any more." He said, "What!? You don't have any more!?" I said, "Yeah, we needed six, so I brought seven." 'Cause I didn't have the experience of knowing that we didn't have a store out there, so I learned very quickly. From then on I had extras of everything, so I learned quick. So Bob was my guiding light. If I got into trouble, I said, "What should I do?" But generally, the loading of that ship and getting stuff ready was my responsibility. I filled out the lists of things, 'cause a lot of people didn't use lists. I was the one that . . . . 'Cause I knew this was the first one. It's going to carry on to the second one. We're going to do the same thing again, so why not make a list? So from then on it worked beautifully, because I knew exactly what we needed. They depended on me, and they would walk onto the ship, and they simply said, "George, is everything OK?" "Yup." "Do you have this? Just give me a check. Give me a check, OK?" "Do you have this?" "Yes, I have that." "Do you have this . . . this?" We didn't need to go through the whole list. I got into trouble a few times where I depended on somebody else to bring something, but you never asked them, "Did you bring the widgie?" I never said that, so we got out to sea and the widgie wasn't there. And in that case it was a pinger. So I was . . . . They depended on me for that. And I didn't bother them, because I didn't want to interfere in what they were doing. We all worked in the lab. I was working, sorting, and so forth. That was another part of my job, is to sort all those samples that we collected.

TAYLOR: As we talk about your going to sea--and this is something I want people who listen to this to realize--this is a very multifaceted job that you work on. You had your science part, but

you also had that physical part where you had to get certain kinds of equipment. It had to be put in the ship. It had to be put in a certain position on the ship so it's ready when you guys needed it, but then that's not really what you were hired for. You were hired to do the science part of it. That was an additional duty, all that other stuff.

HAMPSON: Yeah, and it was expected. In those days, really. I mean, I didn't have a job description that said, "You will stay in the lab and do this, this, this." When we were hired, we were generalists, and guess what! Someone needed help, we helped them. You didn't even think about it. You just automatically, "Do you need help?" Dum, dum, dum, and I'd be doing chemistry. We did that. It was built in. It was expected at the Oceanographic that you would help other people. And you didn't think twice.

TAYLOR: And as a result, your own resume just expanded like mad, because . . .

HAMPSON: Yeah.

TAYLOR: . . . you were doing so many different things.

HAMPSON: Yeah, and nobody kept check. "Well, what project are you on? Are you on 2788?" I mean, it was the Institution, and you just did that. It didn't matter, and nobody would even ask you, because we didn't have time cards. So that was very interesting when we had time cards. I mean, god we had a lot of people that fought that like . . . . You can't imagine. Because that was the beginning of the end of saying, "I'll be glad to help you." Because then you'd say, "Geez, I wonder how many hours I have to help this guy. What number am I going to charge it to." See, that was the beginning of that. So we had to be more time conscious.

TAYLOR: Have we gained or lost because of that?

HAMPSON: It's hard to tell by me, because I still do it the old way, but I know for a fact that I've been hurt at times by asking somebody, would they be willing to da-da-ta-da, you know, 'cause I needed just a little bit of a hand. And people, I think, maybe not saying it, but iw as pretty obvious they were reluctant to help because they ha their jobs to do, and they were not willing to donate some time to me. But so much in my life has been the other way, that I can't even think about existing. I mean, I just do it the old way. Period. If somebody needs help, you just do it. And there's a whole group of people in the Institution that are still operating that way. And you talk about mentoring. I tell people, young people, Ph.D.s, whatever, I say, "You know something? If anybody needs help, always offer it. Never turn a person away, because some day

you're going to need help, and it'll come back to you. You don't have to keep score, but that's the way our job is done."

TAYLOR: Basically, oceanography is very, very interdisciplinary, to use an overworked word. Now a biologist has to know a little bit about chemistry. They got to know a little bit about physics, a little bit about geology. And the geologist has to know a little biology and so on and so forth. And I just wondered sometimes, where everybody is getting so specialized now, spending their life studying the thickness of copepod shells as an indicator of global warming or something like that, and not having this big, overall picture that people did during . . .

HAMPSON: Yes.

TAYLOR: . . . your developmental years. I ask people their opinion on that, because I have my own, and I guess there's some good parts to it, but I also see some bad parts to it.

HAMPSON: Yeah. Howard was very good about crossing the difficult disciplines of oceanography. He was very good, and he did that during the oil-spill work, very effectively. He learned about the different components of oil, and so forth, and so you're right. The only trouble is, now it's getting so specialized. All you can do is scratch the surface. It's so hard. It's so hard to understand, because the depth of what they're doing is so detailed. You don't have a chance, but in those days we all started from the basics, so it was more easy to understand and learn what the chemists were doing, and you could contribute to that if necessary.

TAYLOR: Well, your department fascinates me, because we're talking '60s and '70s here, or your early years . . .

HAMPSON: Yeah.

TAYLOR: And Howard Sanders was moving into a field that in a sense was alien to him. That's not what he was working on . . .

HAMPSON: Correct. Absolutely.

TAYLOR: . . . originally, the deep sea stuff. Bob Hessler got into the deep-sea stuff, but he also developed cameras and things like that for pictures down there. You were doing a multitude of different kinds . . .

HAMPSON: Yup.

TAYLOR: . . . of things, and you were really kind of developing the field, weren't you?

HAMPSON: Yes. Yup, we were, absolutely. We had visitors from foreign countries continually in our lab--the French, Germans, people from Russia. They all came to us for the

simple reason: they wanted to find out what our equipment was like. Now it was basic stuff. It wasn't intricate like some oceanographic equipment. But they wanted to find out how we got samples, and our processing techniques, how we fixed them, because we were leading. Nobody else was duplicating this, and then what happened is, slowly the French changed and adopted our systems, and then we had others of these deep-sea expeditions, but they used all our equipment. We developed a sled. Bob and I developed a sled. It's called an "epibenthic sled," and that really changed considerably how much sea life that we captured from the deep sea. And what it was is a small mesh screen in the back. It was a plankton tow that was done on the bottom, and it stayed on the bottom and went . . . . You could tow it half a mile if necessary. And all the organisms would go in the back of the net. We came up, we'd take the caud end off, and then fixed it, brought it back to the lab. But that's where we got considerably amount of organisms. Well, you know something, I'll put it in another way. We had estimated that in one trawl station with the epibenthic sled, if I remember, we captured more organisms in that one sled than they captured in all the Galatea expeditions--just in one, and it was mainly because of the small size and the small screen that we used. It was an unbelievable era, Frank. I'm going to tell you something. We had a new species or a new find practically at least once a day or every other day. And I'd have to rush over to get Howard. "Hey, Bob, some over here. Have you ever seen one of these?" "Yeah, I know what it is," and he would identify it. Or he might not be able to. But it was diversity of life forms! You talk about finds! Every day it was a different thing.

TAYLOR: What an exciting period! Now you just described the epibenthic sled. How did you even know . . . . We're talking really deep water here.

HAMPSON: Yeah.

TAYLOR: How did you even know you were down on the bottom, just getting from the ship to get the thing down to . . . .? How did you were there?

HAMPSON: That was a crap shoot. That was a little bit of luck, and maybe . . . . . Once you do one you learn something. You say, "God, I don't think that's been on the bottom long enough." No pinger now. This is blind. This is like guys out on Georgia's Bank. Georgia's Bank they know they're hitting the bottom. They could feel it. We couldn't tell. So we would say, "OK, we're such and such a depth. We've got to put an excess amount of wire out, and we did that, and we designed a plan. It was a recipe. We took notes, very, very meticulous notes that, in fact, we had 300 extra meters of wire out at 2,000 meters. (I'm making this up.) And then we

followed that recipe. And then we towed it at one knot or less. And we made records of that. So the next . . . . If that worked, we got a good sample, we would follow the recipe. But it wasn't exact as I'm saying because the current could change, or the wind force, or the ship going through the water would change, so a lot of times we didn't know. I mean, it's kind of hard to tie a figure eight in the cable. We did that. We successfully did that, on several occasions, which means, as we're lowering the epibenthic sled through the water, it was floating, and it dropped through the cable and tied a knot. [Laughs.] So we used to have these hanging on the wall. That's how inexacting it can get, and embarrassing it can get. And we had wizzles[SP?] the likes of which you only see in your plate when it's filled with spaghetti. We did some of those. Remember I told you about the glass bottles? And I said, "Howard, we're never going to sea with glass again. I am going to figure out," and I found Nalgene. One time I said to Bob and Howard, I said, "We are never going to sea again without a pinger on the cable. We must know where this thing is." And it was so easy from then on.

TAYLOR: Was this personally exciting to you, this whole period of new discovery, new ways of doing things, or were you just doing your job?

HAMPSON: Oh, no you do your job. That's fine. But the excitement! When you sort, people say, "How in the hell can you sort eight hours a day?" Well, you see they're not living and viewing it from my view. They're not seeing all these organisms and knowing that I'm getting new species. It would be sort of like if you were a fanatic about stamps and someone just threw a whole bunch of stamps in front of you? And you'd say, yatatadididay and you're going through 'em quickly, 'cause you can . . . . But ohmigod I've never seen one of those before! See, that's what it was. But the thing is, these are new organisms on the planet. We don't know the planet! This is not like identifying stamps. This is new creatures, and I found it today for the first time that it's ever been seen by a human being, this thing in my dish under the scope is the first time. See?

TAYLOR: So somewhere deep inside you there has to be kind of the "Indiana Jones" sort of thing, too. Because being a biologist here is very different than being a biologist in Dow Chemical or something like that.

HAMPSON: That's for sure.

TAYLOR: There's a real adventure and a real spirit of adventure here--the seaman/scientist kind of thing.

HAMPSON: Right.

TAYLOR: So that you also had the element of discovery, searching out new and exotic species, so to speak.

HAMPSON: Right.

TAYLOR: That was part of your job.

HAMPSON: Yeah. I want to say that we also tested our equipment. We went to Bermuda once, which was my first . . . It wasn't the first time I'd been in Bermuda. It was like the second, and I went with Dave Owen, and we actually dove on the anchor dredge, and, when we learned how that wasn't performing well, we had to do something different. And I don't think Bob Hessler ever forgot what we described, and I think he was very creative, and I'll tell you about the box core. Actually, he was the guy that developed the box core in California, after he left here. But our anchor dredge . . . . If it came to a hummock . . . . In other words, if you had a hill, that anchor dredge wouldn't follow the contour of the hill. It would plow right through it and disappear. We had this documented, Dave Owen and I, on tape. We filmed it. And we also dove on the epibenthic sled to find out how that was behaving. So that was important. And we always were trying to make out collecting better, more efficient, so we wouldn't have to trawl long distances. And that's where the bettering became. I was the key person on that, because I would tell Bob, I said, "Bob, this system isn't working. We got to do something different. We cannot work 24 hours and then fall asleep for six and then get up for 24 again. We need something like teams." And we created teams. What a difference that was! And I said, "Bob, we can't be bending over like this, sampling, bending over for eight hours." I said, "It's going to kill us." So we ended up with platforms so we didn't hurt our backs. It sounds silly right now, because it should be obvious, but when you start out it's not. It's not obvious. You're sort of locked in on what you brought for the cruise. So you <u>are</u> bent over for eight hours, and you don't have the personnel, so you work for 24 hours. So those two things: the modification of our equipment and how we'd process the samples, and also having different teams that would come onboard. That made a big difference.

TAYLOR: It's the little things. Having a lab bench to work on [??] so you don't have to bend over all day. You mentioned Dave Owens. He is arguably the father of underwater photography.

HAMPSON: That's correct.

TAYLOR: And you know with what he was doing and then the advent of Doc Edgerton's strobe it's revolutionized the whole way of being able to see under the ocean.
HAMPSON: Yeah. Dave came with us on our cruises, you know. He had a camera, and he lowered the camera. That was part of our work, is that we had the microscopic stuff with the small screens I mentioned. We took bottom photographs. So Dave would take these photographs. And almost invariably he came back with beautiful shots. Consistently he did. And he was just as blind as we were. I think he had a pinger, but he was very, very persistent in what he did. So when we got through with the cruise we had our samples, we had Dave's photographs, and then we were able to put the things together. We had some of the . . . . Well, I won't say the first; you 're never first. I say that bevause there's always somebody that did it before you never found out about. But he had some wonderful deep-sea [laughs] pictures that we used in the early reports of the Oceanographic. Dave Owen, Dave Owen, Dave Owen.
HAMPSON: Well, the whole developmental period that you were going through for biological studies. First of all, you were using the *Atlantis*, which was a steel-hull3d ketch that was basically a sailing vessel that didn't have cycloidal propellers. It didn't have a way of staying stationary within a few meters. It had long cables that had to go over the side. You didn't have GPS to locate where you were. I mean, even something as simple as a lab bench, which could cause everybody in the biological field to have a bad back after five years, if the bench wasn't at the right height. All had to be developed during this period, so there must have been a tremendous amount of sharing between, 'cause you didn't have the big engineering department then to help you design all this stuff. You had to do it yourself.
HAMPSON: The carpenter shop was always good, though. The carpenter shop here at the Oceanographic was very, very good. And the welder wasn't too far behind this, I'll tell you. 'Cause the welder was the key person on the work that we did.
[END OF SIDE 1]
TAYLOR: . . . train people too that do that can do
HAMPSON: Yes.
TAYLOR: . . . the kind of thing under horrendous conditions in terms of pressures and movement and all that sort of thing. So was there, onboard ship, with guys like Dave Owen and yourself, was there a real sense of camaraderie developed?

HAMPSON: Yes, without question. Dave was part of our team. When we'd go out to sea we always brought the same characters. If we had an electronics person, . . . And that was another thing, too. I would . . . . When we'd go to sea and we started to get a little more sophisticated, damn, the PGR. We couldn't get the thing to work, and Alden Cook was good. He could fix a lot of things. We spent a lot of time fooling around with the PGR, trying to get it to run. And then there were times at which we'd say, "We've got to get an electronics person to go with us, because every time we do this, something breaks down, and we're out of business. So now we have to go back to doing it blind again." So Steve Page[SP?], he was a young buck at the time, and we asked always for Steve to go with us. He was part of our team, and this is getting in the '70s, and stuff. But we had a closing device on our sled, so after so many hours it would shut tight, and then we could bring it back and were assured that all the stuff wouldn't get blown out from the agitation. You'd think, when you were bringing something up, that it's slowly coming at a steady state, and all the material's going to stay in the dredge, but that's not true, because it pulsates, particularly when you get close to the surface. And god forbid if you don't bring it right up, then it pulsates like that, and you lose everything. So we were very careful to keep it moving ahead and make sure that we had a (claps four times) closing door. That's another development Bob Hessler and I worked on to have a (claps) closed door and Benthos help4ed us with that. OK?

TAYLOR: So, in this whole developmental thing, there was a lot of art to go along with the science?

HAMPSON: Every time we went out, we made a switch the next cruise, for the better. Sometimes you really foul up, and you go backwards. That happens. You change something. You just say, "God, it's worse! We don't want this any more. Take this off." But that closing door was great. And it worked on a timer, and then the timer . . . . Actually, there was a glow plug that fired a small charge. It's a cap--you know, they use for detonation, a little cap? And it fired (claps) that, and then it drove a piston, and eventually the door operated with springs and would close. But the thing that triggered that simply a time clock. You just turned it like the ones that you have for your stove, exactly like that. So we could set it for 15 hours. We figured how long it would take to get to the bottom, how long our tow was going to be. We figured it out, So we want . . . see we're going to get to the bottom in four hours. We want two hours of towing on the bottom. We'll set it for six hours. So that was really got. It worked very well.

TAYLOR: Now you're going to get that device back up on the stern end of the ship or wherever you were deploying from, and just getting these things in and out of the water isn't as easy as it might sound, either.

HAMPSON: No A frame. No power A-frame. When the *Atlantis* came, the *Atlantis II*, what a dream that was. We didn't have any A frame. We had to put the thing, leave it in the water, and get a block and tackle from another source, snap it in, and then lower it back, and then bring it up with this boom, bring it back in the water again. Meanwhile, [laughs] the sample was washing, and that's terrible. You can't do that. You can't have it sloshing. With the A-frame, it was just (claps) boom! You got it up. And just remember now that trawl A-frame. What a wonderful thing that was, to finally have a trawl A-frame. So you didn't have to switch. It just came up, all in one step, and then you could put it down.

TAYLOR: Development.

HAMPSON: Development.

TAYLOR: [Laughs.] Well, now you got it back on deck, who performs maintenance on it? It's got to be cleaned, it's . . . .?

HAMPSON: Oh, yeah. We blasted it off. We developed things that wasn't . . . . If something got torn up, I had spare parts. I made spare parts for everything. So I would go in there, check things. People'd say, "George, this is torn. You got to fix this." OK, new plankton net, put it in. Mrs. Case[SP>] from New Jersey made all our plankton nets. She was a wonderful person. Actually, she was the daughter of Schroeder, of Bill Schroeder. And she made all our plankton nets, and she was a wonderful person. So we'd switch things out. I had spare parts for everything, and a spare dredge, too, by the way. You never go to sea with just one of something.

TAYLOR: Well, did it ever get real hairy or dangerous trying to get that dredge over the side or back on again, where you had sea conditions that were marginal, or . . . .?

HAMPSON: Yeah, it really got dangerous at times. I remember once on the *Atlantis*, and this is the *Atlantis II*, that we had steam that ran the cable, and it was very temperamental, because I guess there were relays and things. This is the reason why Page was important. He's a very smart person, Steve Page, and there was electr . . . . [Tape stops and starts again.] . . . trawl winch was operating by steam, but there was an electronic panel, from what I remember that controlled that operation, and sometimes, the electronics would go berserk, and it would reflect itself into the trawl winch going out of control, so I remember one time I gave the signal to raise the dredge

up just a little bit. Now we had these heavy weights in front of the dredge. They were ballast weights that they used on some of our buoys offshore here. It had two ears on it, and we used it right at . . . . We actually attached it to the trawl cable. This is to keep the sled down. So I gave the signal to raise it just a little bit, and one of these quirk things happened that, no matter what the guy did with the trawl winch, the thing went flying up in the air. So I just remember myself, Frank, and to this day I don't know why I didn't let go! But I think what happened is, I knew I was going up in the air. If I had let go of the cable I would have crashed down on the deck, and then the ball would have come on top of me, so I stayed with the system, going up into the winch, going up, and the ball hit the winch and slid on the cable a little bit, enough to . . . . And then somebody threw an emergency switch, but it was this stupid kind of stuff that we got involved in, because again we were in a stage of development. Steam winch, electronics, something like a resistor fouled up, and now I'm going up into the winch, and it happened (claps) just like that. So everybody was just shaking after that, including myself, so I jumped down to the deck and we all just took a breather. Those kind of things: it didn't happen a lot. We didn't have anybody fall over the side, but any time at all something moved. We had Jerry Cotter, or we had somebody else that watched over us, made sure: "Don't step there. Keep your foot out of the cable. Don't put your foot in the bight of the cable." There was more of those all the time: "Watch out. Watch out!" We didn't wear helmets. I mean, what the hell do we call 'em?

TAYLOR: Hard hats?

HAMPSON: Hard hats! W never wore 'em. Then all of a sudden it was the rule. And then, finally, we just did it. You wear your hard hat, and you wear your life jacket, and we just did it. When we first started--no hard hats, no life jackets. You go over the side you swim back to the ship. And that's the way that went. [Laughs.]

TAYLOR: If you had a Jerry Cotter that could take and essentially teach you how to live and behave at sea. And I sometimes wonder whether or not . . . . He was Marine personnel. I sometimes wonder if they get as much credit in the successful completion of these cruises . . . .

HAMPSON: Yeah.

TAYLOR: . . . as they should get/

HAMPSON: I would say, as far as I'm concerned, I have heard Jerry Cotter's name mentioned several times, many times about, "If it wasn't for Jerry we wouldn't have got those results--over

and over again. And if we haven't said enough about that, then we've been amiss, but I feel that he has. And the same with people--I mentioned Steve Page. Steve was a very important part. He probably hasn't got as much credit. People don't know about the early days, about Steve. And what he did to keep us straight. *Oceanus*: nobody could fix that winch. I remember We called back to Woods Hole. "Woods Hole, we've got a problem." What is it? "Ta-da-ta-da-ta-da-ta-da." "Damn! OK. We'll get back to you." We can't figure it out. Can't figure it out. Steve, meanwhile, is poking in there. He's got the box off, the screws and he's going through. And he finds a bad resister, swapped it out, fixed it. We had to go back to shore to have that done. They said, "Come on back. There's no way that we can fix it from here. Steve Page fixed it at sea."

HAMPSON: Yeah, you know, am oceanographic voyage, a cruise, is really moving a whole community with all of its goods to sea and making it function, like a small town. And like we until 9/11 didn't give our firemen or our policemen as much credit, perhaps as they deserved, but that stopped a lot of things from happening, by the fact that you had public servants that. Part of the ability of the cruise to be successful was dependent on every single marine person there as well as every scientist. It was the whole community that went out. It was kind of like a colonial organism, if you will.

HAMPSON: Yeah.

TAYLOR: Did you ever get seasick while you weout there?

HAMPSON: Oh yeah. It's one thing about seasickness. I don't know if it's getting old or not, but there's the short-term cure for seasickness, such as you go out and you're seasick for two or three days, and then you get acclimated and now you're with it. The motion of the ship--you're in tune with it, and you don't fall any more, 'cause you know what the motion's going to be, and you can eat almost anything you want--fine. The next time you go out--same pattern: seasick, but it's a shorter duration, a shorter duration. And then after you go to sea for two years the duration's shorter and shorter and shorter. So unless it blew up hard, real hard, I would never get [claps[any more. And to this day, if we had a violent storm I'd be in trouble. I know how to handle itI'd go right up on top and look at those waves. I wouldn't take any pills, see if I could handle it myself. Then, if I said, "'m really in trouble," I'd take a pill. But that's what it is for me. I think everybody's different.

TAYLOR: Interesting phenomenon.

HAMPSON: Did you ever go through that, by the way?

TAYLOR: I get landsick. I'm fine onboard the ship.

HAMPSON: Oh yeah.

TAYLOR: I get off back on the dock again, man!

HAMPSON: [Laughs.]

TAYLOR: For about a day and half, just up and down. [They laugh.[I tried to drive home from Maine Maritime about six years ago now, after coming back in, and [laughs.] . . . .

HAMPSON: No kiddin'!

TAYLOR: I stopped to get coffee in a rest area, and I'm trying to walk up to where the coffee was. I wasn't sure I was going to make it, because everything was going like this.

HAMPSON: [??] Yeah. Got to be a reason for that. I don't know what it is.

TAYLOR: I've done everything backwards all my life anyway. [Laughs.] Now, generally how long would you be out on these legs? We're talking about this kind of . . . .

HAMPSON: Our trips weren't very long. They were 10 days, two weeks. Some of our expeditions--remember, I said Bermuda to Woods Hole. We branched out. We did the north and south Atlantic--Atlantic. We stayed with the Atlantic because we wanted to . . . don't overextend ourselves. We didn't want to go to the pacific, so we stayed in the Atlantic. And so we had several transects that we did, like Ireland to Woods Hole. It all depends on when we leave. Walvis Bay to Woods Hole. But the idea was to go from one area in shallow water to the deeper part and go through basins. We had basins that we investigated, and the idea there was that these basins must have unique community structures. And that was the whole purpose of our work--not to just find new animals. Anybody could find new animals in the deep sea, but to find out what the community structure was of all these different basins, and how it tied in. How did it tie in with oceanography? How did it tie in with the evolution of the earth? Because these basins are supposed to be isolated. At one time they were isolated, and so we figure the animals couldn't jump from one basis to another. See? That was the idea. Now, remember, all this stuff is new. There was no book that you just, "Oh, yeah, well the book says . . . ." We were writin' the book, see? Howard Sanders, this was his key thing--community structure, see. But to open that Ziplock bag wasn't his thing. 'Cause he cut it off and never could use it again. But so he would talk with Hessler about this, and then Fred Grassle joined us, as I mentioned. But some of it was above and beyond me. I actually can understand it now. But as a kid, I didn't know what

the hell they were talking about, you know? But it all makes sense that if you go down to say 3,000 meters and in order to get there you're going at 2,000 meters, you're finding that these animals at 3,000 meters are different species. Well, they're isolated. They can't get out of 3,000, go to 2,000. They're trapped. If they do, they might die, or they can't compete, so they die. So that was the idea.

TAYLOR: They're still trying to answer that question today. We're coming up on the 25th anniversary of the discovery of the hydrothermal vents. Fine, how does one life form get from one vent to another vent miles away, with noting in between. We're still talking the same thing.

HAMPSON: And you know, in order for them to jump from that vent, as soon as they hit that 3-degree water, 2-degree water, it's cold, and it might kill 'em instantly. And the chemistry's totally different, right?

TAYLOR: Yeah.

HAMPSON: And they've lost their food source, 'cause it's a whole life form. They're bonded to that.

TAYLOR: But yet you find the same thing . . .

HAMPSON: Exactly.

TAYLOR: . . . n different communities. The mysteries continue, and that basin research--well, the basin research was really a forerunner to what they're looking at now and how community varies . . .

HAMPSON: Yeah.

TAYLOR: . . . goes from place to place in the vents. And interestingly enough, you mentioned Bob Hessler, I mean he's one of the people in the pacific that looks at that, or did look . . .

HAMPSON: Yes.

TAYLOR: . . . at that specific thing. And came from that original team of yours.

HAMPSON: That's correct. Yup

TAYLOR: Which is now flowering and branching out, if you will, into the very latest in . . .

HAMPSON: Yeah.

TAYLOR: . . . oceanographic biology.

HAMPSON: Yeah, remember I told you, one other thing. I can get it right now. Remember I said we worked in the Atlantic. We were invited to go with Bob Hessler off of the Philippines to do the trenches. And that's the first time we went to the Pacific. It was an invitation, and we

applied to NSF, and we did that. And we actually put our box core right in the middle of the trench. And it was just amazing. I'm sort of a realist, and my realism said, "You will never drop that box core in the middle of the Trench, because it's impossible." Now that sounds very negative, doesn't it? It does. Here we are, this was our job, and I'm saying, "It's not going to happen. You can't do that." Well, Oceanographic, right? The best teams in the world. Scripps, Oceanographic together, with people from different nations going with us, and when we took that box core and we put it down, we didn't know where we were. We said, "Jesus, it's saying 11,000 meters, but we don't know if that box core is going to go right in the . . . and it has to go! We can't have it hitting the cliff. If it ever hits the side of the trench it's going to trip and take a lava sample or something." You see? So we looked, and the echoes were coming on the PGR, and we got an advance notice that we were getting close to the cliffs. So we would just back off and the echoes would go away. And we knew we were right down in the slot, and it worked. We put it right down the middle, right into the soft sediment, right in the center of the axis. And it was because we watched that PGR, and we knew that those echoes bouncing were bouncing off the cliff, and we had to come back. And that's the way we solved that problem. [Laughs.]

TAYLOR: When you're on one of these legs on an oceanographic expedition, do you get--like in Bermuda--do you get to go into port and all . . . ?

HAMPSON: Oh, yeah, yeah.

TAYLOR: Who would you tend to hang out with? What would you do when you go into port?

HAMPSON: Well, I'll tell you about the first one. *Atlantis*. George Hampson, 20-some-odd h\years old. Bermuda--ohmigod! Look at that place. This is something! This is my first time away from home in an island--Bermuda! We go in. Whisperin' Willie--he's my buddy. [In rough voice] "George, come over here!" "Yeah," I said, "where you goin'?" He says, [voice changes again] "I gotta go out and get some pipe tobacco." I said, "Jesus, Bill, I don't' know if I'm going to do this, you know, I mean, we're not supposed to leave the ship. We gotta get cleared!" [Voice change again] "Ah, hell, don't care about that! Come with me! Come with me!" Off we go, up the goddarned street. All of a sudden, Dick Colburn [claps] [with hands cupping mouth] "Get back in the sh . . . !" [Breaks up laughing and both laugh.] Hauled us back [laughs], wait for Customs, you know. Customs? [They laugh.] Willie got me, young kid, going up with him. He could care less. Regulations? They meant nothing. [Clears throat.]

TAYLOR: Did you ever get together in the White Horse Tavern there?

HAMPSON: My wife?

TAYLOR: No, the White Horse Tavern?

HAMPSON: Oh, ho [laughs] yeah. He wasn't headed for that, but it was probably . . . . I've been in there, yeah.

TAYLOR: I probably could get at least eight hours of tapes just on the adventures in the White Horse Tavern that have . . .

HAMPSON: Yeah.

TAYLOR: . . . place with WHOI crews. [Laughs.] While I'm not sure would be the best thing to do, but . . . .

HAMPSON: But, Frank, I remember that like it was yesterday: me following Willie up the street, and then having Colburn screamin' at us, hauling us back. [Laughs.] I knew I was doing something wrong, but I figured, "Hey, here's the chief. He knows what he's doing." [They laugh.]

TAYLOR: [They laugh.] He was leadin' you straight. [They laugh.]

HAMPSON: [Laughs.] He was leading, Yeah.

TAYLOR: OK. During this period, I'm not going to ask your salary, but what kind of living conditions were you able to maintain, based on what y . . ?

HAMPSON: You mean at home?

TAYLOR: Yeah, at home.

HAMPSON: I'm very unusual person in that everything I owm including myself, is old. We came to Falmouth . . . . I've lived on the same street. We rented in North Falmouth, at Mr. Cameron Smith's house when I first got out of the Army, and just before the Army. And then we heard there was a house up the street for sale, and I guess it was like 1963. We bought the house, and I've been living there ever since. So I've been on that same street all this time, and we fixed the house up very nicely, and it's relatively old, 1810, and a historic zone now. It's on the register. So that's it, and we have two sons, and they were born . . . . One was born in Wareham, because we had the Toby Hospital only, right? And then Falmouth Hospital.

TAYLOR: I had asked some of the really early folk, like Bill Dunkle, and people like that. He [Laughs.] told me all they could afford when they first came here was a whole group of them rented one house, and he said Dave Owen, who you had mentioned . . .

HAMPSON: Yeah.

TAYLOR: . . . went out and there was a chicken coop outside. He cleaned out the chicken coop, put some tar paper up on it and moved a bed into it, and that's where he lived.

HAMPSON: Dave Owen?

TAYLOR: Yeah!

TAYLOR: Ohmigod.

TAYLOR: He said it was real [??]. He said, "Well, we couldn't really afford much . . .

HAMPSON: I know.

TAYLOR: . . . else then, you know?

HAMPSON: Well we had lived in North Falmouth, and that makes a difference, so we knew people, and they would help us. There was that spirit of, if they knew you needed housing or something came up that was available, so we got Cam's house immediately. Then I worked for him, cutting lawns on the side. My salary, if I remember, my first salary, which you haven't asked me. I think it was 4,500. Yup. So life was very, very pleasant. I mean, we never had to . . . . We were never hurting for bad living conditions. It was very, very clean, and we had good neighbors, and it hasn't changed that much, really.

TAYLOR: Would you tend to socialize with WHOI people, or with people from . . . ?

HAMPSON: Remember that group that I told you, the Sanders group? Very, very tight. We had Christmas parties, our own Christmas parties. We celebrated birthday parties. The ladies in the lab were very good about that. They would remember about the birthday parties. We'd always celebrate peoples' birthday parties, and after an expedition we'd have a party after the expedition, and we'd never have parties during it, never. It just didn't happen.

TAYLOR: About how much sleep would you get on a cruise?

HAMPSON: Well, with this wacko schedule we started with, it was like, work until you drop, which was insane. Because after you fatigued out, you'd say, "Geez, I can't stand this any more, I have to go to bed." But it turns out that everybody else has to go to bed. So a lot of times Howard would be the one that would stay up the longest. And he would carry over, and then he'd have to go to sleep, so he would come up and just say, "George, you ready to go back?" And then I knew, "God I got to work 24 hours again." So that's another one of these things when I got back, I said, "We can't <u>do</u> it this way any more." People would listen to me. I don't know what it was, but I just would get to the point and say, "We can't <u>do</u> this any more." We

got to do it this way, and we've got to pay attention. We got to get some electronics. This is a safety hazard. We can't be using glass."

TAYLOR: Particularly at the end of an 18-hour day or a 19-hour day, or something . . .

HAMPSON: Right.

TAYLOR: . . . like that. Accidents tend to go way up in

HAMPSON: Exactly.

TAYLOR: . . . that kind of situation.

HAMPSON: Yeah, I think Bob was the one who was very helpful in planning that strategy. Now we have two teams, but you know it's a lot safer.

TAYLOR: Did that team change significantly when Fred Grassle came in and Bob Hessler left?

HAMPSON: No, no I don't think so. Bob--I think he was ready to move on. Remember, Bob, which probably you don't know, but he loved the southwest. God, he had a . . . . And that's where he is now! He's in a straw house in the southwest. I say that--it's insulated with straw, but it's plastered inside and out. But he loves that, and he used to go hiking, and he's in Arizona now. But what he was able to do, since Scripps didn't . . . . They were always trying to figure out what we were doing. There's this thing between Scripps and WHOI. And so when Bob went there, he brought all our techniques with him, and then he would ask me to come out to work on things, which I did, but they developed the box core, and people think that the Oceanographic did. It wasn't. It was Bob Hessler together with Sandia Corporation, and the reason why they did that is they were trying to figure out a way of taking radioactive waste and burying it into the earth, and hopefully it would be in enough depth that it would be benign. So in order to test that theory, they had to have a way of sampling, so Bob says, "OK, Sandia Corporation, if you want to do this, I want a new sampler made, and I want to have it done this way." The Germans had a sampler made before we did, by the way. So I think what he did is he got a plan of the German system and developed it, but that's one of the most important things that we have, and to this day that is the best sampling mechanism we have for sampling. And it's mainly because of Bob Hessler, Sandia Corporation and his persistence to details, very, very detailed. And then John Hendrick[SP?], Ocean Engineering, San Diego. His dad and John were the people that fabricated it, and they were right there on campus, which was kind of neat. Private enterprise right on campus so they could work back and forth and so that made a big change in how we sampled.

TAYLOR: The originals, the 1930s people--the Bigelow's, the Iselins--the people from Scripps . . . .

HAMPSON: Schroeder.

TAYLOR: Yeah. They're kind of the legends. The field really started to go during your period, with the Hesslers, with yourself, with guys like Roger Revelle, who were really coming into their own out there, Francis Shepard with the marine geology, Johnson and Norris Rakestraw, all those people. And it's kind of interesting, when I've done these oral histories, some of the people like Roger Revelle are so legendary that you don't see them as human. It's tis kind of idealized vision. But I heard a great story. You know Bob Dinsmore. He was telling me when he was getting his Master's Degree at Scripps in oceanography. I said, "Well, what kinds of courses did you have." He said, "Well, in those days there were only four courses. You took physical oceanography. You took biological oceanography. You took, you know, geological . . . ." "Well, who did you have for those courses?" He said, "Well, we had Roger Revelle for physical oceanography, Francis Shepard for marine geology, Johnson of Sverdrup and Johnson, ..." And I said, "Yeah, all the founders." But he told me an interesting story on Roger Revelle. He said that everybody after the first couple of lectures learned to sit on the right side of the room. He said when Revelle would talk he'd lean on the blackboard, and as he'd be writing he'd be moving across it. His coat would be erasing everything on the board as he went by. So the only way they got it was . . . . And I said, "You know , that puts a real human face . . .

HAMPSON: Oh, yeah!

TAYLOR: . . . on this legend, if you will, in the field." And these are the guys you grew up with, so to speak.

HAMPSON: Yeah, I can see Schroeder and all the people that you mentioned, and so there are some funny stories that we'll get into, too, when we talk about Grice. Grice was a hot ticket. But a lot of times people can't visualize the faces, but I just close my eyes, and if I was a good drawer I could draw their face.

TAYLOR: What was it like when you were in port? What was your job like when you were back home?

HAMPSON: Back home here. Well, now, we have all those samples, and we just start and start with the shallow ones and try to work out way down to the deep-sea, or, in some cases, obviously we wanted that deep-sea data as soon as possible. We would work on that first. But

when we start sorting those samples, and we ended up with the amount of animals, the amount of density of life at 2,000 meters, and the diversity of things. Now, we couldn't identify 'em all, you understand, because they didn't have names. But we knew that there was an amphipod. The amphipod is a crustacean. We knew it was an isopod. We could tell that. Bob was there to help us as we were going along, saying, "Hey, this is the difference," and I'd learn that. Then we'd get into the polychaetes. We'd learn all the families. And then we would bottle these things up and ship 'em to experts, 'cause we couldn't handle it all. So now we're going international. Now we're talking about people in Russia and in France, and different parts of the world: England, Scotland, John Allen. John Allen is a name you're going to hear. I haven't even talked about him, but John Allen was our deep-sea expert in bivalves, to this day he still comes to the Oceanographic, and he's been working here longer than I have. So he's one of our experts. He together with Howard has described all the bivalves. So I would collect all this stuff and make they were identified properly, and I'd send 'em out to the appropriate people. And the ones that we would work on, then I would work on those particular groups. And Bob Hessler would work on isopods then. I favored the bivalves, so I would speciate those.

TAYLOR: So it was mostly taxonomic, what you were . . .

HAMPSON: Exactly.

TAYLOR: . . . doing at that time then.

HAMPSON: Yeah. And now, remember I told you about NSF, You know, I remember Howard talking on the phone, and we were getting a grant over the phone. We were getting--if we ran out of money, Howard would peak to an individual and say, "Yes, we just came back and we've got all this stuff, and so forth." "And how are you doing for money?" "Well, well, actually we're a little bit light on this." [Laughs.] We'd get funded over the phone. It was so wonderful.

TAYLOR: Those days are gone! [Laughs.]

HAMPSON: 'Cause they had the utmost faith in our group. I mean, this was it. There was nothing like it anywhere in the United States. As a matter of act, in different worlds, in different parts, in Germany, they had people like us, but they didn't have the funding, nor did they have the technique that we had developed, so we were it.

TAYLOR: And it was basically a pretty small community then, and a lot of people knew each other.

HAMPSON: Oh, yeah.

TAYLOR: I asked Bob Hessler, "How did you get picked to go on, like the Galapagos Expedition, where they were going to be seeing--the biological one in '79, where they were really going to see--the hydrothermal vents for the first time--biologists, not geologists. And he said, "Well," he said, "Basically, there were only about 10-15 of us that were working in that field anyway."

HAMPSON: Right.

TAYLOR: "And we all knew each other."

HAMPSON: That's right.

TAYLOR: Those days are disappearing too.

HAMPSON: Yes.

TAYLOR: I think. But this was that founding group, with, as I say, a lot of these big names.

HAMPSON: Yeah.

TAYLOR: So when you'd get back you'd do taxonomic kind of thing, and then ship 'em off kind of like Doc Ricketts . . .

HAMPSON: Yieah.

TAYLOR: . . . [Laughs.] with the old biologiocal supply, get them out to different experts in the field. And what kinds of things would they do with them?

HAMPSON: Well, their job then was to receive the samples and make sure that what we sent they could categorize and check the list of the stuff we sent them. And then they would speciate them. And that's where the new species came in. I mean, every time we got a report from some of these guys, whether it be deep-sea copepods or amphipods or tunicates, it'd be 25-30 percent new to science. So we'd have this publication with 36 new species. [Laughs.] I mean, if you do one of those in a lifetime or two or three, if you're not an avid taxonomist, that's quite, like myself, I've described a few new species, but these guys are used to describing two or three new species. But in this case you just opened the door. They'd never seen anything like this: a new genus, a new family. It was consistent--all across the board.

TAYLOR: Again, to go back to that period we've been discussing, I used to be able to make the claim that, oh, let's say 10-15 years before that the aqualung had become commercially available in this country, and I used to be able to tell people, 200 yards off Nantasket beach is unexplored territory, and that's what you guys were running into with the deep sea.

HAMPSON: Right. That's right.

TAYLOR: And this was another planet. It was an alien world.

HAMPSON: That's right, exactly. Yup. And we knew it too. We really did. As soon as we started to look at that first sample, we knew.

TAYLOR: How many biologists have ever discovered a new species, a brand-new species? Other than ocean biologists?

HAMPSON: Other than ocean biologists.

TAYLOR: There aren't many of them.

HAMPSON: Yeah, ocean biology is that deep sea things. But ironically you can go in different places. Like I had an expedition to the Persian gulf, and we were allowed to take samples around the oil fields, and a lot of work hasn't been done there, so there was a whole different variety of organisms that existed there. There was a lot of new species, particularly the polychaetes. And the bivalves had been worked up pretty good, but we got a few of those that were new. But , in other words, an area in the tropics which is known to have a lot of diversity of life, we were able to sample in an area that nobody else could ever have done that, mainly b4ecause it's under control form the oil industry, so we were able to get a whole slew of new life forms. But in the deep sea, that was up for grabs. Nobody had done that. Shallow water? Buzzard's Bay? I can defy you. You can go out there and you can bring back 20 samples. And other than tiny, tiny things, I'll be able to identify most everything--everything. 'Cause I've done it so often. But there's always a chance, but it'd be very, very hard.

TAYLOR: But I think that's what most biologists face, in their fields, if it's some kind of dry land, tropical biome or Arctic biome or what have you. To me, it's just so exciting to hear someone talk, and people listening to this can't, but I can see the enthusiasm in your face, I see your body language . . .

HAMPSON: Yeah, right.

TAYLOR: . . . and all that kind of thing. That had to be pretty exciting stuff. About how old were you about this time.

HAMPSON: Ah, [clears throat] when we first started I was around 22, something like that--21, 22. Yup, just gotten out of the Army, and had black hair too.

TAYLOR: So you're talking 22, 32-35 is the area we've been covering so far. You were a kid.

HAMPSON: Yeah, right.

TAYLOR: And all these exciting things are happening.

HAMPSON: Yeah.

TAYLOR: Did you feel, "Gee, am I in the right place!" Unique.

HAMPSON: Yeah. Just remember when we first started, I was the guy that wasn't going to go to college? So somebody was looking over me, that's all I can tell you. But also, you learn to respect people, you learn to speak up when it's necessary, and you learn to keep your mouth shut when it's necessary. It's these small things of life that some people never seem to learn. They get themselves in trouble, and although they're very, very gifted, an they could contribute a lot, because of their personal makeup they never go forward, and they might be very bright, so, but their personality turns out to be the down side. And that's what I always do. I never made fun of people [clears throat], and a lot of times during meetings, I would never raise my hand, and only at certain time that I started doing that, to question something,. When I first came here, I just shut my mouth and just sat there and listened.

TAYLOR: Yeah, if you're talking and not listening, you ain't learnin'.

HAMPSON: Exactly. So I was young, yeah.

TAYLOR: A very, very exciting period. How did you wife take to all this? It didn't bother her that you were going off to sea and all this kind of thing?

HAMPSON: No, I think my wife took it very well. Like everybody, you could talk to almost anybody on these interviews. You'd find that everybody's had a bad experience. When they've gone to sea, things have <u>happened</u> at home, you know, miscarriages. My wife--she had two. And I was at sea, and my mom had a major stroke and never recovered. That happened while I was at sea, and I had to come back. And then my boat sunk at the mooring while I was at sea. And then we had people, I remember, where their parents had died while we were at sea. And so although it's a relatively small period during a life, there's these major events that happen. And I think it's very detrimental, particularly to people who aren't crew to be out there for three months. I mean, that's a long time. Nobody should have to go through that unless you want to. If you want to, that's fine. But a lot of things happen. You come back, and you find out, "Jesus, you mean to say that happened and that happened? Wow!" We didn't have the information early on. A lot of times we didn't know <u>what</u> was happening. Now, when it happens we hear about it instantaneously. So a lot of changes, and I never did like to go long-term. I was more or

less of a homebody. A lot of people just love it, you know [Laughs.] Go out there for three months. Even the scientists. They didn't care. But I didn't. I liked to come home.

TAYLOR: It is isolating. I know that Gerry Metcalf . . . . I may have told you this, but he said that one time he was somewhere up in the north, up in the Arctic, and his daughter died while he was there, . . .

HAMPSON: Oh god!

TAYLOR: . . . and there was absolutely no way he could get back.

HAMPSON: Yeah, I think I remember that. And I never knew that until you told me. Yeah, so but the happy times of coming home. That's ways enjoyable. But it takes time to get back. I don't know if anybody explained this to you on tape, but you have a re-entry problem. Because you see when you're out there everything's planned for you--the meals and everything else, and you're in a fixed ritual, everything you do. And then when you come back home that ritualistic style has changed--because the phone rings. Or someone comes to the door. Or you've got an emergency. You have to do this. You've got to go get that.

TAYLOR: Or the car won't start.

HAMPSON: Or the car won't start, and all of a sudden you've got that turmoil. And it takes time to get back into it again. Every time that I go to sea I experience that. The longer, the worse it is. And I just say, "God, and then the mail, just addressing the mail. So it's that re-entry, and I don't have that much any more, because the trips that I go on are for 10 days, two weeks.

TAYLOR: A lot of people have talked about, particularly during this period we're discussing now, that Woods Hole was a very familial kind of place. This was your family, so to speak. Did you find that to be true, that it's very close, and that one person would look out for the other, and administration would . . .

HAMPSON: [Clears throat].

HAMPSON: . . . kind of look out for you?

HAMPSON: Well, after my father died, and that was in the '70s, around there, Howard was the one I confided in. I mean, I had my brother, but he was in Holyoke, Western Mass. But, if something serious happened I'd just go to Howard and confide in him. It wasn't like saying, "Howard, I need to take a couple of days off 'cause I got a personal problem." I would <u>tell</u> him what the personal problem is and ask his advice. See? That's the way I did it.

TAYLOR: Just out of interest, I'm going to have to look into Howard Sanders more, because after listening to you and listening to Bob Hessler talk about him, Hessler saying, first of all he wanted to talk about him on his oral history at length, because he doesn't feel the man got the credit that he deserved.

HAMPSON: Yup, yup.

TAYLOR: It really looks like . . . .

HAMPSON: I've thought about that, what you just said. I've always said that you could go to the be . . . [laughs]. You could go to the beach and look at the strand line, and you could make an observation, and you would think, "Ok, there are some shrimp-like things there, and there's a few shells and so forth." Well, Howard would go down to the beach, and he'd come back with a hypothesis. You , , ,

[END OF SIDE 2]

GEORGE HAMPSON

ORAL HISTORY

April/May 2002

Interview by Frank Taylor

TAPE 3 OF 4 TAPES

Transcribed by Arel Lucas, July 2004-07-28

HAMPSON: Because of the oil-spill research that we did in West Falmouth, if it wasn't for his teachings I wouldn't have made the notes that I did, because we had to estimate mortality. And what we were doing was we were taking samples off the bottom that were impacted. But if you didn't know what you were looking for you wouldn't <u>know</u> they were impacted. But I had enough training that I could see that things weren't right. Not only that, but the next time we

went out to take a sample, the animals that had died, some of the remains were still there. So now it was like a forensic type of thing. I was counting the bodies, the shells of things, and knowing that they had just died two weeks ago, and we were able to count the dead bodies, to know that at one time they were alive, 'cause we saw them alive. They were just recently killed. Now I'm seeing the shells of them. So we were able to track the mortality, which was a very interesting point of research that we did. And I think it was because, again, I was paying attention to details and not just dismissing something. I was examining the whole sample, not just for things that were alive, but things that were dead also. And that was because of his training.

TAYLOR: OK, I think we've just about hit the end of the tape here today.

HAMPSON: We have to get into oil spills.

[Tape stops and starts again.]

TAYLOR: 5, 6, 7, 8, 9, 10. We're here at the Woods Hole Oceanographic Institution's Archives for our third session with George Hampson. Last time we pretty much went through what a typical day at sea was like for George, and what a typical day was like back in port. One of the things you had the opportunity to do was to dive on the submersible, the *Alvin*, and the *Alvin* is kind of like the spaceship of the oceanographic world. I wonder if you could take us through a first experience. First of all, how did you get picked to go down in the *Alvin*?

HAMPSON: Well, if you remember, to get picked to go down in the *Alvin*, we had the Bermuda-to-Woods-Hole transect. This is the famous Sanders-Hessler-Hampson work that we did. And we took benthic samples of the bottom. We took trawl samples. The key thing to describing those communities was to go down in the submarine so that we could look at the large animals, which we would never capture. There's no way you could do that. So, going back, when the submarine was first proposed and I saw its completion and the trials at Woods Hole, I said to myself, "I'll never have a chance to go down in that. I mean, it looks good and all that, but only the people that are going to go down in that submarine are going to be famous people who they're trying to impress. It'll never be used for science." That's what I had in my mind--whatever reason. [Slaps knees.] But when the Woods Hole work came up, Bermuda-to-Woods-Hole transect, or Gayhead transect, there was a chance where we had multiple dives at varying depths, and that was my chance to go down in the submarine.

TAYLOR: Was there a lot of excitement about the fact that a submersible was going to be part of the Woods Hole armory, so to speak, or was it just, "Oh, well, it's another thing we're doing."
HAMPSON: No, I don't think it was a trite type of thing. It received a lot of publicity, and I think people were anxious to go in it, but they would never let on. It wasn't like the outside public going down. So you were sort of coy. But my experience going down in the submarine, I wasn't afraid, yet I didn't take things for granted. Every step of the way when I went down in that sub, I'm looking at the hatch, wondering if, in fact, it'll lock and not leak. I was a diver, so that puts a different spin on it. I'm used to getting under the water, but to have something encased and stay in this ball. If you're claustrophobic, there's a real problem, but I pictured in my mind the way it was going to be. It was almost exactly the same.
TAYLOR: Do you recall who the pilot was the first time you went down?
HAMPSON: I remember Ed Bland. I also remember the gentleman who lived in Picasset who was in charge of the whole operation. I think of his . . .
TAYLOR: McCandless?
HAMPSON: McCamis. I went down with him, and I went down with Wilson. So I went down with those three, and by and large I think Wilson and McCamis were the most fun people to be with. So I can describe the dive almost like it was yesterday.
TAYLOR: How did <u>your</u> chance come up? Did someone just come to you and say, "Hey, you're going to go diving tomorrow" or . . . ?
HAMPSON: Hey, we only had so many people in our project to do this, and I don't know if people are aware, but when you get through diving, well, I'd say four or five hours. It wasn't extremely long during those days, because we didn't have the depth capabilities, or, I think, probably the extent of the dive time too. But when you got through diving, you were completely exhausted. You were supposed to debrief after the dive, and you were so damn tired you could hardly keep your eyes open, because of the intense concentration that you had. 'Cause you knew that everything was significant, particularly to some of the first people to go down. So it only stood to reason that we ran out of people. We had to have different people to go down, and so long as you kept up the log, and you made tapes and took photographs. And also, as I told you before, Howard Sanders was very good to his people, and it was without question I would be going.
TAYLOR: And this was in the days when the *Alvin* was deployed from *Lulu*.

HAMPSON: Yes.

TAYLOR: Now, were you [laughs] living on *Lulu* or the mother ship?

HAMPSON: I was living on *Lulu*, and during those days I can remember there was . . . . See, I was on the top bunk and Val Wilson was like bottom bunk, and then there was another guy in between, whoever it was, and I can remember [laughs], totally dark down there. There was a light, some kind of a red light that you could use to walk around if you had to go to the bathroom or something like that. But these guys would read and then wake up in the middle of the night and so I was always aware there was someone beneath me, particularly when they would be smoking, and I was the guy up top that was a non-smoker. I could smell 'em up there all the time. And if you got used to the motion, it was fairly quiet down there, because you were underwater in those tubes, so it was kind of an eerie sensation. I enjoyed being more on topside, but if you wanted to sleep and be quiet, and somewhat motionless, it was good to be down in the tube.

TAYLOR: The so-called "tube of doom."

HAMPSON: Yeah. It was always dark down there, it seems.

TAYLOR: Was there any easy way to get out of there, if something happened.

HAMPSON: Yeah. You'd just simply . . . . If I remember, you could see the light . . . . Well, if the lights went out that'd be another problem, but I knew exactly where it was. I never had any fear of flooding or not finding my way. I think when you're a diver you always think that way.

TAYLOR: So you were on the *Lulu*, [laughs] which is hardly the *QE II* . . . .

HAMPSON: Oh god.

TAYLOR: [Laughs.] I've heard some really funny stories about peoples' experiences living on this kind of cobbled-together ship of the sea. You were picked to go down in the *Alvin*. You got in. The hatch closed. What's it like as you start down? Do you remember whether you were port or starboard observer?

HAMPSON: No. 'Cause I did a few dives, so I don't remember. I remember . . . . I got a photograph, actually, of me climbing in the hole. Somebody took a shot of me. But again, I had no fear when the hatch closed up. And there's a little motion as you go under, nothing to the point where you would worry about things. It was, if anything, warm, 'cause we were in a warm part of the ocean, and I'm going to say something like 1,400 feet, something like that. It wasn't . . . It was under 2,000 meters, definitely. I said "feet." I meant "meters." And so when the

hatch closed I just found myself around, and there was so much going on, the pilot saying "Look at this. Don't do this. If anything happens, don't push this." Instructions, al these instructions. You had a little sheet that you followed in case anything happened and you were the guy that had to do the work. They covered themselves that way, and so it was a lot of information thrown at you, so suddenly you're seeing less and less light out the window as you start to descend. And I was looking forward to it, tell you the truth. And then of course you get less and less light, and I'm looking at the depths and trying to figure out, "Wah, I wonder where the zone is where you can't see any more light. I was paying attention to details like that. And then it was almost like early dawning on earth, where you just see a little bit of light in the morning, and it was in the reverse, less and less light, and then you started seeing sparklings off the window. You knew that you were seeing photoactivity from different invertebrates. And these are copepods, salps, all kinds of things generate light, including fish, and then I was always looking out the port, and probably that's why I got so tired, because there was no way that I was just going to sit back and enjoy the ride. Trying to see what kind of bioluminescence I could see out the window. And then it was a quiet descent, and then the next thing I knew, which sounds kind of strange, is I looked down. I could see out the window, and I could see . . . . It wasn't black any more underneath the submarine, and I could see these spots on the bottom. And what it was, in fact, was the different invertebrates, as the light of the submarine was shining down, they were the first things that appeared, and you would see shadows of fish, and that's when I knew I was getting close. And that occurred I don't know how many meters off the bottom, but I knew we were getting close just by that reflection of the light on the bottom that I could see, and also the shadows of things on the bottom. And then as we appeared, the first thing, obviously, you see are brittle stars, and also urchins. They're just all over, and then the occasional fish, which . . . . Everything is in suspended animation. To me, fish squirm out of the way. These guys would just be sitting there, undulating very, very slowly in suspended animation. And so to photograph them there's no problem. The submarine would come up, and there's this fish sort of looking at you, hanging there, and then you could take a picture very easily. And so everything that I saw on that bottom . . . . The thing that moved the fastest were the ophuroids, the brittle stars. They had a central arm, and they'd send that out, and then the rest of the arms would follow, so there was a lead arm as if the lead oar, and then the rest of the arms would follow. And it would point, and it would be moving at a pretty good rate. The urchins, fish: every once in a while a fish

would scurry for whatever reason, maybe ‘cause the submarine was there. And so that was my first observation, and really, during those times, all of this stuff that we recorded--right now it’s secondary . Everybody knows about it, but to us, during those times, all this motion that we recorded was all new to science, at least to Woods Hole.

TAYLOR: You know, I can remember when the bathyscaph *Trieste* went down in the Challenger deep in the Marianas Trench. So little was known, and the pressure in the air was so high that there were a lot of scientists that not only thought that there was no possibility of life down there, but there wasn’t even a possibility of a current of any kind down there, so the time period you’re talking about . . . . About what year was that, do you recall?

HAMPSON: This was around ’65, ’66, something like that.

TAYLOR: Ok, so that stuff, to get down into the deep ocean, was really brand new then.

HAMPSON: Yes [clears throat].

TAYLOR: Was there a sense of thrill or excitement during that first dive. “I’m really getting to do this!”?

HAMPSON: Oh, sure. I was, again, keepng your composure, but inside I was just so preoccupied with observation, everything and anything that I could see, and I was looking ahead of the submarine saying, “Gee I wonder what’s over there? I wonder what’s lurking out [laughs] there.” You know, you keep on thinking about “Wow! Next thing I’m going to see is this great big squid coming flying through, or something,” but it never happened. And I also wanted to tell you another thing. Once you get to the bottom, it’s security, because when you’re in the water column you don’t know where you’re going to land or anything, but the same thing when you’re diving. As soon as you hit the bottom, you feel that sensation,, “OK, it’s all right now. I’m here.” Obviously, you can’t go any deeper. That’s not true if you could find a valley and get deeper. And you talk about bottom currents. I remember there was a hole that we had made in the sediment, for whatever reason. Maybe we took a sample or something, and as we scooped this sediment out, it left a cavity behind, and the cavity was filled with soft sediment, and it was in suspension, and as . . . . This is getting back to currents. And I noted that the currents had carried the plume away, and what was left in this little hole was still soft sediments that was murky, so I knew, although you couldn’t see the currents drifting along, by that nature I knew that we had a bottom current. How little it was, at least the material was being carried close to the bottom, ‘cause they said, “Oh, there’s no current.” But I knew, after that. So I described

that. And that was published in our records also. So it's little things like that, paying attention to small details. I also noted that, on that dive, somebody had mentioned about no one saw anything feed except the squid. The squid would come down and prey off the fish, the small fish that they could see in our lights from the submarine, but I think it was either Hessler or Sanders said that one of the fish, this docile fish that was sort of in suspended animation, decided, "Well, let's see, I haven't eaten for four weeks, so I guess I'll have a meal." And the fish went over, darted down and grabbed one of the urchins, crushed it, and then went back up and then maintained its position, just in a quiet mode. So you wonder how often they eat. And they can eat at will. There's stuff there, but it was his time. But we never saw that much, only just once.

TAYLOR: It strikes me as you talk about this, that one of the things that makes an oceanographer perhaps different than someone that works for Dow Chemical or something like that is there's a bit of explorer in them. You talked about, "Gee, I wonder what's . . .

HAMPSON: Beyond.

TAYLOR: . . . out in that beyond out there, and I'll bet you would have gone to have looked, had you been able to.

HAMPSON: If I was driving that sub, I'd be all over the place. And I'll have a chance to talk about that, 'cause on one of my dives we lost the arm. Well, we went down to try to find the arm. We had the lost the arm on our cruise, the *Alvin* arm, if you remember. Do you want me to talk about that?

TAYLOR: Do you recall how it was . . . ? Yeah, I wish you would. There's a couple of things here that I want to try and put this in a little bit of a context.

HAMPSON: OK.

TAYLOR: When you first started to dive in the *Alvin*, we didn't even know about plate tectonics. That was a good six, seven years away, when Project FAMOUS came along. So you were really almost like the first men on the Moon, in many, many instances here. The things you were seeing may have been supposed by science, but you actually <u>saw</u> them,. You actually got down there, and when you talk about the depth. You said, "Well, maybe a couple of thousand meters, not too awfully deep," and when I think of the John Hancock Building in Boston, which is about 220 meters, and that looks like a long way up to the top, that's a long way down in the ocean, with enormous pressures and . . . . Does the submersible make any kinds of pings and cracks or anything like that as you're going down, due to the pressure changes?

HAMPSON: No, it's just the sounds of the instruments onboard. But it's absolutely quiet. If you want to get away from it all [They laugh.], have time to concentrate.

TAYLOR: So in a sense, as far as you're concerned, this is not a nervousing kind of experience?

HAMPSON: Oh, not for me. It's just because of my personality. I mean, if you've been underwater as much as I have you understand, by diving. And so I feel fully composed and there's no fear. I have all the confidence in the world of the people that worked on it, too.

TAYLOR: Someone asked me. I had had five MRIs, and they said, "Well, didn't you mind getting slid into that little tunnel like that? I don't think I could ever do it." I said, "I'm a diver. I'm used to having things closed in on . . . ," and what you're saying sounds very similar . . .

HAMPSON: Yeah.

TAYLOR: . . . to that, because we're talking six or seven feet inside that little bubble down there, and three people . And you're lying on a curve, and you're going to be there for a long period of time. That's not an awful lot of space. And you are truly in an alien world down there.

HAMPSON: That's right.

TAYLOR: So, before we get to the arm, did diving in the *Alvin* ever become old hat to you?

HAMPSON: No, no. And you know why? Because the same philosophy and the attention that I pay attention to when I'm either snorkelling or diving. I'm always aware of there's something unique on this dive that I'm going to see, so pay attention, be aware of it. I never take anything for granted, so when I'm diving I wouldn't be the one to just falls asleep in the corner, or play music. I'm always intensively looking outside. Because all those observations are part of your job to gather that, so you should take advantage. You never know.

TAYLOR: But it is something to tell grandchildren about it, isn't it?

HAMPSON: Oh sure, yeah. Absolutely.

TAYLOR: During that period, and a little bit later, actually, the ROVs started to come in, and as a result, there's been some controversy, and it's kind of like the space race. Is it worth it to send men out there, or should we just send instruments? And this essentially is the same kind of thing. You get the *Alvin*, which is a man-carrying vehicle, and you get the remotely-operated vehicle, which is straight mechanical, with someone at the top. Just as kind of a guesstimate on your part, which, to your feel, do you think is the most valuable?

HAMPSON: Well, it would have to be the manned submarine, and I qualify that by saying, it all depends what the project is. If it's to go from Gayhead, Bermuda, and characterize the animals around the bottom, definitely manned submarine, because you could spin around, you could look at something . You could chase something. Now, I realize you could do that with a remote sub too, but sometimes thing happen outside of the peripheral area, and you might see a shadow, or something, and that causes you to adjust the submarine or ask the pilot to adjust the submarine, so I guess for that purpose, we were intended to do it for, I would choose the manned submarine.

TAYLOR: I could have submitted a whole list of questions to you and had you write out the answers and essentially do the same kind of thing we're doing here, except you portray, or you show your passion for what you were doing. There's a body language kind of . . .

HAMPSON: Yeah. Yeah.

TAYLOR: . . . thing? Would the same thing hold true for a creature you might see down there? When you see them actually acting, perhaps, in an aggressive manner, or something like that? That only a human could see, that an ROV isn't going to see in the same light, and not in the same dimension, because the ROVs not going to give you depth either.

HAMPSON: One event that I could tell you that was unique to us is that we saw . . . . I can't remember what the scientific name is. But what it was . . . . It belonged to the squid family, and

it had a form that it could spread out like an umbrella, and we didn't see it at first. What we saw was the shadow. Now this is getting back to what I'm telling you about manned submarine as opposed to ROV. And I can remember looking out on the bottom and what I saw was an image from the left-hand side on the bottom, of a shadow which looked like a bat flying, and we didn't know where it was, and so we're seeing this shadow on the bottom, of this thing opening and closing. This could close up just like an umbrella. I can't explain to you any better. And it would open again. And we're looking at this and saying, omigod, this is it! [They laugh.] I got my wish! I have a giant something that's going to eat us. [They laugh.]. And so now, whatever captain was there, the pilot, he turned the sub around very, very slowly and adjusted it so we were pointing up, 'cause we knew it was off to the left some place. And there it was. It wasn't very big. It was no bigger than an umbrella. But that's what its method of locomotion. It would open and then it would close, open and close, and it was just as graceful as could be, and we got all the photographs we wanted. That was known to science. It had been described. Somebody caught on in a net, and it was published, so there were no secrets here, but it was the first time it was seen in a submarine. But we saw it by its shadow.

TAYLOR: In its own environment.

HAMPSON: Yeah, and it was graceful. It was beautiful. But thank god it wasn't any bigger. [They laugh.]

TAYLOR: Can you think back to how the conversation went when you were looking for this, when you were talking to the other people that were on board.

HAMPSON: Yeah, and also the surface too. Well, again, our job was to see what kind of macrofauna we could see: crabs, how they behaved. Were they just walking along? Do they burrow down, like they did in shallow water. For the most part, a lot of the animals, other than

the slow motion that I'm telling you about, they behaved the same way that I've seen in intertidal, subtidal, in our local waters. You'd see worm tubes, and as you'd go by, if you made any motion they would close up, and you could see the little antennae sticking out, the little tentacles, and as soon as you'd make a little bit of motion with the submarine they would close down, same way as it is in shallow water. So generally, other than the fish and slow moving of some of the macrofauna, it was somewhat the same as shallow water.

TAYLOR: George, that was during a period when the public had been subjected to the "Creature from the Black Lagoon," . . .

HAMPSON: Yeah [laughs].

TAYLOR: . . . sea creatures of the deep, Godzilla, who lived way down there, and all that. So in a sense, what you people were doing was kind of demystifying the jungle in many ways.

HAMPSON: That's right. And you always had that . . . . You said, "Were you fearful of anything?" Well, that thought was always there, about the giant fish or the giant whatever-it-was that was going to come at us. But I knew enough about sea creatures down there that I didn't think this was going to be a possibility. And thinking about the history of the *Alvin*, I think the closest thing that they ever experienced that was very serious was those swordfish. A swordfish, to me, is about as vengeful of anything on the bottom that I can think of. There's nothing that attacked that submarine like the swordfish--twice. [Laughs.] It was kind of scary, and it could do harm if it hit the right place. Again, diving and knowing all those things I didn't have as much fear as somebody else, but again, it wasn't that I was fearless of anything, but it was contained. Let's put it that way.

TAYLOR: Yeah, because, as I say, that was the period of all those movies, but it was also the period during the discovery of the coelecanth and things like that. That wasn't supposed to be around. That was supposed to have been extinct [laughs] . . .

HAMPSON: Yeah, right.

TAYLOR: . . . many, many years before before that.

HAMPSON: All those finds, eh? All those discoveries that we went through in such a relatively short time. In our lives, right?

TAYLOR: Did you ever hope that you were going to see something really spectacular there, from a biological standpoint?

HAMPSON: Well, you know, Frank, this is the way I look at it. If I was going to find something spectacular, it was because I was going to work at it. In other words, I was always of the opinion that "Look small. Don't look big." So I'd be looking for small things happening, because sometimes that 's where the action is, not necessarily the big things, necessarily. So that's why I could concentrate so much on looking at the bottom to see how the animals were behaving. Are they different from the all the dives that I've made. So they just sit there? Is it so dark down there that the bivalves are just sitting in a hole and they don't move? As I said, it's just like most of the life I saw in relatively shallow water. So, yeah, I was trying. I was trying my best to produce, because I knew those reports were going to be . . . . When we got through diving we'd have the decom and we have to tape for hours after the dive, so it's important that you record every bit of information. This was NSF that's funding all this, of course.

TAYLOR: Let me just give a personal reaction. If I had been in your situation, given that particular period, I [laughs] . . . . [They laugh.] I would have been looking for something that

was so spectacular that when I got back up to the top I would expect Robert Redford would play me in . . .

HAMPSON: [Laughs.]

TAYLOR: . . . the movie on this, you know?

HAMPSON: Yeah.

TAYLOR: And I think there's a little bit of that in this exploration . . . .

HAMPSON: Oh, sure.

TAYLOR: Because this is not everything is in a test tube, sitting in formaldehyde, . . .

HAMPSON: Exactly.

TAYLOR: . . . sitting up on lab bench. You're out there on the far end of the stick, in a . . .

HAMPSON: Yeah.

TAYLOR: . . . very hostile region. To this day there's not that much known about . . .

HAMPSON: Yup.

TAYLOR: . . . it. I mean, my heavens, when we look at the percentage of the ocean that's been actually looked at--very, very small.

HAMPSON: Yeah. I was looking for wrecks. I was looking for submarines that had sunk on the bottom. I knew we were going to [laughs] run into something like that. It never happened. We just saw cans, tin cans and things. But that gets into the arm again, looking for the arm. The Lost Arm.

TAYLOR: Were there ever any moments in the *Alvin* where a porthole started to dribble, or a part of the *Alvin* fell off, or . . . . Tell me about this arm.

HAMPSON: OK. As you know, we had different shifts on the submarine, 'cause it was taxing, and so let's say I would go down one day, and then I'd have a day off, and then somebody else

would go, and then I'd cycle in. So my off day, they said, "George, you're pretty savvy. We want you to man one of the lines." These are the lines that you release when the submarine's leaving. They're tag lines. And then when the submarine comes in, these tag lines are attached to the sub. So I did it all. I did the lines. I swam and passed lines to the submarine. They had me doing all these things. It was great during those days, 'cause the *Alvin* team could expand and just ask scientists to help out whenever they wanted to, and we were glad to do that. As I told you, before, "You need help? I'm here. What do you want me to do?" And that's the attitude. So I remember the submarine was coming up after a dive, one of these 1,400-meter dives, and the wind had picked up quite a bit, and we knew we were in trouble, and the *Lulu* was pretty good. They could turn that thing around so that the sub would come in and we'd get some protection, but still you could see the whitecaps. I remember it this day, and so the two front lines went to the sub, and they were lashed down. Remember, you can't lash these lines down right, 'cause if you do they'll [claps] snap. You got to let 'em pay out. So you never fasten it or take a loop. It's in and out, one turn on the cleat. So two lines were attached, and then my line was going to be attached, and they hooked onto the sub, and we slowly brought that submarine in. I can see the motion, back and forth, sloshing around between the tubes. And everybody's working so hard. When that line goes, and the submarine jolts, it's tremendous pressure. You can't hold it. It just spins through the cleat, which it's supposed to. You lash that down [claps] it'll break, and this is like 3/4-, 1-inch lines. So the submarine's come in, it's coming in, and then for some reason or other, one of the lines got fouled on the cleat. That means it's hard fast, and it parted, boom! And now we got the submarine attached with three lines, which means it's going to drift over to the side of the tube, and everybody's swearing, "Omigod, what are we going to do!" and frantically trying to get another line to the sub to replace that one that broke

off. And a lurch came, wave came , and the submarine banged up against the hull. You could hear it, "Boomp!" like that. Nobody thought anything about it. Boom, we'd get the lines back and then, finally the elevator comes and it drives under the submarine. The submarine positions itself and "Rmrmrmrmrm," up it comes. No arm. When the submarine hit the side of the hull, it hit the arm. The arm is detachable. If there's ever a force so great it just parts off like a crab arm, and it's designed that way. Now it lost the arm. The arm's gone! So quickly, the submarine is lashed down, and the men on watch immediately put the PGR on . They're watching now, watching for the bottom. What is the depth? What does it look like? And they paid attention to that. And that's the way they would recover things. They would get a map of the bottom where anything was lost. Because that was the feature of the bottom, and they could tell if they ever had to come back again, get their coordinates in general. But they could tell where the hummocks were, the valleys, and they could find all these features, and when they found them then they knew they in the particular area. So every imprint on the bottom was important to them, and that's what they did. So what are we going to do now? We've lost the arm. Call back to Woods Hole. "We lost the arm. What should we do? Forget it? Try to make a recovery?" "Yes, try to make a recovery." So from then on the *Lulu* went back and forth and surveyed this whole area so that, from then on, we would know where the arm could be, within this area, and so all the features of the bottom were known. And that's when I went down the next day, looking together with the pilot. Our mission had changed from biology, sort of, to looking for things on the bottom, and you could see the sonar sweeping back and forth. And you'd find a spot, say, "Oh, we've got a spot. We've got a return. We've got a return! This is it! This is it! We've got to find the arm!" So we would go over to whatever that feature was. It turned out to be a can. Could have been a five-gallon bucket, 55-gallon drum. We found all

kinds of debris on the bottom, and we never found the arm during my watch. Matter of fact, for the rest of the cruise, it was always, go down, do your sampling, whatever, make your observations, also keep posted for any returns to try to find that arm. We never did on our cruise. But the success of the Oceanographic! That system that they did of paying attention to details. They went back again, and they found the arm. [Laughs.] Can you imagine? Without GPS. Can you imagine?!

TAYLOR: It is, it's astounding! It's absolutely astounding.

HAMPSON: And it's heavy, so it was in the sediment. There was only a little bit sticking up. They recovered the arm. I told everybody at Woods Hole. I said, "They don't have a chance to find that arm." I mean, I know about diving. "You can't. It's sunk in the mud.' There was enough sticking up they found it.

TAYLOR: What you're bringing up here, other than just the excitement of pulling off a really great stunt [laughs] . . .

HAMPSON: Yeah.

TAYLOR: . . . was that during that particular period one of the things that hadn't been developed in oceanography yet was the ability to know exactly where you were when you were down underwater. It was still a recognition of, "Well, I remember that hill over there. I remember this kind of funny-shaped rock over here, so let's kind of cruise in between the two." Now they can . . . . It's so much more accurate. Last Friday I brought a bunch of kids from Kodiak, Alaska, who came to visit the Institution. They're going to do this ocean bowl that the high-school kids do, and we went into the REMUS laboratory, and a fellow in there turned on the REMUS and turned on his laptop and everything, and he was showing the sidescan from the REMUS of going over Great Harbor. They happened to pass over a clump of rocks, and one of

the kids said, "Oh, about how big are those rocks?" Our guy's all, "Wait a minute." He pulls in *Alvin*[?], punches a couple of buttons: "Two and a half meters long, a meter and a half high." I said, "Woah!" And we're talking no more than 20, 30 years before that! Talk about dead reckoning: it was by guess or by golly down there. And yet this institution, with folks like yourself, had worked out enough seat-of-the pants kind of thing to be able to locate things like robotic arms and so forth. What's the importance of that arm to a biologist? Whyn't I just leave it there?

HAMPSON: OK, we've lost the thing. But the Navy was so interested in recovery. So when the word got to Woods Hole. IL don't know if they contacted the Navy, who knows? But obviously it meant added dives, and sure in the heck I'm sure the Navy wanted to experiment, if you will, finding, recognizing objects like this on the bottom. It was again taking advantage of a situation. No one ever told me this, but I sort of put things together. Why did they spend extra money to go out there again, to look for this arm. We could have had another one made. And everybody wondered, "Why did they do this?" It's because, I'm sure, of recovery of objects. If you lose something and it's important, god, you should be able to find it.

TAYLOR: Look at the problem they had finding the *Thresher*, a huge nuclear submarine. The *Thresher*, the *Scorpion*.

HAMPSON: The A-bomb.

TAYLOR: Yeah

HAMPSON: Or the hydrogen bomb, whatever it was. See?

TAYLOR: Yeah, so, I can understand, and I [laughs.] I guess when we say does the Navy have an interest in oceanography, [They laugh.]

HAMPSON: Right. So that was the story of the recovery, and it was very exciting, because not only were we doing our biological duties, but there was another purpose, and we were paying attention to reflections and not only the pilot was interested in this, but we were watching too, so as Ed would go along we'd say, "Look, look at that!" and then we would try to guess, "Could it be this? Could it be the arm?" There wasn't much of the arm sticking up, so it was tough to see.

TAYLOR: Thinking back to the whole idea of diving in the *Alvin* and given the time period, mid- to late '60s and so on, it was only about maybe 20 years after that that the first hydrothermal vents were discovered. Do you recall that period at all?

HAMPSON: Well, just keep in mind that the second cruise of the Galapagos Expedition, I was involved with, and they had found . . . .

TAYLOR: Was this the '79?

HAMPSON: Yes, '79. And it was a wonderful time, because I remember clearly--as you know I visualize these things--we went down to Miami to load the *Gillis*, and there was Butch. I can't remember Butch's last name. And then there was Ballard's right-hand man from Picasset. I'll think of his name, but our job was to go down there and load the *Gillis*. It took us three days with a forklift to load all the gear. This was the biological stuff. It was National Geographic. And they had three of everything. I couldn't believe. They had more stuff . . .

[END OF SIDE 1]

HAMPSON: . . . later on, after that was done, it went to Panama, and then I believe Grassle was on the first cruise, and Bob Hessler, and then I went on the second leg. I was on the *Gillis* most of the time. I did not dive on the vents, but I was there when a lot of these events happened, where cameras with very important photographs were lost. They never came back to the surface after a function that was down on the bottom. In other words [clears throat], one of the key

things the National Geographic wanted to get was a photograph of the submarine as it was cruising along the bottom in the vent field. And what they did is they had a giant flash that was suspected off the bottom. I might get this a little bit wrong, but it doesn't matter, but the thing is still the same. And the submarine then would go over to this giant flash and have it position itself so the vents were in the back, and it would send a signal to the camera and the flash unit, and as that was done, the flash would go off, which was this great big, enormous umbrella of flash bulbs and it would trigger the camera and you'd have a shot illuminated with all these flashbulbs. And that would be the first time the submarine would be photographed on the bottom. It was magnificent! A lot of work went into that. So now it comes time to release. OK, the *Alvin* goes over, pulls the pin or whatever, and the thing goes up. Now *Alvin* comes up, comes back into *Lulu* (*Lulu* at the time, by the way), and we wait for the camera. No camera. [Laughs.] Camera never came up. So everybody's looking for this foolish camera. And we have a sailing vessel with us that Ballard used to go to the Galapagos. After this exploratory phase was over, he was going to go to the Galapagos with his sailboat. They could see the camera, the trace of it. They could hear it down below. It would never come up. It was stuck like 150 feet below the surface. And they tracked it, and they tracked it. They said, "Look, we still have it. We still have it here. Figure out what to do. Try to get this thing. Grapple it, something! Send a diver down!" Nothing worked. They lost track of it. Gone. [Hands slap on legs.] Time goes by. Fishing vessel offshore. The guy on watch says, "Captain! Captain!" [Laughs.] "I see something over here!" Captain says, "Forget about it. Just drive." He made such a fuss that the captain turned around. This was some place off the Galapagos, and what is it? It's the camera, intact, with the photograph. [Laughs.] "If you find this, call Woods Hole."

[They laugh.] That happened twice. The same kind of event with a package that was very important that was lost.

TAYLOR: You mentioned Fred Grassle.

HAMPSON: Yup.

TAYLOR: Bob Hessler, Jerry van Am . . . .

[Tape stops and starts again.]

TAYLOR: Before our tape needed turning, I asked you if there was a great sense of excitement about what was down there.

HAMPSON: Well, I remember the experiment, and I can see the vessels as if it was yesterday. There was a whole bunch of columns. I think they were made out of glass. They could withstand pressure, which you actually could see inside. How much pressure in there I don't know. But the idea was we were supposed to get animals--mussels, clams, shrimp, whatever we could gent--from the vents, return 'em to the *Gillis*. They were supposed to be harvested by the *Alvin* and put in a chamber, and then brought over to us at the *Gillis*, and then we would put them in these chambers, and then take 'em down to a depth, obviously not the depth where they came to, but we were going to increase the pressure to approximate the depth of where they came from. So I remember Corliss--this was his mission. And we brought the animals over, opened up the chamber and placed them in there, sealed the chamber and then applied the pressure, and you could see those animals come back to life. It was just amazing! While they were there without any pressure, they were sort of docile. Actually, they weren't even performing. There was no motion, and as the pressure increased, you could see their activity come back. And the crabs would start walking. The temperature was as cold as it was at the vent field. We tried to approximate that. But was the missing of that pressure that was the missing factor that would

make these animals feel at home again, if you will. So the experiment was to bring the temperature, increase the pressure, and then relax it over time and then to document how the animals were behaving. So that was the first time that's ever been done. And we were all part of that. It wasn't my project. It was Corliss, so I was over paying attention to what he was doing and also . . .

TAYLOR: Blending in.

HAMPSON: . . . blending in, and then asking him what particular things he was interested in, motions that we wanted to record.

TAYLOR: I don't know whether you've reached that stage of your life yet where you wanted to think back over the big picture kind of thing, but when you stop and consider when you started into the biological field there was some doubt about how many animals there were down there in the deep, period, up to the point where you discovered a life form that didn't rely on sunlight for its nourishment. That's a huge jump! Has the significance of that ever really hit you?

HAMPSON: Yes, very much so. You actually mentioned it during our first conversation. It could have been before that--that one of the scientists or reporters had said he was off by himself at the bow of the ship or something?

TAYLOR: Jerry van Eddle[SP?], and it was John Porteous that went up to him.

HAMPSON: And he said, "What people hasn't really sunk is that they just got a whole new life form." So that didn't hit me all at once, and believe it or not it was months later it finally hit. I said, "God almighty! This is a whole life form on the planet!" So Van Endo[SP?] was very smart that he picked up on that right away. He was a wonderful person, by the way. He kept all kinds of things going. He was excellent. So that part of it, about the life forms, remembering, a lot of things hadn't been known. When we found the vents, a lot of animal activity, we didn't

know what the driving force was. What are they feeding on? And it was sulphur bacteria. Sulphur was the prime thing, and then the sulphur bacteria and the animals feeding on, up the food chain. But again, it was . . . .

TAYLOR: I think even more significant, that discovery not only came up with something brand-new here on this planet, but it opened up the possibility for life forms on <u>other</u> planets.

HAMPSON: That's correct.

TAYLOR: . . . that did not need sunlight to photosynthesize as we're used to here.

HAMPSON: Yeah, and I imagine the dreamers put that together very quickly.

TAYLOR: Oh, heck, John Corliss came up with a whole . . .

HAMPSON: Yeah. [Laughs.]

TAYLOR: . . . new origin of life hypothesis . . .

HAMPSON: Yeah.

TAYLOR: . . . out of that.

HAMPSON: So anyway, a very exciting, during those times at the Galapagos, a lot of diving going on, a lot of people handling stuff for the first time, seeing al these creatures, and then they brought 'em all back to the *Gillis*, and, as I said, we tried to set up experiments and fix other animals. That was our job, to t ake care or all this. I did not dive. Unfortunately, there were <u>so</u> many people that wanted to go down, including National Geographic. They were footing the bill for a whole bunch of this. So we didn't have a chance to go down. But I was a part of that second cruise, which is very exciting.

TAYLOR: It's really interesting to me that just in the development of the whole biological sciences specific to the ocean, is that when you started out you were still throwing things in tanks full of formaldehyde and things like that, and by the time you were getting up towards the latter

part of your career you're starting to worry not only about preserving them but keeping the pressure at what it was they were working with. You're talking a totally different world than what you started out with.

HAMPSON: Right. And that experiment worked very well. I was very impressed with the fact that . . . . And I think he did publish a paper on that, Corliss. And he kept detailed records, and I remember him doing this experiment of changing the pressure several times. We could actually see where the pressure was increased to a certain point where it exceeded the threshold and the animals stopped behaving again. It was very interesting. You could see them moving around. Sometimes you didn't know whether they were moving about because they were being tested and it was harmful to them, but when you start off with little pressure, and then you increase it a little bit, and then animals start to move you have to assume that they're comfortable with this environment, and then it continued, and then when the pressure got too great it went back the other way, and they stopped moving again, and then just as soon as you decrease the pressure they would start to move again. So he did that several times with those animals. It was neat. And he had to put this all together with the anticipation something was going to happen, and it worked. So I have to give him credit.

TAYLOR: That's quite a crew!

HAMPSON: Yeah.

TAYLOR: In '77, when Ballard was over in the Galapagos with all the geologists, and they found this vent activity for the first time, as I say, he didn't have a biologist onboard, but they got the information back pretty quickly.

HAMPSON: Yeah, they did.

TAYLOR: Was there any sense of excitement here at the Institution about . . . ?

HAMPSON: Yeah, I remember Grassle and the photographs would be coming in or whatever we had, the videos, and god bless him, but Ballard, he put all these names to them. He didn't know the first thing about . . . . He learned a lot, but he had all these . . . . He assigned all kinds of names of flowers to all these: the rose garden, the chrysanthemum. And we had the chore of trying to identify them. Most of them were easy. But other things, we couldn't identify right away. We had to capture them in order to make sure. But by and large most of them we identified. But I just remember as if it was yesterday, Ballard bringing in the stuff and saying, "Hey, come on, let's see if you can help me here." We were just, when we saw the tube worms and the large giant clams and stuff, and I mean we were just spellbound. And eventually he says, "And what is this? What is this?" We didn't know whether coelenterate or [coughs]. When you see these, what looked to be a flower suspended from the bottom, beautiful flower, and I think they were coelenterates, but a new form, obviously. But that was a great deal of the work that we had to do, was to see if we could make sense out of all this footage that Ballard had collected.

TAYLOR: Back to taxonomy again! [Laughs.]

HAMPSON: Yeah. "What is it? What is it? Ever seen one of these before?" "Nooo." Guess why. "Cause we'd never been there before. This is new. "And this is new to science, all the stuff that you're finding."

TAYLOR: Were you really excited to be able to go on that expedition?

HAMPSON: Absolutely. It was exciting to be doing the transect from the Panama going out to the site, because I never saw so many different types of fish. I was out in the bow of the *Lulu* as we were going along, and I could see all this . . . . I'm sorry, I was on the *Gillis*. And I could see all these fish, just scooting out of the way, and it was just so much diversity outside of Panama. And then the anticipation of getting onto site. Could we find the site? Obviously we had to find

the site. And that worked smooth, just wonderfully. They'd triangulate, put things down on the bottom. We would triangulate and find the site, and then of course the anticipation that when the submarine go, would they actually find the bottom site again, and locate themselves, and that went very well. It was all done by triangulation. And I won't say it's permanent, because during that time there was very well done. You had three different sound sources. And the submarine would triangulate as it moves in to find exactly what the coordinates were.

TAYLOR: Well, this became a real necessity by that time, this location. In the early '70s, when Project FAMOUS was going on , if you indeed were going to prove that the place was spreading, you needed absolute locations of rocks and things like this. The need to have very definitely, "I'm right here" kind of thing . . . .

HAMPSON: Right, Frank, because--and this is the reason--they wanted to do experiments there. They wanted to have a little syntactic float with a little chamber sitting on the bottom out in the middle of the ocean, with different types of augers inside the vessel, and they wanted to come back and find that a year later. Well, I've got news for you. We could barely do that in Buzzard's Bay with all kinds of things on the bottom. And yet we're going out in the middle of the ocean and doing these experiments with all these small little chambers sitting on the bottom. And they could come back, find them, recover them , and test. And you know something: it's actually easier to do it in the deep sea, because there's relatively little change of people banging into them or dragging through, or strong currents--we know there's currents, but strong currents--moving them. So it worked out fine. And so we set up shop, essentially. And Holger Jannasch and Cark Werson[SP?]--they carried on all kinds of experiments to find out what the bacteria were like.

TAYLOR: Can you give me a little thujmbnail sketch on Holger Jannasch and Carl Werzon[SP?]?

HAMPSON: Holger Jannasch was a wonderful person. He seemed to be like a father image to us. He would get excited about things, and I'll tell you a story, describing the way the man was. The greatness usually is determined how a person reacts to an event or a find. The *Alvin*, as you know, was lost one time. I disremember--you probably remember better than I do--the date. The date doesn't matter. But it was down for about 10 months. So I said to my boss, "Howard, you want to go out and greet the *Lulu*? They're coming back now, with the submarine. And we know they've just about at Gayhead. Why don't we go out and just welcome 'em in?" We knew that the submarine had been recovered after being down for 10 months. "Oh, that would be great." So off we go out in my boat, and we go out there and I'm waving to all the people, and this is the first time now they're seeing people from Woods Hole. "How you doin'?" "Great, great! Yaaay! Dadada." "Hey!, we have something for you!" "What is it?" "It's stuff from the submarine." "Well, what is it?" "It's the lunch." "The lunch!" "Yeah, the soup, the apple and the baloney sandwich!" "D'you want it?" And Howard--remember I told you about Howard? [In a high voice.] Ditditditditdit. [In a whisper] Wow! "Yeah." Howard knew that this was going to be interesting because the bacteria. What's different? How did it behave? How was it going to be different? So Howard, instead of doing something himself, 'cause it's out of his field. He said "George, we got to get this back to Woods Hole, OK?" So we told 'em, "Would you please have Holger Jannasch to be at the dock? We want to return this to him as soon as possible. So in we go in with all the stuff--the soup and the baloney sandwich and the apple. An that's the other end of the story. We got it to Holger Jannasch, and that started a whole area of research about the activity of the deep bacteria on food particles, and he applied to NSF and got

all kinds of funding and Carl Werzon[SP?] was part of that, and it ended up having a whole series of studies from then on of working just in this area. And again another person would have said, "Oh, this is fine. We don't want it." But Howard picked up on that. And you see I learned from that, because I said to myself, "What good is this? Why are we doing this?" But Howard had it in mind this was something significant. And of course you didn't have to explain it to Holger. So that's greatness in the making you, see, people taking advantage of an accident, and utilizing it for the advancement of science.

TAYLOR: Not only a great scientist, but humanity, absolutely. He reeked of it. He was just a great human being. I mentioned the name Dr. Gary Weir to you, the . . .

HAMPSON: Oh, yes.

TAYLOR: . . . historian with the Navy. He had talked to Holger once, and Holger was asking a professor if he could audit his course, and the man said, "But you already have a Ph.D." Holger said, "I don't know enough about this. I need to know more." And one personal thing: shortly before he passed away, I was standing on the steps of Redfield with Jack Donnelly, ex-*Alvin* pilot?

HAMPSON: Yup.

TAYLOR: And Holger came up the steps, and he said to Jack, he said, "Well, Jack," he said, "I only have maybe one more dive to do in the *Alvin*." He said, "Didn't we discover a lot?" And it was a great moment to me, . . .

HAMPSON: Yeah.

TAYLOR: . . . because this was one of the great scientists saying, "We really found some great stuff here."

HAMPSON: Holger was very kind to us in the Biology Department. Some people, when they get ill, they don't say too much. He filled us in right from the start, and said that, you know. And then he published a paper about his perceptions of oceanography, and so forth. I have that on my desk with his signature, thanking me for . . . . I did a small job with him, with his student, bore core. So that's over my desk at Woods Hole. And a picture of him, which is a classic. You know, he lost his hair for awhile, then it came back again. But it's a wonderful picture of Holger. Certain people, like once in a lifetime, they'll have a shot that represents the person, and that was a good one. So that's one of the few things that I have.

TAYLOR: One of the effects of the baloney sandwich . . .

HAMPSON: [Laughs.]

TAYLOR: . . . incident was it had an effect on dumping things, waste in the ocean, because it showed the slow rate of decay and organic materials and so on, and it's interesting to me that you biologists in the modern world are almost forced into getting kind of a sidelight to your major goal, and that's the effects of pollution that occur. Holger did it with his baloney sandwiches. You had oil spills.

HAMPSON: Yup.

TAYLOR: Could we talk about that?

HAMPSON: Well, again, in back of our minds, we always thought that oil had an effect on marine life. But we never had a chance to formally test this or explore any events because it was always happening other places. And I'll just let it go at that. And then one day--it was 1969 in the fall--I remember being in North Falmouth, and this is the effect. It happens several occasions in different communities. I said, "Boy I got troubles with my oil burner. I got trouble some place in my house, cause I can smell diesel fuel all over." So I went outside to go down in the

cellar, and it was all outside. The smell of diesel was all over the community. [Sighs.] So I couldn't figure out what's going on. So I went down to the store and found out that an oil barge had come ashore at Basset's[SP?] Point. And I went down and looked at it, but didn't pay too much attention, read the Falmouth *Enterprise* and found out that there was animals coming in on the beach--lobsters and all kinds of things--and that was sort of difficult to get out to Basset's[SP?] point, because it's hard to drive there. There's no roads leading out there. But several days went by, and I'm talking about maybe three or four. And a person called me from Silver Beach and said, "George, have you been down on the beach lately?" I said, "No, I haven't." "Come on down," he said, "We've got all kinds of animals coming in here on the beach." "Really?!" So we went down. And there was an oil sheen. It's a very light oil, but you could see all kinds of fish swimming on the surface endlessly, flounders on the surface, eels going along. All kinds of invertebrates. This was about the second or third day. And when I saw that, I said, "I got to talk to Howard. He doesn't have any idea what's going on." It was in my neighborhood. I gave Howard a call. He came down the next day, and we went up to the Wild Harbor River. What we saw was every kind of conceivable invertebrate that you can imagine was coming out of their holes and swimming on the surface, and being caught into shallow pock marks in the sediment, so that although the tide was going back and forth in the currents, they would nestle in these little pockets, where they were protected from the current. But all these animals were moribund, which means they're in the process of dying. And it seemed like the whole area was of that nature. Everything was coming out of the sediments. The bivalves, the soft-shell clams had their necks sticking out. Everybody was getting involved in this. The shellfish warden was beside himself, George Souza[SP?], because he was losing his shellfish crop. So we estimated that there was almost total devastation of the marine fauna, and

immediately we had to set up a program. I said to Howard, I said, "Howard, what am I supposed to do?" He said, "We got to set up some kind of a sampling program." I said, "But it's great!" I said, "Lookit, we got all this area." "We've got to try our best. We'll just do some inshore samples first so we can come back and do this later on in a time series, and then we'll do some offshore samples too." The idea was, where does the oil getting? Is it just staying on shore? Is it mixing? Is it getting to the bottom? Well, we saw lobsters coming up on the beach. It's pretty obvious it's getting to the bottom, so a whole program had developed. Well, what happens is, when this happens, particularly then, you look for funding. Where are we going to get funding to do this? Oh, we'll go to the Oceanographic. The Oceanographic was very, very good. So we got some funding from them, but then the oil company that caused the spill found out that we were getting involved in it. They offered to give us money. So I said, "Geez, Howard, well, you have to accept it. We got to get something going." So here I am with this check that's been deposited, not the Oceanographic. It's in my account. I've got this check now in my personal account, OK, which is verboten. So I left it there, and I was buying things. I was buying sampling gear and stuff like that out of this money. So it was really silly for me to carry on with this anyway, but as fate had it, it worked out well, because I wanted to give a talk at the Oceanographic, at the Peanut Butter Club. It was like two weeks later, and so I did that. I gave the talk, described everything that was happening. It was well attended. Gustav[SP?], from Fisheries, was there too, and he had done on a lot of work on oil pollution. But what it did is it stimulated other things to happen. And I remember Jan Hahn asking me, "Would you like to write an article for *Oceanus*, and I said "Sure, Jan, there's no problem." I said, "What would you like to do?" so he interviewed me and all that, and we put things together, and as a courtesy I contacted the oil company, and I said, "As I told you, we usually share information right from

the start, so we wanted to publish something in *Oceanus*. They said, "Well, you can't do that." I said, "Well, I told you, we usually report things." They said, "Look, if you do that, we can't fund you any more." I said, "What?" That was it. Rather than continue this[?], I said, "I got to return all this money." So I gave them the check and returned all the money to 'em, and that was the end of the connection, and that was the best thing that could happen to us, because now we were at liberty to get money from the Oceanographic, to get money from the EPA, and it spun up into a major, major report that we were working on. We found oil offshore at the depth-underwater depth--of 40-some-odd feet in Buzzard's Bay. We found that the oil had migrated from the original point source, and it was moving deeper and deeper offshore. Through the luck of having people in the Chemistry Department--Max Blumer. Max Blumer was Swiss. He had a technique where he could trace oil--gas chromatography. It was unknown during that time. Talk about new things! It wasn't unknown, but the oil industry knew about it. But we didn't have a chance to apply it to studying an oil spill, so with Max Blumer and his technique and tracing the oil, and Jerry Szasz[SP?] and Howard Sanders and myself, and then Grassle came in later, to study this oil and find out the total impact, the way this oil behaved. It was initially intertidal, but then subtidal it kept on affecting more and more stations, and we had to go deeper and deeper, out into Buzzard's Bay in order to find the control stations, because the control stations that we had inshore soon became contaminated over time, and it moved further and further out. Well, what did we have here? We had the first documentation. You're never the first, but I'll say it--the first documentation of an oil spill and the extreme and long-term effects and impacts it had. We had a lot of students that picked up after that and carried it on for years after that. But the oil industry now was trying to find ways of finding imperfections into our research. And I won't be negative too much at this point, because it doesn't accomplish anything, but let me just

say that they tried to find the worst that they could in our procedures. It wasn't like, "Oh, geez, you're onto something. Let us help you. Maybe we can be of assistance." It was, "You did this wrong. You did that wrong. You did this wrong. It happened because of the weather." And we had to go over backwards to explain, because our information very easily could have been criticized and ridiculed if there was the slightest bit of imperfection, so Howard was very, very detailed in everything that he had us report, and Max Blumer likewise. 'Cause that was the beginning of saying, "Hey, no, oil doesn't just go away. Oil doesn't just float on the surface. It can in fact impact, and it has devastating results." And the town of Falmouth had, during that time, a big award from the oil people, when they settled finally, and it was, oh, let's say $20,000. I can't remember the figure. But we were very pleased about this, because we did get money back, and they finally admitted the fact that this did cause impact on the environment. And from that study, other people picked up other parts, and there were simultaneously other people working in the field. They read our papers and, "Gee, we got the same thing. This is exactly what's happening in our area." And so it grew and it grew. We gave a paper up in Canada, and from then you no longer could look back and say, "Oh, forget about it. It's going to go away," as we were told so often before. It's the environmentalist coming out in me, and Howard had it. He instilled it upon me, this environmental work that we got involved in. It took him almost completely away from the deep sea for the longest period.

TAYLOR: Well, it brought him back to his original love. He was an . . .

HAMPSON: Yeah.

TAYLOR: . . . environmentalist.

HAMPSON: Exactly, and we were fighting battles, Frank. People were asking us, "Would you please come to our place. They're planning an oil refinery. We need you to testify." And so we were going a lot of that stuff, you know.

TAYLOR: That was about the time that they were thinking of doing a refinery up around Machiasport in Maine.

HAMPSON: Yes, I went to that, too.

TAYLOR: I guess my own feeling was, we have some of the strongest environmental laws in the world, but sooner or later you're going to get slush coming up. Just for the sake of clarity, was this a No. 2 household oil, or . . . ?

HAMPSON: No. 2 fuel oil, No. 2, and it was the barge *Florida*, and it occurred I believe it was September 16, 1969. And during that fall, we had the silent fall. You know, you hear about the Silent Spring. We had a silent fall. The birds stopped going around there, because there was nothing much to eat or feed on. It was totally silent in Wild Harbor during that fall period. And it continued the following spring, too. It was very quiet. The oil had impregnated all the soft sediments. It had gone into the marsh. It had flooded Wild Harbor River, in and out multiple applications. It impacted the whole river. Almost all the shellfish were either polluted or killed. We had over 99 percent mortality. You might as well call it 100 in that immediate area. And then offshore it impacted animals there too, including the lobsters. It was devastating. But, as I said, it was fun reading the reports of how flawed our work was, and then Howard had to answer this. Because if it comes in the right context you've got to answer it. You just don't sit back and say . . . . So he answered that, very effectively. We had some help, but it's very difficult to get help when that happens, because nobody wants to get the oil interests upset, because they have so much strength and funding in different areas, so we did get an engineering publication that

answered the criticism that [??] had received. That's a whole different thing, Frank. I could spend six hours talking about that. But suffice it to say, time was on our side. Other spills: same kinds of things--long-term effect, oil in the sediments, and guess what happened just last week. Another spill that we worked on, which happened in 1974, called the Bourne Spill. I was sent out in November to take some samples for Chris Reddy in that Bourne Spill. I took some cores in November and handed it to him. Just last week he checked the cores. It had oil in the sediments from 1974. It's 2002.

TAYLOR: I don't know whether you folks would admit to this, but I think there's a certain amount of reverence on your part for the critters that you study, and this is like a nuclear holocaust being unleashed on them. Is that part of the reason you got involved in that kind of study, or was it just an opportune thing to do at the time?

HAMPSON: More [clears throat] that I was driven, because we knew that what we heard about the reports, over and over again, about oil spills, and no impacts of the oil. The oil would simply float. So we were driven. We were driven, and when we saw this, the devastation, it was very obvious that we would be doing this for the next few years. And we got all kinds of funding from the EPA. We were the model in our country, and the only people who were close to us in doing a good job were our good Canadian friends, and that's why the seminar was held up there. They invited us to go up and talk. Blumer was involved, and so Howard and I gave a paper together with Dr. Maul[SP?].

TAYLOR: Didn't you testify at Congress or something like that during this period?

HAMPSON: Yes. That was about the environment in general, but it had also to do with oil spills. But the focus of that was Congressman Studs invited people who had participated in areas of science which was significant. But not only did I talk about oil spills, but I talked about the

general downgrading of our environment--all the estuaries in the small salt-water ponds, the fact that there seems to be no control. Nobody's paying attention to what's going on. Now that has changed somewhat, but we still have that problem. It was extended beyond just oil spills, and I remember that day again. [Laughs.] Like yesterday. Some of those rooms are very intimidating. They've got all this filigree on the ceilings and all. You feel like you're in St. Paul's Cathedral in some cases. But having congressmen ask you questions like that. It can be intimidating, but usually they're pretty good. When they ask questions they're not trying to trip you up. They're trying to get information out. So I did my thing and went home, and that was a first for me, to testify in Washington. I was very proud of that. That was one of the highlights.

TAYLOR: Oh, I would think it would be.

HAMPSON: It really was, yeah.

TAYLOR: And other significant things that happened because of this initial study. People like John Farrington got off the straight chemical look and started things like the mussel watch to get

HAMPSON: Yes.

TAYLOR: . . . heavily into pollution. I don't even know how to classify it in terms of the science. It's not <u>the</u> science you were doing. It's the result of an impact on the science you were doing. But based on that initial thing, it kind of flowered.

HAMPSON: There's plenty of hydrocarbons, naturally occurring hydrocarbons in other things which are similar to the process of the oil that we were studying. And that's what Max Blumer was working on. That was what Farrington was working on. So it was a natural to spin off and go into these man-created products, 'cause a lot of these products are created by cracking, and so forth. And then there was the funding source. The funding was there. You just had to ask for it. So the techniques and the background information was all set and ready. And the same for us in

the biology. Because if an animal was missing or an animal had died, I could tell, because I could see the bodies that were left. Nobody in their right mind would be able to see this. I could see that an anthropod, which is a little shrimp-like thing--after the animal had died, the only thing that was left, in my samples, was the head and two red eye spots. I knew it was an individual. So I would match that up with the original concentration of animals that I got a week before. So I'd get 37 animals, and then I'd go back and take a sample. Those animals had died and rotted. But I could match up the eye spots, and I'd come up with the same count again. But they were all dead. It was like a forensic type of assimilation of the fauna. And then the bivalves were dead and opened, just parted, as an animal will do when it gets stressed, particularly the clams. You knew it was moribund, or it died. And you could count those, so we not only got it before, but we got during, and then the carcasses afterwards, and we did this subtidally. We put that all together.

TAYLOR: OK, I'm going to stop there, because I think I'm running . . . .

[END OF SIDE 2]

GEORGE HAMPSON

ORAL HISTORY

April/May 2002

Interview by Frank Taylor

Tape 4 of 4 Tapes

Transcribed by Arel Lucas, July 2004

TAYLOR: 2, 3, 4, 5, 6, 7, 8, 9, 10 [Tape stops and starts again.] . . . [Some unintelligable ongoing comment from Hampson in the background.] . . . aromatic hydrocarbons, the whole. Well, we're into our fourth session with George Hampson, and I am finding this really, really interesting oral history, and one of the things that's interesting me the most is I'm finding that, even though George is emeritus and supposedly retired, that that really hasn't happened, and I think one of the hallmarks of the inquiring scientific mind is that you don't really retire. You go on to other things and other ways of doing things. And what brings that subject up: we talked last time about the oil spill that took place down here, and we went through it pretty well. I looked at some of your articles on that, some of your writings, and because . . . . Was there any kind of public outcry as to that oil spill?

HAMPSON: It was very local. The outcry about the oil spill was local. But the thing what we did is we lit the fuse on the outside world that there was a serious problem. Remember, this is the Oceanographic that's doing this. Maybe a small university, that data could have been buried, and I'm not knocking small universities. It's just: this is the Woods Hole Oceanographic Institution, premier institution in oceanography. We're finding long . . . . Well, at that time it wasn't long-term effects. We're finding serious effects from the impacts of oil. So when we started to publish, even locally, here, in *Oceanus* Magazine, in 1969, that set off waves, and we had people calling us about it. And I'm talking about within the state and interstate, people were calling us, and [??]. And then when the oil companies got ahold of this, it again was the Oceanographic they had to answer. They had to answer, "No, there is no impact. There is no long-term impact for oil. As a matter of fact, it floats on the surface, and it doesn't cause any long-term damage. That was the answers that we got." And so our work was looked at, very carefully, under a microscope. Everything we did was checked very, very carefully.

TAYLOR: You initiate a scientific research against a major corporation, and rather than them taking that information and saying, "OK, how can we do a better job? How can we clean our work up?", what kind of response did you actually run into?

HAMPSON: We ran into responses, both Howard Sanders did, and also Max Blumer, in that letters were received from the Petroleum Institute. I can't remember the gentleman who said it, particularly to Max Blumer, that said that although they respect what we had done, they find that

our study is unique, and it hasn't been seen before, and therefore they agreed to disagree in that the oil company said that they did not believe our findings. And I still have a letter to that. And it got more serious, sometimes, in that they tried to find any abnormalities in the study or peculiar events which they could blame the effects of the dying of the organisms, other than the fact that it was oil. We're not talking about strong winds--it was 30 miles an hour, "strong winds." That's nothing for us. [Clears throat.] And they talked about emulsifiers were the reasons that the oil killed animals. And so this was published, and I have a report here, if I can just . . . . I'll do this briefly. It was a publication on the effects of oil spills on offshore brine discharges on marine biotic communities. It was authored by a guy named Mackin, who is from Texas A&M, and that's [spells it] M-A-C-K-I-N. Now, he was supposed to review the whole field. But what he did is he centered on the West Falmouth oil spill, and he <u>focused</u> on that and found all the things that were in any way you could leverage to find a crack that there wasn't long-term damage, and then he went on to say that from <u>his</u> work is that the effects of oil was short term, was never long term. As a matter of fact, in some areas, as stated in this report, that they found an <u>increase</u> in the amount of life after an oil spill, and this is actually true. But the problem is the diversity of life goes down. You end up with one or two species and then they flourish--as we talked before. So he didn't really understand that that is a purely biological event. Any biologist would. But this is 1973 now, so an oil spill occurred in '69. We're starting to gain evidence, and these reports are now coming in to disqualify our work.

TAYLOR: Thirty years later.

HAMPSON: And thirty years later we're still getting information on that oil. But it only took a few years before these reports start coming in, trying to find fault. Remember, Mackin now is 1973 in his report, and our spill was in '69, so it took a few years before--I say "the oil industry." It's one of those terms you use. It usually is a particularly oil--could Mobil Oil or could be Texaco--that does this, but generally it comes on the umbrella of a united group of oil interests that does this, OK?

TAYLOR: I guess I would not have a terrific argument with a company that had millions of dollars invested, who was going to look awfully carefully at someone else's research to make sure that it was in fact saying what it was supposed to say. I guess I don't have a big argument with that, but there's all kinds of subtle pressures that get applied because of that approach,

pressures on an institution like Woods Hole. I'm sure government people got involved at some point because the oil industry gives so much money to the government.

HAMPSON: [Slapping sound as of hands on legs.] Well, this is getting into very, very sticky areas, but I have to say it. We were celebrating an award that we received from NSF for our deep-sea research. And I guess the time, if I remember, is that we were running low on funds, and Howard applied, and we got the award. So we were celebrating this. And I remember it. It was after the spill. It could have been 1971, something like that. Now, remember, Howard was under the gun also to produce a preliminary report for the EPA, which I have here. It ended up being called "A Decision Series: a Small Oil Spill at West Falmouth." And the fact that they were giving us this money, they said, "We need a report." Well, Howard was trying to get the ultimate word. He wanted to make sure nothing that he said was premature, so that again they couldn't find a small crack which could discredit our thing, so he was waiting until that information would come in, and it was continuous, so there was no stopping point. It would go on forever. So the Oceanographic said, "Get that report in. Fulfill this request. You have to do it, Dr. Sanders. You got to do it." Well, getting back to that celebration we had, Howard got a phone call, and I turned it over. I said, "Howard, it's for you." So he took the phone call, and when he came out he was sort of white. And I said, "Howard, what's wrong?" I thought something happened to his family. And he said that, because of the fact that we had delayed in not fulfilling our promise to deliver the report in a timely fashion that the Institution was cutting off his salary. OK? And that was hard. That just about destroyed our party. I went over to Howard, and I said, "Jesus, don't let this bother you!" I said, "We'll work this out." And I said, "We've got to do something. We've got to get that report in." So here it is, no good deed goes unpunished. And we were doing something that we thought that was critical. We had to do it right, or else we would have been discredited, and that's why the reports were late. And eventually it came out: EPA Report, "A Decision Series: a Small Oil Spill at West Falmouth," and that was one of their premier reports. And they really cherished that. But behind the scenes that had happened, and I remember the day. That's not the only report, by the way. We have a tome here that was finally written, and I'll refer to this, OK? This was really checked over in close detail, and nobody found anything wrong with this, other than maybe a few typos or something. But it was ironclad, OK. Still gets referred to today.

TAYLOR: You keep saying, "a small oil spill," and in truth, in comparison to some of the other disasters it was. However, that could have been such a beautiful microcosm for what the potential was. I mean, you got into marshes, and those are breeding grounds for fish, . . .

HAMPSON: Yes.

TAYLOR: . . . shellfish and things like that. You had different kinds of products. This was a No. 2 oil, household oil?

HAMPSON: That's right.

TAYLOR: That's pretty toxic stuff, isn't it?

HAMPSON: Yes, it is. By the way, just for reference, there was between 650,000-700,000 liters. We had to change that for the report. Obviously you don't put gallons. The thing about No. 2 fuel is a lot of it evaporates very, very quickly. These are very, very aromatic hydrocarbons that are just volatile, and that's what you smell. Remember, I told you, that day we could smell it all over town. But there are other parts of the oil that are also aromatic hydrocarbons but they tend to dissolve in the water. They simply will dissolve. You don't have to even apply much of a motion. But if you do have motion--waves--they will dissolve. These are serious things. I mean, you don't go around putting No. 2 fuel on your self intentionally unless you have something wrong with you. People have done that. A lot of people are dying of cancer as a result of working with toluene and benzene and all these aromatic hydrocarbons. Those will evaporate, and then there's other ones that will dissolve in the water and find their way to the bottom. And that's where they cause damage--immediate. It always starts with the animals being impacted by loss of mobility. And this is the moribund thing. You see the animals just lying on the ground. They're still alive. You touch them. They move. But they're almost like in a state of being anesthetised. But they're in the process of dying, and then they can't--apparently--process their normal events of circulating blood, and it's toxic to these things, and that's what we saw in West Falmouth: large pools. These were depressions in the sand choc-a-bloc full of invertebrates. You've never seen anything like it. These photographs are available. So that's the toxicity part, and then it's a long-range toxicity part affecting the gonads and other things like that, and the behavior. That's another example of what the oil can do, in that animals going and showing signs of breeding out of season when they normally don't. And then they can't burrow far into the sediments, and then they get killed during the winter. All of these have been published as a result of this spill.

TAYLOR: In Boston Harbor, Chelsea Creek comes into the Harbor, and of course there's all kind of oil storage . . .

HAMPSON: Yeah.

TAYLOR: . . . there, and I know at one point I was on the EnviroLab and they stopped and revved up their propellers, and we pulled oil right up out of the substrate. And when you sample for life down there all you can find is polychaete worms. It's nothing else.

HAMPSON: Yeah, a very special kind of polychaete worm, called--it's either mediomastus or Capitella capitata, and they're very resistant, and they called opportunistic species.

TAYLOR: So is there a possibility with what went down here 30 years ago, that's now a few centimetres down in the substrate, that if some kind of construction went on, or something like that, that might change a coastal current, or the way waves moved, or something like that, through shear, could be exposed again and cause a problem for the . . . .

HAMPSON: I think it would be limited. I think Chris Reddy, Dr. Reddy here at the Oceanographic, a young scientist who is a geochemist, also he specializes in oil-spill research, is finding that oil. But I don't think the concentrations are as great, and I think it's lost some of its toxicity, but the oil still exists there. I think it would cause more of a concern of seeing the sheen come up. And it's very doubtful that there would be any kind of heavy construction going on in this area, because by nature that environment is protected, so you wouldn't have digging going on. But, if someone decided to dredge, they actually test for that. They test the sediments before dredging is allowed--just for this reason, to make sure there's no toxins. And if there is toxins, then you may not be able to dredge, or, if you do dredge, it's with conditions that you remove the sediment and it's taken off site.

TAYLOR: You mentioned Dr. Reddy, and I just had the opportunity of listening to him talk about his continuing research in that area just yesterday, and at the end, when he asked if anyone had any questions or comments, I had to tell him that I was doing an oral history with George Hampson, and he might like to listen to it to find out what this was like. He held up his hands and said, "You don't have to go any further. George is making me, a young scientist, into an old scientist in terms of learning how to do this kind of thing." And I kind of chuckled at that, but the thing that got me was that this has become a lifelong study with you. You're still involved in it. Now, how did you two get together?

HAMPSON: Well, I think Chris--Dr. Reddy--was reading the papers about the West Falmouth oil spill, and obviously he knows Farrington, and he had it as a project, I think, a summer project, working with some students--that he wanted to go back to the same site, see if he could find the oil. I was doubtful. I said, "Chris, I'll help you as much as I can, but I've been out there, and I can't find the oil, so good luck." So I showed him exactly where there's a good possibility. We set it up, and he went off to Wild Harbor River. And I left him there, together with his students, and they were plodding through the marsh. They finally found the oil. They took some core samples, and they recognized it. And that's from the '69 spill. That's the *Florida* oil spill. And again, you'd have to talk to him to find out about the toxicity, but I think it's lost its punch. But definitely he could recognize it. And he did the same thing with the Bourne oil spill that occurred in 1974. He's recognized the oil as of one month ago, and that's 26 years.

TAYLOR: One of the things he said is there's still a pretty good dome down there at a certain depth.

HAMPSON: Yeah.

TAYLOR: And he's going to try injecting sulfates, and even sea foam into this to see if they can take and reduce . . . get the bacteria chewing the stuff up, so to speak.

HAMPSON: See, that's where the good science is coming in. That's what the oil industry would be interested in. There's another part to this. It's the damage. And now, how can we fix it, and that's what Chris is going into. There's a very good possibility he might get funding from those oil company that turned us away! [They laugh.] I would hope so!

TAYLOR: It is a strange and twisted path, isn't it? [They laugh.]

HAMPSON: Yes, it is.

TAYLOR: Did you ever think, "Gee, I'd like to work at a job where I just got a weekly paycheck. I didn't have to worry about funding and all that kind of thing"?

HAMPSON: I think we've all done those jobs. It certainly is a way of expending energy and knowing that there's something at the end, and of course in science we've had our times of being up and down, having funding and not, a dearth of funding. No question of staying in this area as much as you can. For any of this, because although the funding in science is not always a guarantee, I'd be willing to take my chances. I have a feeling there's always somebody looking out for you, if the time comes when you can't get funding. And I've had that experience happen here at the Oceanographic. Big brother's watching out for you. You never know who they are.

TAYLOR: But it would be nice to convince the general public to look that generously at what goes on at the . . .

HAMPSON: Yeah.

TAYLOR: . . . Institution other than perhaps an informed few, if you will. In helping Dr. Reddy, you've had some chief-scientist experience, haven't you, onboard ships?

HAMPSON: Yes. Yes. Love it.

TAYLOR: Does that present any unique problems to you, where you had to run the show. It wasn't a case of your just fighting for your own thing? You had a captain you had to deal with?

HAMPSON: Generally it goes well. That's because we have such a good team. We have the equivalent of the Ballard team, if you will, in biology. So we all knew our job, and as long as the weather held we were in fine shape, but sometimes the weather got bad, and we would have to hove-to for awhile, and that way there we were missing and falling behind schedule, so we had to catch up. That's where it got a little bit hairy. But generally the chief scientist--he simply delegates, if there's a problem, goes to the captain. We talk it out and then all home, necessarily. We did a lot of that. So you're not far from the phone. You can always get help from your boss, who might not be on that. And what I did as chief scientist, really. Rose Petrecca: she was one of the key people in doing a lot of the trips that I was on, and it was because of people like her is because I had very little problems being the chief scientist.

TAYLOR: It's an interesting thing that most people would visualize an oceanographic voyage as being a stationary ship in extraordinarily calm seas with a beaming sun coming down on you. And when you're a chief scientist and someone's got project money and they don't want to lose time and all that sort of thing, and the seas are showing 10- to 20-foot swells, and the vessel's heeling side to side, I would think that's when it might get a little tight being a chief scientist.

HAMPSON: It is. Frank, you always have to try. You can't go back to your funding agency or go back to your boss who is at home. In this case he was. You can't say, "Well, the wind was up, so therefore we stopped, and we hove to." You put the instrument over, try to get a sample, find out you're drifting so fast--remember now, we didn't have bow thrusters all the time--you can't hold the position, and the dredge never gets to the bottom. [Laughs.] It's flying out there, right? So, an example. I remember it just like it was yesterday. As I told you, I can visualize stuff. We're out there with this grab[?], Rose and I, and we're ready to put it down. Blinding snowstorm. And the wind is blowing like a son-of-a-gun. And Rose said to me, "We're having

some fun, now, aren't we, George?" [Laughs.] I never forgot that. We never got the sample. So cut it. [Laughs.] It's all off. We can't work. Now, the time you get hurt, the time you cause injury to people is when you try to get that sample, and there's several times when we shouldn't have put the dredge over, or we put the dredge over and the winds came up. We had waves on the back of the deck, and we had people floating all over the place. I suddenly realized in my life that there is no way that you can stand up on a deck with a wave coming at you--I'm not talking about one that comes to your head. I'm not talking about one that comes to your belt. I'm talking about one that comes to your knee. It knocks you right down, and there's no way you can stop it. So everybody was adrift on one of these trips of ours, when we shouldn't have been working. Guess what? We called it off. That's it. It's stupid. You don't do it that way. What you do is you say, "From my experience, we shouldn't be working today." And you stop it, and then take the heat, if you have to. You want me to be chief scientist? I'm calling it. That's why being seasoned, being out there a number of times, the people, the John Kemps of the world--they know. They know when to say, "That's it. We can't work. It's a given."

TAYLOR: So in those instances, then, a captain and a good mate is really essential to what . . . .

HAMPSON: Yeah, and they'll call it. You don't call it, they'll call it. Right over the phone. "I think you'd better wrap it up." And they're not saying . . . . That is a command.

TAYLOR: [Laughs.] This is not a maybe.

HAMPSON: This is not a maybe. "We've had it."

TAYLOR: I think of a large piece of many-pound equipment flailing around. I can think of the enormous tensions on the cable lines . . .

HAMPSON: Oh god yes.

TAYLOR: . . . that, if one lets go or snaps, there's just like a scythe going through things. So I always thought it could be kind of tough to be a chief scientist. What made me think that was when I was doing Captain Emerson Hiller's oral history. He told me with a very slight twinkle in his eyes that he never had any difficulty with the chief scientists whatsoever. They sat down and amicably discussed things. And then the next session he brought in his scrapbook with all the letters from the chief scientists on his retirement, every one of them who was living in fear [laughs] of Emerson Hiller. They weren't going to mess with Emerson. He knew what was going on, so they weren't going to push it one way or the other.

HAMPSON: That really makes life easy, to have a person like that. It's a chief scientist that maybe can't make up his mind right away, a captain, and you take that fateful step of doing something when you shouldn't have been.

TAYLOR: You just mentioned the term "team," and you said we're as strong a team as the Ballard team over at the DSL. More people that I have talked to in these oral histories have emphasized the whole idea of teamwork in terms of oceanographic enterprises. And that team is more than just you and your immediate superior and your contemporaries, isn't it?

HAMPSON: That's right. Our team was USGS, Mike Bockther[SP?] and his group, Ricky Rendigs[SP?], Rose Petrecca, Hovey Clifford--all of us served the position that we did, a person specializing and arming the box core, another person specializing in lowering it to bottom. And I didn't like to switch too many times, because it's nice to specialize in something, although if the person got sick you might be in trouble doing that. But we all had our strengths that we did, and did a lot of work in the '70s and '80 for the exploratory drilling that oil companies were allowed to do off of Georgia's Bank? We won the award to do the monitoring. And that's what brought this all about. We had cruises running all the time. *Oceanus* and the *AII*--we had a lot of work.

TAYLOR: The ship's crew was as much a part of your team.

HAMPSON: Absolutely. They know. They know exactly what's going on. You'd do 200, 300 hauls. But you've got to be careful, because it lulls you into thinking that every lowering is the same. It's not. There's sometimes a little variation. So I always think, every time I put something down, that this is unique, OK? Handle it. Pay attention. Pay attention to details. Make sure when it comes up to watch the wire, in case there might be a tangle, and then bring it to the bottom. And still, I say, "when you people start thinking that, and you get happy when the box core's gone over, and it's coming back, and you got this feeling of 'Oh, isn't it nice out here,' be wary! 'Cause that's when it happens. That's when you lose the box core. That's when you cause injury. Always be a little bit on guard. Always!"

TAYLOR: Reminds me of a sentence Chuck Yeager came out with. Remember Chuck Yeager, the . . .

HAMPSON: Oh, yeah.

TAYLOR: And he said that he was flying a little Piper Cub one day. Now this is the man with all kinds of vast experience, so he was kind of joy riding, and he said "And that's when it bit me." And he said, "You know," he said, "you have to watch." He said, "I don't care what the

situation is. A little Piper Cub, or an X-15 experimental plane. You don't pay attention it's going to bite you." And the same thing would be true of the . . .

HAMPSON: Exactly. Exactly.

TAYLOR: . . . Oceanographic. While you were here, a number of really interesting things happened. One of them was the Emperor of Japan . . .

HAMPSON: Yup.

TAYLOR: . . . came to visit. Now [laughs] could you go through that whole experience. [Laughs.] You know, when the assistant prime minister of Great Britain came through about a year and a half ago, it's the first time I saw the floors waxed, some of the walls newly painted, and then this guy came through about 40 miles an hour. What was it like from the anticipation to the visit with the Emperor, who was also a marine biologist, as I recall?

HAMPSON: That's right. I think--although you never know for sure--I think he was particularly coming to see Howard Sanders. And he also had the counterpart on the West Coast. I think it was probably Scripps. In other words it wouldn't have been too politically astute to visit the Oceanographic and not go to Scripps. So he did, and I believe this was 1975, and I stand to be corrected if that's not. I'm just checking through my notes, 1975. So we got the word that the Emperor was coming. Now Howard had been exchanging papers with the Emperor. Obviously the Emperor doesn't send you his papers. He has a group which does that, and you know it's coming from the Emperor--has the Emperor's seal on there, whatever that was. So they had been working together, and they had a mutual respect for each other, because the Emperor knew that Howard was one of the foremost benthic ecologists in the world. So, when he decided he was going to come and visit United States for whatever reason, he was coming to Woods Hole. He was coming to Woods Hole for MBL, and I don't want to not say that, because MBL played a very important part. There are signs over there which lead to this. But anyway, so he visited Howard and he visited the MBL, and it was fun leading up to that visit. Behind the scenes, we had <u>so</u> many visitors. God, we had <u>hundreds</u> of Japanese reporters come through our office, and they would photograph everything. "Where is the Emperor going to sit?" "The Emperor's going to sit here." They would shoot the chair. They'd shoot the scope. They'd have all these pictures. I had photographs lined up on the light table, and they were photographing my slides on the light table. I'm saying, "These are not going out!" but for Japanese TV. This is where the Emperor is coming! [Laughs.] I remember they had another

person who was the Emperor's bodyguard, not only his bodyguard, but he watched out in details for anything that the Emperor does, and when he got to my scope, he was looking at it, and he said, "This scope is not . . . ." (How did he say it?) It wasn't in good focus or something like that. Well, I had it focused for my eyes, obviously, but what we had to do is anticipate the Emperor looking through that scope so it was all set up for him, and then the seat height wasn't so perfect, [Phone rings.] whatever that was. So what I did is I went to Bradley's and got a cushion, and put it on the seat. This was my New England way of fixing things--not to buy a new chair. Ooh, you're not going to buy a chair! I fixed it that way, right? Well, now, can you imagine what that seat was worth after that thing? So when one of my very special friends came through who was Japanese, I said, "If you would like this, you can have it. The Emperor sat on this seat." Those are the things behind the scenes. Very tense that day. We had some people who were standing vigil in front of Redfield in protest. I think it was about fishing or attacking whales or whatever. A lot of people who were in the War, World War II, and they were wondering what in the heck we were doing. Why are we doing this? So there was a backlash. Generally, Americans, the way we are, we put on a good show. And so I had a chance to see him, showed him live cephalocarids under the scope, and it's the first time I heard a Japanese citizen say, "Ah, so!" and it was from the Emperor, 'cause the animal was alive, and he didn't expect it. And when that animal swam, he was just like a kid.

TAYLOR: So he was legitimate, then?

HAMPSON: Absolutely, without question. Sus Honjo was a basket case. He was in before the Emperor came, in anticipation. He was in there doing his exercises to get rid of all the tensions. And at one time I went in there, and Sus Honjo was standing on his head. I said, "Sus, what are you doing?" And he said, "I'm doing my pushups." [Laughs.] That's the way it affected people. To us he was a scientist. To Sus Honjo it was a god, see? [Slap of hand on leg.]

TAYLOR: Yeah, that must have been quite an experience.

HAMPSON: We had special clothesmen[?] all over the place. Oh yeah, it was something. Howard made sure we were there.

TAYLOR: You go back to Howard again.

HAMPSON: Yup. "This is my team, they're going to be here. Period." So in that photograph you saw it was myself and another technician from our lab, Susan Gardner Price[SP?], and he made sure that we were there. 'Cause there was a time in which I asked him, I said, "Do you

want us?" He said, "Oh, yes, of course I want you there. What do you mean? You're part of the team."

TAYLOR: Just as kind of an aside, I wanted to mention. I was telling some of the people here about how many people, yourself included, have talked about Howard Sanders with almost reverence in many ways, and how the reputation in the Institution doesn't match that particular level, and we really ought to be writing something, because it's not just from you I hear this. I hear this from Scripps and . . . . Underappreciated, maybe, for what he did?

HAMPSON: Because of his nature, he wasn't a high-profile person. He was very, very humble. He was not aggressive. Only if you forced him. If somebody in line pushed in front of him. I saw Howard get mad one time. I think we were in a plane line, you know, waiting for an aircraft. Other than that, I've never seen him get really upset. You'd have to really push him, and then he would get upset, but it was very seldom. So a person like that: he's just sort of quiet, does his thing [slapping sound as of hands on legs], and I think it's human nature that these kinds of people are not as . . . . A type like Ballard, who tends to be more aggressive, and he's good at it. And that's not in a negative way--it's just the way he is. And Howard wasn't that kind of a person. So consequently more information would come up, and Ballard's [slapping sound] work is more exciting, in a way, for the public.

TAYLOR: I guess as an ex-teacher I always have problems with style over substance, so to speak, you know?

HAMPSON: Yeah, I know.

TAYLOR: And I would like to see someone like that gain more. I almost thought of talking to his wife, who is still alive, and letting her know that I have heard from so many people what an exceptional man her husband was.

HAMPSON: It would be very nice, Frank.

TAYLOR: You know?

HAMPSON: Yup.

TAYLOR: The science wasn't the only thing that you did here. You got yourself involved in some other things, like bringing youngsters into the Institution. Jake Pierson got you involved in that, didn't he?

HAMPSON: That's correct. Jake Pierson and John Farrington. And when I told you about the Bourne oil spill, the thought was to continue getting information from tracking the recovery from

that spill from damage caused to the marsh grass, and what my project was to have students come in, and there was a variety of different organizations that came in, to actually play a part, and we were going to monitor that grass. And we just repeated the stuff that Dr. Marolf[?] and I did in 1974. So we had a group of students, and I'll focus on the first group. They were Upward Bound students, and they were Navajo Indians from Arizona. And whenever this happens, you get a dossier on Navajo kids and what to expect. Well, now, after I got reading this stuff, I'm saying, "Omigod, not only am I going to have a hard time explaining to 'em how to do the sampling, but now I have this culture shock, where I'm going to have to learn about all their habits and all their folklore, and that's going to distract me. So, to make a long story short . . . . And they all had these wonderful names, like "Flower Child," and beautiful names. It's really nice. So they finally get here, and, again, breaking all the rules as I normally do at the Oceanographic, I had my own personal boat, and we had all the kids get in the boat, and I took 'em over to Hadley Harbor for a swim. Well, I was told the first thing they would do before they would go in the water is they'd break out a little pouch and sprinkle pollen on the water, so this is making the water safe. So I'm waiting for the pollen to come out. So I said, to 'em, I said, "Aren't you going to do something with the water?" I said, "I learned that you have a technique." And they said, "Who told you that?" [They laugh.] Guess what! You know what I had? I had a whole bunch of kids in my boat. They could have been American. They all jumped in the water and went paddling around. We had a wonderful time.

TAYLOR: Was that their first salt water experience?

HAMPSON: I don't know. For the most part, I think it probably was.

TAYLOR: I could think, from Arizona . . . .

HAMPSON: Yeah. It was wonderful. And that broke the ice, by the way. From then on, we worked together beautiful.

TAYLOR: Were these kids disadvantaged in any way?

HAMPSON: No, no, they weren't. They all were from the Reservation, and they experienced their culture, their style of education, and I experienced building a fence with one of the students as sort of a side job. We went up to ESL. And he was exacting in everything he did, so much so that he was better than I was. He wanted the fence to be perfect, and that's the way he was brought up. And so I did it that way. I said, "Gee, I'm not going to destroy anything that's in your mind. You want to do it this way? We'll level it, make sure it's perfect," and we did that.

They were just like any kids anywhere except you could see the features in their face. They definitely were Indians. They could speak English well. They didn't want their picture taken. No, that was one thing. Because apparently you take their photograph, they felt as if it's an invasion of their life and it might affect their afterlife or something, I don't know. But they tended to hide. I remember, I could never get this kid's face without him closing his eyes. That was his way of protecting him. He closed his eyes. It was kind of silly, but . . . .

HAMPSON: You couldn't see into his soul that way.

HAMPSON: Yeah.

TAYLOR: When you get kids like this, sometimes I am totally shocked and absolutely depressed by the time I go home after some of the experiences I've had with youngsters that have been brought into the institution. A couple of years ago we had a group of disadvantaged youngsters come from Brockton, inner city. And I showed them ABE, and I tried to compare it to Lego-Logo, you know, almost every school kid knows it. They didn't have a clue what Lego-Logo was.

HAMPSON: Um-hum.

TAYLOR: So I said, well, let's just look at Legos. Didn't know what Legos were, George.

HAMPSON: Yeah, yeah.

TAYLOR: The big excitement: one kid, who was paying no attention to me, was looking over the side of the dock, and he saw a fish. That's what they all rushed up to. They hadn't seen a fish in the water. It just had never been in their experience before.

HAMPSON: Wow. Yeah.

TAYLOR: So this program. It wasn't for disadvantaged youngsters, or was it?

HAMPSON: In this case, it was an education program for a group of students, the Upward Bound, from a different area of the country. They weren't disadvantaged. And then, just the opposite, the other group was Upward . . . . We had a group from California, and that group, they had applied for an award, and they were very, very smart, much more than I could ever even hope of being, so it was mainly just the opposite of disadvantaged, was advantaged students who had a great deal of training and were superior in intelligence. And I took advantage of that, by the way. 'Cause any time at all, I'd say, "Look, you set this up, all right? I have an idea of how I' going to do it . . . ."

[END OF SIDE 1]

HAMPSON: . . . puters. Of the fastest computers that you can imagine. And you push the buttons, ch-ch-ch-ch-ch, and they would go, and they'd take the information, and it would come out beautifully. And they'd use the computer, and then we were starting to use graphics. So I had fun for you?

TAYLOR: A pretty enriching experience for you?

HAMPSON: Absolutely, without question.

TAYLOR: Now how did they happen to pick you?

HAMPSON: Well, once I did this Navajo thing, that was so successful that John Farrington kept on getting these grants. He said, "You interested in doing this?" He was one of the people that watched over me. He said, "You interested in doing this?" I said, "Geez, John, it was fun the last time. I'd love to do this." And I said, "As long as the organization talks to us in advance, that's very important." So that's one of my criteria: make sure that the administrators would get in contact with us. And then we would pick the kids up. They were from all over the United States. And then I remember having two kids from Nantucket. We had two kids that didn't make it, so we got these kids from Nantucket that I'd worked with on a project over there, for a biological assessment for the town. We incorporated them into the team also. It was mainly because of John Farrington and his input. And they were first-class programs. I mean, the money was there also.

TAYLOR: The Institution doesn't do an awful lot of that kind of thing. They may do it at a graduate level, but they certainly don't do it at that K-12 level. Is that something you would like to see personally, is kind of an educational outreach here?

HAMPSON: I would. You have to really keep in mind, or order to do that, it does involve, again, paying attention to details. You have to be really organized and on your toes, and you've got to keep these kids occupied all the time. They have a good way of doing that with the coordinator who would come. We had an excellent coordinator with the Upward Bound group, and then there was one coordinator that fell short, and, as a matter of fact, right from the start they fell short, but we circumvented that by having our group here at the Oceanographic help. And then the students were smart enough that they [laughingly] worked it out themselves.

TAYLOR: Kids are the greatest copers on the face of the earth. If they're in good spirits they're going to make something work, and to their . . .

HAMPSON: Yeah. Exactly.

TAYLOR: . . . advantage. Now, what were some of the other--I guess, for lack of a better term, I would almost call them--"community-related" things that you did around the Institution?

HAMPSON: Well, I think the most eye-opening experience was . . . . I mean, you're talking about Town affairs now?

TAYLOR: Both.

HAMPSON: I work closely with the Biology Department and would do anything within reason that they asked, so I at times would take care of the projection room, because it was a very important thing. A kid'd get up there and give his dissertation. Had to make sure it went off like clockwork, so I did that. But I also was involved with the Town as a Planning Board member, and I served the Planning Board 11 years, and that gave me an experience of working with the Town and the interrelationships between our organization and other organizations within the Town. And to this day that has been a very important thing in my life. I'm also a Town Meeting member. I've been on that for well beyond 15 years. The reason why the Planning Board was important was because you like to have a decision such as we have in science, be an <u>accurate</u> one, and have it the right one. That's what you're trying to achieve. Well, when you have a decision for the Town, it's not only the right decision as seen by your eyes. It's always altered a little bit, so you have to mediate, and we get a lot of that. And that was an eye-opener for me. And I learned that the most important thing in life is: do not, on the onset, get somebody mad at you, because if you're trying to mediate, and you're trying to achieve what's best for the town, talk to the person, but don't alienate them from the onset, because you'll end up in court, and we managed to do both--end up in court, and come up with an agreeable solution, and a lot of the subdivisions that you drive through in Falmouth are the result of those agreeable mediations that we came up with. 'Cause generally the law is on their side, believe it or not. So I carried this through to other things, because, again, nobody likes to lose. Nobody likes to compromise if you have a vision and you feel that this is the only way, and I have to get this; the only way, and I must reach this goal. And it doesn't work, always. As a matter of fact, very seldom does it work.

TAYLOR: From a professional standpoint, you were essentially interested in an environment.

HAMPSON: Yup.

TAYLOR: And in your own life you're interested in an environment--not only the Institution, but how it's set into the community and . . .

HAMPSON: Yup.

TAYLOR: . . . the relationship between the two. And that's very similar to the kind of work you were doing.

HAMPSON: I at times, even when I didn't belong to the Planning Board, I would see things going on in my neighborhood and say . . . . [Tape stops and starts again.] like go to the Selectmen and say, "Do you realize that this lot that's being approved by the Planning Board is under water during storm flooding--and I'm not talking about a hurricane, I'm talking about a major storm less than a hurricane, that the people are going to see water on the front lawn? I found out that, no matter what I did--I caused some changes, mind you, but there's houses on those lots. So anyway, that's what I tell you, it's an imperfect world. I achieved some things. Other things I had to compromise or I had to swallow my pride, mind you, because I'm not going to take the Town to court. That'd be the next step.

TAYLOR: But the Institution must have recognized your commitment, not only to your science but also to community relations, community relations with the Town and the Institution, educational projects in the Institution, and so on, because you ended up winning the Vetelson[SP?] Award, did you not?

HAMPSON: Yes.

TAYLOR: And just so that someone who's listening to this, I can't describe this any other way as saying, this is Mr. WHOI.

HAMPSON: Yup.

TAYLOR: I mean, it's a person that's really totally involved with the Institution. That must have been a big thrill for you.

HAMPSON: Yes, it was. I think the reason being is that you go through life giving of yourself, and sometimes you say, "Gee, maybe other people don't have the time or the desire to give of themselves," but I was just programmed. I was programmed to do this. There's no other way. So anybody needed help, I was trained--at an early age--I was trained in the labs that I worked in, that you would offer help. If a guy was coming through the doorway, and he couldn't hold on to his packages, and he had more out in the car, "Do you need some help? I'll be glad to help you," and that's the way I've looked at life, not just that one event, but I'm talking about people that came to me and said, "Do you know anything about this animal? We'd appreciate it if you could help us with it." And I still do that today with students. So I guess all of this put together, and

my involvement with the Town, and my willing to go beyond the call of duty at the Oceanographic, I was nominated and received the Vetelson[SP?] award.

TAYLOR: It must have been a pretty unique team you were a part of, because Hovey Clifford, who was involved with . . .

HAMPSON: Yeah.

TAYLOR: . . . you folks, won that award too.

HAMPSON: Yeah.

TAYLOR: And this says something about a whole way of operating in this institution. It happened to be in that group that you dealt with, so that was really putting into practice what you were saying. This was not just a "mouth" kind of thing. You were really operating in a total teamwork kind of situation, and not just you but you all affected each other in that group.

HAMPSON: That's right. To this day, I don't know if Hovey looks up to me or I look up to him more. It's sort of a mutual admiration society. I told him yesterday that I was coming to another taping session, and we had some fun times together, and also some serious ones. When we were diving we were out on the edge, and we knew it. Just the looks at each other was enough. But we always would watch out for each other, particularly in the diving, and I think he's one of the most people that I feel comfortable in diving with, 'cause he never strays. He's always there. And apparently he always knows when I'm there, because I have this habit of grunting under the water, like a grunt fish. So he knows he can hear me underwater. And actually we can talk underwater, believe it or not. I don't mean take the mouthpiece out, but we talk through, and there's a resonance. Once you get to know the language you can actually communicate. People don't realize this, but it's true.

TAYLOR: Didn't you also have an opportunity to address Congress?

HAMPSON: Yes, as a result of the oil-spill work, and my years on the Planning Board. Congressman Studs, through the people here in Falmouth and his aide, had selected me to go to Congress to testify about the environment, and I'm not talking about oil spills only, and I think that was in 1976. That's when I told Congress about problems related to water and pollution of water supplies, whether it be fresh or salt. And it doesn't seem to be abating at all. As a matter of fact, it's probably getting worse. And I made mention of my experiences here, and I'm talking about Cape Cod and Boston, places like that. And it was an investigating committee, and Mr. Studs was chair of that committee.

TAYLOR: What did you feel like when you found out you were going to be doing this?
HAMPSON: I didn't have any fear.
TAYLOR: Well, were you thrilled? I mean, everybody doesn't get to address Congress every day!
HAMPSON: I was thrilled. No doubt about it. And of course, I'm worried about: "Now, am I going to get into Washington? Will I find the hotel?" And all this stupid stuff you worry about. And then I started working on my notes and so forth, and then I had it all typed up. I didn't want to read the notes. No way was I going to read my notes, 'cause I told you the most important course I had was public speaking. So I sort of quasi-memorized those notes and said it in my own words, and it worked out wonderfully. But when I walked into that hall, as I told you before, the filigree and all this paintings and stuff: it's almost intimidating. And I can see the line of people lined up there from Louisiana and Massachusetts and Texas: all the people on this committee having to do with the environment. And people would go on ahead of me and I'd react to what they said or their style. When I got up, just something triggered--my teachings from Professor Blackman[SP?] kicked in (public speaking), and I just told it like it was in an audible voice that nobody could mistake. That's what I was trained to do. And it worked out well. And I had a few questions here and there. So I like to think that it worked out well. It's history now, but at that time at least it came out in the Congressional Record, what I said.
TAYLOR: I'd feel pretty good about myself if I were in that situation, I think.
HAMPSON: A lot of scientists here at WHOI go and do that, but I was at a relatively--I won't say a--young age but let's say I didn't have all the credentials as most people get picked to go there. But that was Gary Studs. That's the way he did things. He liked to have a smattering of different people from different groups.
TAYLOR: Now, did you know him?
HAMPSON: I knew him as a congressman. Went out in Buzzard's Bay with him with the Coalition. We were going to investigate the area where the oil spill occurred just to show people, and he had his entourage with him. It was an event for the Coalition. It was a publicity event. And I remember I was moving ahead. Remember, it's Congressman Studs--he's been in the Coast Guard. He knows about things. So I'm going in with the *Mytilus* or whatever boat it was. And I said, "Congressman," I said. "I'm busy doing this, would you take over the

[laughingly] helm." I had him steering the boat. See, that's my style, see? Tell me what I'm supposed to do, and I'll do just the opposite. And he was delighted.

TAYLOR: I'm sure he was.

HAMPSON: He knew all those buoys. He knew exactly what he was doing. We had a wonderful day!

TAYLOR: I just thought that--this is just a personal observation--I just thought he did a wonderful job . . .

HAMPSON: Yeah.

TAYLOR: . . . for this area. I was very sorry when he retired.

HAMPSON: Yup. So that was the Coalition, that part of it. But I remember that. And then one time he came to the Oceanographic, and he's going to have a press conference, I don't know. He comes up, and the place is filled--Director, everybody else. And he stands up, and he said, "Well, I'd like to give credit to the Oceanographic and members," and he mentioned my name, right off the top. I mean, I'm . . . Woo! [They laugh.] That meant a lot to me. He focused in on me.

TAYLOR: There's an awful lot of things that have happened to you that you have to feel pretty good about.

HAMPSON: Yeah, well . . . .

TAYLOR: In terms of the development of a professional career. Yeah, you've got to feel, "Yeah, I did OK."

HAMPSON: Yeah, I say that to myself, OK. I really do. And I just keep on striving, I guess. I'm not an egomaniac. I'm not one that has to have the ultimate, but I never rest on my laurels, and it's not a negative thing. It's just that I just feel as if--like right now, the young students that are coming in. They're so damn bright and they're so smart, and they just blow me away, with the new technology. I can't even understand what half of 'em are talking about. But I have my strengths too, but sometimes it's not in vogue, but every once in a while I get asked. You're always striving, but I don't let it rule my life. I have other things to do, like fish and stuff.

TAYLOR: [Laughs.] How many directors did you work under here at the Institution?

HAMPSON: There was Columbus Iselin and then there was Dr. Fye and Dr. Steele, and . . .

TAYLOR: Dorman?

HAMPSON: . . . Dorman, yup. And now we have Bob Gagosian.

TAYLOR: So you've worked under a lot of them.
HAMPSON: Yeah, I did.
TAYLOR: Do you have a favorite?
HAMPSON: First coming here, to me, I think Columbus Iselin was a little bit like the Emperor. I treated him with an awe. I really did, and he had that stately appearance to him. He was tall, and he was The Director, no doubt about it. But, again, he was not dogmatic. He was a mild person. I imagine he had his times. I loved Dorman. Dorman was great. [Laughs.] He'd come down to the dock at any old time. He'd come down. To this day he still sends notes to me. And Bob Gagosian has one of the best minds. If you ever go to one of his talks, he's very good at remembering and giving a synopsis of all the things that are going on at the Institution. I don't know how he does it. He knows details of what's going on. Yeah, OK, you can prepare, but how do you do 15-20 different topics and come up with all the words and what they do? That's what Bob Gagosian is able to do. So he's been very good to me, Bob Gagosian.
TAYLOR: Cute story when I did Dean Bumpus's oral history. I asked him that same question, which director?
HAMPSON: Oh, really?
TAYLOR: And he said, "Well, you didn't ask me about Bob Gagosian." And I said, "You didn't work under Bob Gagosian." "No, but I hired him, and I'm so proud of him!"
HAMPSON: Oh, yes.
TAYLOR: And I sent a little copy of that to Bob, because, I thought, if I had to introduce someone. If I had to introduce Gagosian at a big-deal dinner, I would use that quote. 'Cause I thought it was just right from the heart kind of thing.
HAMPSON: Yeah, yeah.
TAYLOR: Let me ask you a leading question: if you got up tomorrow morning and found out you'd been appointed director of this institution, would you make any changes in the institution?
HAMPSON: Wow, that's something. I didn't expect that one! Uh I have a feeling that the students sometimes don't have people to talk to. I've seen this a lot. You asked me about my involvement with people. If a student calls me, I don't care what it's about, I react instantly. I say, "No, I don't know about that." "Yes, I do this, and I'd be willing to help you. When can we get together?" And so I do that at least two or three times a year, take students out, collect animals with them, and involve my time. Somebody pays for the ship time, obviously. So I

would make it so it would be mandatory if you have a major professor that these students are under, that there's some kind of a tight relationship so that the student doesn't have to fend for themselves. 'Cause I think a lot of times they get very lonely, and they don't know who to talk to. They make it--finally they make it, and maybe that's the good thing, maybe it's the training. But I do think, if you have your major professor, and you need help, you should be able to get him within 24 hours and get some answers, get some direction, and so that's one of the changes I would suggest that, and you might ask, "Well, why haven't you proposed that to somebody?" Well, I'm getting into area of another department which maybe I shouldn't have to do that. But you asked the question.

TAYLOR: To kind of lend credence to what you just said, in having talked to a number of joint-program students and asking them what was the most valuable part of the whole experience, they said, "Those times we sat with a six-pack of beer with our major professor on a porch and just talked." They said that was really--and I've heard that from not one or two, several. They thought that was the most intense part of their joint-program experience. And the other person that spent a lot of time with students was Jake Pierson.

HAMPSON: Oh, yes. Yeah.

TAYLOR: And so every time I happen to run into . . .

HAMPSON: He's good.

TAYLOR: . . . Jake and I'm with a joint-program student or ex-student, that person's almost putting palm leaves down in front of Jake's path.

HAMPSON: Really?

TAYLOR: Yeah.

HAMPSON: See, a lot of times we didn't know that was going on. 'Cause I worked a lot with Jake. I remember him when we had these special groups of students that would come through, working on the oil-spill work. He was the one that was the person behind that, Jake.

TAYLOR: Did he ever tell you about his wine that he got?

HAMPSON: No.

TAYLOR: He said, when he was finally deciding to leave, all the joint-program students he had and currently had, who didn't have an awful lot of money at that point . . .

HAMPSON: Ah, I would imagine, sure.

TAYLOR: . . . in their careers, all went out and bought a bottle of wine. And he said he came home, and he found 170 bottles of wine.

HAMPSON: No kiddin'.

TAYLOR: He said this huge wine. So he said, the students and I over the years have put a quite a dent in that.

HAMPSON: I never heard that.

TAYLOR: Well it's . . . . I'm watching the time.

HAMPSON: Yeah.

TAYLOR: It's one of those things. Jake didn't have these so-called credentials. He probably . . . . I'll get myself in all kinds of trouble for saying this. He probably should have been a dean of that program at some point, but he said, "How could I be a dean of a Ph.D.-granting program when I didn't have a Ph.D." But whose impact on the students was really monumental, 'cause I've talked to a lot of 'em. And one of the first things you talked about was this idea of credentials, and yet you were very successful. You managed to go through all the steps in a career and add other things that maybe some people that had credentials didn't put in, so that you had a very successful kind of career. I put you and Jake Pierson a lot in the . . .

HAMPSON: Yeah.

TAYLOR: . . . same category.

HAMPSON: You probably have to overcompensate. Maybe that's what it is.

TAYLOR: But it works.

HAMPSON: Yeah. When we first started this series, I told you about how I had to fight for grades. I had to fight for doing what I did. So that carries through. You continue doing that.

TAYLOR: Are there any other changes you'd make in the Institution?

HAMPSON: Well, I think sometimes we . . . . I'm very, very pleased with some of the things that are going on in the Institution as far as physical amenities, but I think we should always consider the fact that funding at some time hasn't been so good as we have now, and I'm talking about we have in fact raised money with the campaign which I worked on, as I've noted before. But I think we ought to be always very, very cognizant of the fact that we can't afford to waste money, in other words doing something that really doesn't have to be done. We could certainly live the way it has been and just fix it up. And so I hate to see examples of that. And there's not a lot of them, but there are some. So that's an area I think sometimes senior scientists and the

scientific groups here should understand and appreciate the team. And sometimes it's lost. They tend to group science--and I'm talking about senior scientists and junior scientists--in one group, and then the staff line in another, and they don't come together sometimes. I think the Biology Department is doing a good job with that, but there are a lot of things that a person that works in the technical side, which I have, have achieved, and I think there should be more recognition--not to me, myself personally, but to the technical side. And they should be on the same, on par level, because without that the scientists wouldn't exist. And I'm a sort of cross anyway, because the thoughts that I've given certainly suggest that I have done work in scientific areas that most of the scientists have also.

TAYLOR: George, what's the Woods Hole Group?

HAMPSON: Woods Hole Group is a private organization that was formulated by David Aubrey, and it's one of the organizations that always wanted me to work for them, and so I work for them part time in my retirement. [Taylor laughs.] [Laughingly] and the reason why I do this is to keep the economy of the nation going, see, 'cause without that we'd be in big trouble, so I earn money and I pay my taxes. So I give back, see? So I work, probably 10 hours a week, something like that.

TAYLOR: Doing what? What kind of things?

HAMPSON: Oh, we'll do surveys, we'll do beach surveys. Right now we're working . . . . There's going to be a revetment, possibly, using sand from the dredging of the Cape Cod Canal, and they're going to replenish the beaches on Chappaquoit, and we're trying to get a program where, instead of taking that sand from the dredging in the Cape Cod Canal and just dumping it in Buzzard's Bay, or, even worse, taking it out of here, we'll use it to beach nourishment project. And they're private owners. They'll pay their share, and then there's a Chappaquoit Beach that might be used also. That's what I told you about. It was a perfect day. We could have been out there today doing that. But we have to find out what resources are in advance of using the sand. You have to know if the shellfish are there, the eel grass, and we go out and we'll observe where that is located, and we monitor that eel grass before the dredging, and then the placement of the sand, and then afterwards, so we have to establish where the beach grass is. So I get paid for that, as a result of working for this group.

TAYLOR: My wife is a school librarian, and she always asks me to ask, what do you read for enjoyment?

HAMPSON: What do I read for enjoyment. Well, I would say, I start off with the paper every morning, Cape Cod *Times*, and generally what I'm looking for is articles pertaining to the Cape land use, parcels which have been bought. I don't look at negative things, necessarily, unless it's really important to us all. But I don't read articles about someone thrown in jail and stuff. And then I go to the editorial, and I read about the comments about things that have happened on the Cape. And generally the editorials are quite good in the Cape Cod *Times*. And then, for books. I read books like *The Perfect Storm*, although it's not too . . . probably it's not a good idea to read that while you're out at sea. [They laugh.] Particularly when we're shut down because of a storm. I'm reading *Perfect Storm* during the storm. That's kind of scary. And then I've taken an interest because of my wife's father, who was killed in Germany, next to the Battle of the Bulge. It was the Herken Forest, and I have a whole new area, so I'm reading a lot of books on the Herken Forest and what went on, because I want to understand his life and what we went through. We don't have a lot of information. I read a lot of environmental books. I read art books on Antarctica. I went there twice. We stayed on the edge of the ice for 7-1/2 weeks, not like most people go. We lived in a tent. We didn't take showers for seven weeks. That was interesting.

TAYLOR: What kind of research were you doing?

HAMPSON: Same kind of research we do in estuaries, except this is a fresh-water lake, so we're testing, looking for phosphorus as opposed to nitrogen. But these lakes were covered with 16 feet of ice. It was Brian Howes's project, NSF funded, and we were trying to figure out how these lakes become polluted, because they're naturally polluted. They have hydrogen sulfide buildup at 9. (I've forgotten, was it) 9.4 meters from the surface. You go down, you get a lens of hydrogen sulfide, and it gets worse and worse as you get close to the bottom. And the smell is unbelievable. It's from all the nutrients that rain down, and then they die in place. But there's no houses. There's no road runoff, you see? So where does this fit in the scheme? What can we learn about this and apply it to our estuaries? Why does this become polluted, and what are the contributions to that lake? What are the exchanges? How does it exchange? Well, I got news for you: there's no exchange from the surface, 'cause it's covered with 16 feet of ice. So we had to drill through it. It was unbelievable experience. In some cases I thought I'd die I was so exhausted from drilling with those bits.

TAYLOR: How did you get down there?

HAMPSON: Well, it's first class operation. NSF puts this on. What you do, of course, is you fly cross-country, pick up a plane, and you either . . . . More or less you take a straight shot from the West Coast to New Zealand. And you got into Auckland, and then you go from Auckland to the South Island, and you go into Christchurch. That's where we land, and then you'd have about four or five days in Christchurch, where you have to check in, get all your clothing and stuff. And then you have an event where you're going to go to the ice. That is to say, the next 2,000 some-odd miles to go from Christchurch to Antarctica, and it's usually a C-130, which is the prop-driven planes that we have around here, the old workhorses, and then there's a jet plane also, C-140, I believe, that's a Starlifter, and that's almost twice as fast. And that's your final trip to go there. And then when you get there, to Antarctica, and you're at McMurdo, it's like Falmouth. They have everything. They also have cold. [They laugh.] Literally, anything you want, within reason. (There's no drugs allowed.) But everything is there: basketball court, place where you can go to church, and it's just incredible.

TAYLOR: Were you excited about going?

HAMPSON: Was I excited? You ask me if I get excited, well that did it. That triggered the excited button, 'cause I'd gone down in the sub. I'd done all these things, and now I'm going to Antarctica. Wow! I thought I was going to be frozen. I figured I'd get out of that plane and my body would go to ice, and it wasn't so. Particularly when I saw the young girl that greeted us when the door opened, and I expected, "God, she's going to look like an Eskimo. Whoever this greeter is is going to be completely covered with just icelets looking at us." And now the door opens, falls away, and we start making our way, and I go and see this gal with her hair flowing in the breeze, beautiful brown hair, with her parka. It's open, and she says, "Welcome to Antarctica!" [They laugh.] It was like 20 degrees Fahrenheit.

TAYLOR: See, that's the National . . .

HAMPSON: See, it's just beautiful.

TAYLOR: . . .Geographic. All I ever saw in their pictures were . . .

HAMPSON: Yeah, yeah.

TAYLOR: . . . icicles hanging all over everyone.

HAMPSON: And of course you could get frozen in a minute. You don't stay like that forever, but she's not going to get bandaged up in a whole bunch of stuff when she doesn't need to. That was funny. I'm telling you, that was a highlight of my trip, seeing that gal.

TAYLOR: Well, did it ever get to a point where you were counting the days, hours, minutes, and seconds?

HAMPSON: No[?]. We had Thanksgiving there. Christmas was coming. December the 19th, and I knew we were getting close, and boy that helicopter couldn't come fast enough. And then you'd start your trip home, but that's another story. You always can get bumped. You know what being bumped is? So many people are lifted off that place in a day. If a congressman comes and he's got two aides, the Congressman flies out of there with his two aides. OK? But George Hempson's going to go. And everything's set and I've got my bags packed, and a congressman had come in the night before or two days before, and he decides he's going to leave, and we get bumped. And you know the way we are? We're like soldiers. "OK, sir." That's it, and you take it in stride. You go back.

TAYLOR: You didn't stuff him down one of those drill holes you'd been working on. [Laughs.] I might have considered that. [They laugh.]

HAMPSON: We had so many visitors it was unbelievable. I'd never know. There were no trees, but these guys would appear out of nowhere, and I'd say, "How you get here?" "Well I'm Congressman So-and-So from Louisiana." "Oh, glad to meet you, sir. Anything I can do for you, sir. We'll be glad to show you."

TAYLOR: Did you do a lot of communal things there? Was there a central area that everybody met in?

HAMPSON: No, we were on an outpost, but everybody came to our outpost. We were the place where everybody wanted to go to show what things went on on these outposts, and so our particular research was easy to get to, because it was close to McMurdo, about an hour from McMurdo, a helicopter ride, and you're sure to get back. They'd watch the weather very carefully, 'cause they didn't want to leave three or four congressmen, and the military didn't want to have to put up a tent for 'em, so we would show them all the things that we were doing out on the ice, and Brian would let us take them. So "Good Morning, America" was there. We were going to be on "Good Morning," and we got bumped, but that was fun too, 'cause they were all over the place. But we had some of the top congressmen that are interested in Antarctica. Those are the ones that came. That's their job, and those are the ones that came. So I met people from Boston too that were from scientific TV programs that came out there. And so

we had a lot of visitors. We were the showcase, offsite scientific monitoring that we did for this lake, Lake Frixel.

TAYLOR: Is there anything you thought I was going to ask you or talk about that I haven't?

HAMPSON: No, actually you asked me things that I didn't think you were going to ask, about what would I do about the Institution, how would I fix it. That's tough, because you know that's usually getting to a place where I don't like to respond to. But you certainly like to be retired when you say something like that. But no, I would say, in general you actually extended . . . . When we first started you asked me about my early years in school. I was wondering, "Gee, I thought this was about the Oceanographic." But you see, by doing that, it's very important, because you set the whole mold of an individual, and I told you about what was driving me all during my life. To this day, I tell my wife about that, but I don't tell other people about it. But the event when I was told that there was no chance I would ever go school, college: that was a driving force. So I would say you're more inclusive than I ever expected, and now I can understand why.

TAYLOR: Well, I wanted to find out what makes you . . .

HAMPSON: Tick.

TAYLOR: . . . you. [Laughs.] Yeah, I mean you've been very successful. A lot of people speak very highly of you. In the limited time that I've known you, you've shown me kindnesses. For example, the telephone call about the potential of diabetes and whatnot the other day just impressed me up to the eyeballs that you would take the time to do that. So it's important to see what makes the real building blocks of this institution--people that have been here, what they were like and why this became such a world-class place. It's not because of the bricks. It's because of the human bricks that were here.

HAMPSON: Yeah. Thank you. That's a good way of showing it.

TAYLOR: That's the motivation.

HAMPSON: I think my attitude about life and helping people is that every day is a different day, and you can make money, and a lot people--a lot of my friends--do that. And they're very successful doing that. But you see all those things--they don't last. And when it's all over you don't get to take it with you. So you try to say to yourself, "How can I make an impact about something that might be a little bit long lasting," about your personality, or about helping people. And so that's what I try to do. Obviously, you want to have enough money to survive, but if

every day, if possible, you can help somebody, that's the important thing. And those are the things that are my take-home messages. That's the way I look at life, and I don't care who it is or what animal it might be, I try to do that. You never assume a person doesn't need help. You ask, "Do you need help?" And if they say, "No, I'm all set." Just watch over 'em for a bit, then maybe they're going to be all right. But I'll tell you, a lot of times I've helped somebody, and if I hadn't they would have been in trouble.

TAYLOR: Well, thank you very much for this. I have enjoyed it.

[END OF SIDE TWO]