Bob Malouf Oral History Interview, April 19, 2017

Title
"Shaping the Sea Grant Tradition at OSU"

Date
April 19, 2017

Location
Malouf residence, Corvallis, Oregon.

Summary
In the interview, Malouf describes his family background and upbringing in Montana, the development of his early interest in science, and the circumstances by which he met his future wife. He then provides an overview of his move to Oregon and his first experiences, as a master's degree candidate, with Oregon Sea Grant. In this, he also comments on his memories of growing up during the 1960s; shares his thoughts on the importance of Extension work; and touches upon the research that he conducted while a master's student.

From there, Malouf discusses his move to the East Coast, where he worked for Delaware Sea Grant, before returning to OSU to pursue a Ph.D. with the support of an OSU marine laboratory in Port Orford. An overview of his tenure as Sea Grant professor and administrator at New York - Stony Brook follows.

The remainder of the session is largely devoted to Malouf's years as Director of Oregon Sea Grant from 1991 to 2008. In reflecting on this time, Malouf comments on lobbying efforts with various political figures; working with budgets; and developing a research and outreach agenda. Malouf also provides his thoughts on the differences between East Coast and West Coast Sea Grant programs, and lends insight into how Oregon Sea Grant has evolved over time. The interview concludes with notes on family and activities in retirement.

Interviewee
Bob Malouf

Interviewer
Mike Dicianna

Website
http://scarc.library.oregonstate.edu/oh150/malouf/

Transcript

Mike Dicianna: Well, today is Tuesday, April 18, 2017 and the Sesquicentennial Oral History Project has the pleasure of capturing the story of Dr. Robert E. "Bob" Malouf, former director of the Oregon Sea Grant. We are at Bob's home in Corvallis. My name is Mike Dicianna, and I'm an oral historian for the OSU special collections and archive research center. Well, Bob, one of the things we like to do is go back to the very beginning and get a little bit of background on our people: your stories about your early childhood, where and when were you born, and early family life memories.

Bob Malouf: I was born in Dallas, Texas, oddly enough. My grandparents lived there. That was 1946 and my father was just getting out of the army. My dad was an archeologist. He finished his Ph.D. at Columbia and we moved to Missoula, Montana. I was two years old when we moved to Missoula, Montana, and he became an archeologist at the University of Montana. The housing was shortened after the war, and we lived in a place that had been made available to faculty and students of the University of Montana, which was Ft. Missoula—an old Army base dating back to the Nez Perce wars that they made available. It was a wonderful place to grow up. Missoula wasn't a big town in anyway, but it was outside Missoula. We had acres and acres of former base to run around, and it was fantastic kind of childhood to have. I started in a school called Target Range, because it was built on the target range of the fort. It had eight grades in four rooms. It was a very old-time kind of start. It was a long way from the ocean. I spent summers with my dad out in the weeds doing archeology most of the time, in Wyoming, Utah, Montana. I didn't value it as much then as I do now—the experience of being out and what I learned about Native Americans. Native Americans were in our home a lot. I got to be friends with them and thought nothing of it. I think about it now, though, about how that probably shaped my feeling about race. It meant nothing to me then. It means little to me now, what race a person is. I didn't realize I was being taught a lesson. We moved into town into an old house built in 1906, something like that. That was a good place to grow up in, and I think it is now.

In 1962 I met a girl by the name of Judy Hancock, in high school. In '63 we started dating. We married in '66—and we're still married. It was one of the those: "Oh this will never last," stories. You know, high school sweethearts—when I was a junior in college. How was that going to work? No income. But it did work, and I couldn't be happier now that it did. I finished undergraduate, and we got married in December. You don't go out of places in Missoula in December. It was very difficult to fly in and out of there in the winter. So we took a kind of honeymoon in the summer of 1967 and we specifically wanted to see a place that I was thinking about for graduate school, and that was Oregon State University. So in the summer of 1967 we drove from Missoula first to Newport, from Portland down to Newport. There was this new building there called the Marine Science Center at that time. It was a fantastic place, partly because it had this public education component, which I hadn't seen at any of the kinds of labs I had been around in any other university. There was an element about it that I thought was wonderful. Besides, it was a pretty cool place [0:05:00]. Just this one little part of it, that's huge now, there was this one little c-shaped thing. There was no library or any of that other stuff: two wings and a public section that joined them together like a u-shape. One side was fisheries and wildlife and the other side was oceanography. Then we went over to campus and saw the oceanography building which was there at the time.

MD: That was pretty new then.

BM: It was brand new. Everything was new and shiny and there was this big white ship there, the Acona, and I decided this is where I was going to go to graduate school. But, being much luckier than I am smart—and this is a lifetime thing—I applied only to Oregon State University because that's where I wanted to go. Why would you apply other places, you know? I remember thinking, "Wait a minute..." [laughs]. But at that time notification about graduate assistantships, were made by April 15th, an acceptance, because that locked everything up and... I remember April 15th had come, and it was four or five o'clock in the afternoon. We were going to go meet some friends and drown our sorrows. The phone rang. I was in the shower. I got out of the shower and wrapped up, and it was a man of the name of Bill McNeal on the other end of the phone. Again, this is the spring of 1968, and he said that he had an assistantship that he'd like to offer me. I was, "I'll take it!" You know? It was in marine sciences with a program called Sea Grant, which I had never heard of. I was a zoology major and was interested in marine biology and marine sciences. So I had a zoology degree and I was kind of thinking salmon, because that's what you think about. But he said it's with bivalvia mollusks. I said, "Hmmm...I had seen a couple of those [laughs]," but I think they were freshwater. And I'd only seen the ocean twice by that time: once on that trip and once when I was little; I think I was at Coney Island with my dad [laughs]. So I didn't know what I was doing. He

said, "Well, there's one [assistantship] in salmon and there's one in bivalvs [bivalvia mollusks] and we want you to do the bivalve one." I said, "Yeah, great."

So we celebrated. It was, like I said, just the way it works. I didn't know that, the way it works: potential students who applied who would be screened in general, and if they met the qualifications that they were acceptable grad students, their files were put in a room, and people who had support would go look through those files. They didn't have to think about whether they [the student] could make it into grad school, but "Is this the person I want?" That means some really qualified people don't get picked, because their interests don't fit with anybody. So the odds are difficult to compute, which you don't really know. You can have a 4.0 and be a superstar student and still not make it into grad school at OSU in fisheries. I didn't realize that. Like I said, I never expressed any interest in Bivalvia mollusks. But I had a zoology degree and not a fisheries and wildlife degree, and I think that made some kind of difference. I specialized I invertebrate zoology. So that was it: going to go to Oregon.

After I graduated, packed up our stuff in a U-Haul trailer and drove across Lolo Pass, Missoula to Newport, rented an apartment and spent the summer learning what an oyster was. That was the summer of 1968. At that time the road between here and Newport was abominable, it was unimaginable, and they were not allowed to commute. If you did research in the summer you moved to Newport, and if you did classes in the winter you moved to Corvallis. We were getting ready to move to Corvallis with the start of classes in the master's program. There was a gentleman who was going to occupy my office, and we were both there for a while. It was a really neat guy—well, it was Bill Wick [chuckles]. So I met Bill in the summer of 1968. He had been, you probably know—Bill was a legend [0:10:00]—he was a mole guy. He taught farmers, mostly dairy people in Tillamook, how to deal with moles. Sea Grant had tapped him to be the lead outreach person for the public wing of the Marine Science Center. He was just this bundle of energy, moving around like, you know, and "We can both work in this room," and it was really great. I liked him instantly, and it turned out that friendship lasted decades, until his death. He was a very special and very open person, and he had a lot to do with my good feelings about Sea Grant, although I had a lot of good feelings about Sea Grant at that time anyway.

In the '60s Sea Grant was a very different animal than it is now, very different. There was no director of Sea Grant in 1968. There was a coordinator, Herb Frolander. There was sort of a committee, and Sea Grant was thought of as analogous to Land Grant: that it would include experiment stations and it would fund programs, not just projects. I shouldn't say "just projects," but "in addition to projects." And two of the programs that seemed to be going initially were the law program at the University of Oregon and the Seafood program in Astoria, where there were people who were on salary from Sea Grant. Their expectations were that would continue. It didn't. Sea Grant evolved nationally for political reasons but at that time it was an integral part of Oregon State University's future. It was thought of as, "This is the marine land grant; this will have continuing support for marine-related programs, and it's not just Oregon State, it's Oregon. It would support any institution of higher education in Oregon."

MD: Yes, I saw that the U of O Law School worked on, basically, ocean-going laws.

BM: The law of the sea was one of their programs. They had interns that were placed with agencies. It was quite a good program for decades. There still is that element in the Law School down there.

MD: One of the things that I want to backtrack to just a touch. When you were in high school did you want to go into the sciences? Is there a nexus of all this in your high school experience?

BM: Yes there is, and it all comes down to one person, as usual: a really good teacher. In the first part of high school I was a lost cause. I had no intention of being a good student. I went through the usual kind of teenage rebellion period, and I was trying to not do well. It was easy to not do well [laughs]. But then I signed up for a course called "Biology." It was a man by the name of Mr. Cusker who taught Biology and it was a life-changing thing for me. There was something about it. I did really well in Biology and I wanted to please this person. I wanted to learn. I did a lot of extra things, very quietly. I never talked in class. That was one of the things I needed to learn, I guess, when I got out of there. I've learned it very well, as you can tell—that is, how to talk. It changed me. Then he taught Advanced Biology, which I also took. He was a very organized kind of teacher and one of the ways he influenced my life is kind of odd. He arranged us all alphabetically. So I'm sitting among the M's and there's an empty seat beside me for some reason. A young lady comes in, and she's late. She still is [smiles]. She's my wife now. So Judy Hancock sat next to Bob Malouf, and we became lab partners, and we eventually got married. That wouldn't have happened if, if you know [0:15:01]. He influenced the direction my life went.

I absolutely fell in love with biology, particularly zoology. There was no question what I was going to major in. Actually, there was some question. I started out in pre-med. I got to the start of the junior year where you really commit: so I had taken a lot of anatomy and all those things. Which served me well, anyway. But I realized I really didn't want to be a doctor, that that's not the kind of biology that I wanted to do. That there is something about that career direction—I thought I'd take it too much to heart. I don't think I could let go of—I still don't—think I could let go of people who don't make it. I thought it would probably do me in in not too many years. It takes a certain kind of person who has that empathy but can compartmentalize and not let it eat them up. I wasn't sure I was that kind of person. Besides, I really was interested in invertebrate zoology.

MD: Then the natural world drew you away.

BM: Yes. So I changed my major to zoology from pre-med. It didn't change anything. Up until the junior year it was chemistry, physics—all the precursors for really getting into it. Although I took some things like histology, and I guess I would have taken those things anyway: comparative anatomy and cell physiology. Those things really came in handy later on, but who knew?

MD: Well, one of the questions that I ask every one of my narrators—there's a scientific theory around this—but every person has a significant memory from history that imprints their life, such as Pearl Harbor or the Challenger Disaster for people of a younger generation. Do you remember when JFK was assassinated?

BM: Absolutely.

MD: How about the first steps on the moon? Did those imprint on you?

BM: Absolutely. I remember I was a senior in high school in November of 1963 when JFK was shot, and I was part of the staff of the school newspaper—I was a photographer and writer. This was a big high school. We had a graduating class of about 500 and four grades, so it was about 2,000 students. You wouldn't think of that in Missoula, but it was the only one in the county. So this big, huge high school. I remember the announcement over the loudspeaker that Kennedy had been killed. I remember the disbelief. My next class after that was Biology. I remember being there with Judy, how we couldn't sit there anymore and listen to it. We got up and were washing glassware in the back of the room. I remember like it was yesterday, and the days after watching it all. I was watching it when Oswald was shot. It changed the way I look at the world, not necessarily for the better. But it changed it. I think maybe I was naïve: really good people don't get assassinated, that doesn't happen. Well, unfortunately, it does happen. In 1969 my son was born, in May of 1969, in Corvallis at the hospital that has since been torn down. Because I was in the middle of the '68-'70 master's program I remember sitting in front of the TV with him and holding him. He was really little, he was like [gestures with hands a height of approximately 20"] four or five months. I remember that was in June, I guess. I said, "Watch this" [laughs], "You're going to remember." No he's not going to remember. But I remember sitting there with my infant son and watching them step onto the moon like it was yesterday.

MD: It's those memories that imprint on a person and you never forget where you're at.

BM: The other one was when Robert Kennedy was shot. It happened when Judy and her mother were in Newport looking for an apartment. Of course, it was that spring of '68 and Robert Kennedy had just been to Newport on some of his campaigning and there were pictures everywhere, at Mo's...

MD: They're still there!

BM: Yeah, they're still there. And that was...[grimaces], and I was thinking "Aw, doesn't this ever end?" I remember, too, trying to get ready to finish final exams. My son was born during final exams. That was also an exciting time [laughs] [0:20:02]. My wife went into labor on Monday, and he was born on Wednesday. I was standing there the whole time rubbing her back. Then I went to take finals. I have no recollection of those finals, but I did okay. I do remember one lab TA saying that I didn't really need to bother taking the final. I really focused on that class. I told him what had happened, and he said, "If you take this final I'm going to flunk you" [laughs]. And I said... [shrugs and smiles] "Alright I won't take it." I don't know if that was necessarily such a good idea because I was ready for that one, but I don't remember the statistics final at all. With Vietnam and all that going on it was just... [shakes head].

MD: So you were in school during the turbulent times. OSU was not as into it as, say, the U of O.

BM: Right.

MD: Also being in grad school you wouldn't have been as involved with it. But did you have a sense of this...

BM: Absolutely. I was ill at ease, I guess was how I was feeling. Just there was a sense that things were sort of turning over, that we were rolling. It wasn't clear well, what side would be up when we stopped rolling as a society? It was very troubling. Whether the riots and marches and things were at OSU or not they seemed very close.

MD: Did you have a draft number?

BM: Yes. It was deferred. I registered for the draft in Montana. They deferred, and it was kind of a rolling deferment: "You're a student, alright" [releasing motion with hands]; "Well, you're married and you're a married student, alright; now you've got a child," so they kept... [motions deferment with hands]. Then they said, "Well this is no good" [makes a clearing motion with hands]; "We'll do a lottery." The number they drew for me was 350, or some number they were never going to reach, and they never did. I took my draft physical and I thought it was all... [shrugs]. That was always there too, the fact that there was this war going on and just about at any time they could say, "You, you're off to Vietnam or whatever." That was hard. That was always in the back of your mind. It was too for a lot of grad students. They were afraid to quit. They were afraid to graduate. They were afraid, period. But, like I said, I've been very lucky.

MD: Right as you were into the middle of your grad work...

BM: It could've ended at any time. My wife would've moved back to her parents' I suppose in Montana, you know, although I'm not really that sure. She didn't really get along very well with her father. He is a rough guy. He owned a bar and he had about an eighth grade education but was very, very smart. I did learn from him the difference between being smart and being educated. They're not the same thing. You don't get smarter by being educated. You just know more; you're I.Q. isn't necessarily going up. I learned that, and it really helped me in dealing with people in Sea Grant Extension. Don't assume these folks with eighth grade educations are not intelligent. Don't assume that they can't learn; they haven't for whatever reason.

MD: That's kind of the interesting part of Sea Grant. You're dealing with a constituency up and down the coast in so many different areas that you have to deal with everything.

BM: You know and it was hard at first, because I had grown up in an academic family. I was at home on campus. I wasn't at home with fishermen in that case, or aquaculture people in my case. It took some time for me to figure that out: for heaven's sake don't talk down to them, you know? They know a lot more than you do about what they're doing.

MD: They've got the school of hard knocks.

BM: Absolutely, and they have a feel for the environment sometimes that is uncanny [0:24:59]. One thing I also learned in that first year that carried me all through Sea Grant is there is only one Sea Grant. The national office asked me about this one time: "How much were we spending on Extension and how much on research?" I said, "If I know the answer to that I'm doing something wrong." Because it is a continuum. Every researcher should be doing outreach. Every outreach person should be involved in research. There is only one Sea Grant. I knew I had to give numbers, but I was proud that they couldn't be exact because our program is integrated. It was a constant fight with the national office who wanted these things compartmentalized, which I thought was just the opposite of what they should be seeking. You can't tell where research starts and where outreach ends, and that's good! It's wonderful.

MD: That's what Extension's all about!

BM: It is.

MD: Whether it's in Wallowa County or Newport.

BM: That's right. As far as I'm concerned, that's what Sea Grant research is all about. It does not mean that an agent or a specialist has to be assigned to a research project. It means that the researcher needs to understand that outreach is expected of him or her that isolate from potential users, even if those users are decades down the road. We want them to really understand where this research may at some point find application. That's one thing that I felt strongly about. The other was that there isn't any real difference between applied and basic research except time: that, how long are you willing to wait for this basic research to be applied is really the only question. That's another continuum, and to say whether you fund basic or applied... we fund "applicable." I'm willing to wait longer on some projects than others. It depends on what they claim to do. If they claim that this product will be instantly usable, they better be right, and the person who is going to use it needs to tell me, "Yeah, they're right, this will be usable." If somebody's doing something like the long-term projects that Sea Grant funded in the pharmacy and in pharmaceutical products from the sea, those are decades away from being actually in clinical trials. If you think about all that had to happen: isolating them, and testing them. Was that basic or applied? Well, it was "applicable." It looked basic. The same with modeling waves: they redesigned breakwaters and a lot of other things based on that. I'm kind of rambling, but those are the two things I wanted to characterize in the two Sea Grant programs I was associated with. One was to continue Extension and research and the other was a different way of looking at basic and applied research.

MD: You have the distinction of being the first Sea Grant trainee.

BM: That's right, the first.

MD: Now your research in aquaculture—I read the publication you put out for the farmers and it was fascinating. Like you say, you just dove right in to mollusks.

BM: That was great fun.

MD: The farming culture has been around before the turn of the century as far as oysters.

BM: It dates back to the Romans.

MD: For the Northwest.

BM: Yeah, the native oysters were harvested in the 1840s and '50s and mostly shipped to San Francisco, and that pretty much did them in. They were thinned out to the point where they were having trouble reproducing. What happens with oyster, or any bivalve that's not modal - scallops can move around more), their males and females are separate and they spawn into the water and it mixes and the larvae swim around for a couple of weeks, depending on the species. The eggs and sperm start to die as soon as they are released, so there is a maximum distance between spawning individuals. You might have a million oysters, but if they're too far apart there's no reproduction. What harvesting tends to do is to thin them and the reproduction goes down. You can reach a point of no return even though there are still oysters present. That wasn't understood [0:30:00]. The numbers still aren't understood: we don't know what that distance is; it's very complicated depending on currents, temperature, and other factors. So they began farming and they imported oysters that did not reproduce that came from Japan in the Pacific, which is still the mainstay of the harbor. That required hatcheries, and that required all kinds of farming techniques that hadn't been necessary before that. So prior to World War II seed oysters came from Japan directly. Very few were produced on the west coast. There were a couple of places where they did spawn: one was in Dabob Bay in Washington state and one was in British Colombia, believe it or not, where it was just a little warmer. But for the most part it was sustained on the basis of seed from Japan which ended in 1941.

So there was a real move to develop hatcheries. Willy Breese got involved in it shortly after the Korean War. Had a little lab in Yaquina Bay and eventually moved into the Marine Science Center and he was the person I learned a lot from. I got involved with Delaware Sea Grant in an odd kind of way, too. I had my master's. I saw that there was an advertisement for what they called a resident biologist for a Sea Grant project in Delaware, and so I applied for it. I didn't know it was for a technician or for a resident. I thought it was an assistantship for a Ph.D. so I applied. I got a phone call from them saying, "So you want this job or not?" They thought they had sent me a letter saying "[raises eyebrows]...job?" So I said yes over the phone. And based on that phone call—once again, I am much luckier than I am smart—based on that phone call, nothing in writing, I packed my family up—my wife was seven months pregnant and Robbie was about two—and moved to Delaware. I had never been, that I could remember, east of the Mississippi. I had no relatives east of the Mississippi

River. And off we went in our '66 Tempest. We arrived in Delaware. It was the day after Labor Day and the traffic was incredible around Washington D.C. There is a bridge, the Delaware Bridge that crosses from Annapolis over. They made it one way off of Delmarva on that Sunday evening. We just waited. People were having picnics outside to pass the time. And I thought, "What have I done?"

We got to Lewis, Delaware, where the College of Marine Studies at the University of Delaware had a lab. When I went to the lab on Monday morning they had never heard of me. They had no idea what I was talking about. Well, it turned out the person who had hired me was on vacation. So he came back and everything was fine. He said, "Well there's a little change. The salary's different than I thought it'd be, the salary's a little higher." I thought... [eye roll]. So it was a great job. It was a great time. I learned a lot about east coast oyster farming at Delaware Bay. A lot of field work which I hadn't done before. I had done larvae feeding and hatchery operations, so I went out on those beautiful Chesapeake and Delaware Bay oyster boats and had a really good time. My daughter was born there in Delaware. It was a Sea Grant project that was trying to develop the technology—I have trouble defending this right now, because I'm not really sure it's a great idea—to grow oysters in an entirely closed system. I learned a lot about food and feeding for oysters—I know how to culture the algae and all that sort of stuff. That was my role. I was a resident biologist, and this was a Sea Grant project.

I had my first introduction to a Sea Grant site visit where you orally defend your research projects to a team that would come. By 1971 I had been involved in two Sea Grant programs as a student and then as a technician, as a biologist, and I was beginning to understand how it worked. At that time and for years after it was about defending proposals that evolved, thank goodness, defending outcomes [0:35:10]. But that's a different story. After two years there I got another call from Bill Wick and he said he had a job for me, and I said, "I'm really looking to go on for a Ph.D." He said, "You can do both. We'll raise your salary and then make you 0.9 FTE." That sounded like a good idea to me; I had two kids at the time. So back we went across country again, and moved back to Corvallis. He had gotten funding partly from Sea Grant and partly from a consortium of power companies - PG&E, PP&L - to examine the possibility of growing animals, salmon and oysters, in the heated affluent of nuclear power plants, which they thought they could build on the west coast. Fat chance, but that's what they thought in 1972. As part of that there was the feeling that Bill and others had that they needed a laboratory that was on the coast and drawing ocean water as opposed to the Hatfield Marine Science Center, which was drawing water from Yaquina Bay and it was quite diluted. Sometimes it was very nearly fresh water at low tide in the winter when it was just river. They thought, well, that's really not analogous to having a plant right on the ocean.

So they opened a laboratory at Port Orford. Very little is known about that. I think that's nowhere in the archives. But it should be. So they were given or bought or somehow obtained the Coast Guard station on the hill just above Port Orford. It included—I don't know if it was a lease or whether they owned it, that's got to be hidden somewhere—there were two big [hand gesture of component]: one sort of a dorm for Coast Guard people and one sort of the commander's house on top of the hill. There were 450-500 steps down to the bottom where there was a boathouse, lifeboat station, like the one in Newport. That had been converted into a marine lab. Sea water pumped directly from the ocean there, through these tanks and systems. It was quite well developed by the time I got there. I was asked to build a system so that sea water could be pumped up to the top of the hill. So I spent one summer laying 2" pipe, and we had like a 30-horsepower electric pump down at the bottom. We eventually developed it after putting this pipe down through poison oak and whatever else; we got water pumped to the top. We were going to start some experiments with bivalves. There were two research projects that were completed there: one by Bernie Kepshire on growth of salmon in different temperatures and one by an Iranian student by the name of Emadi Hossein, and I don't know what he did. He was just finishing when I got there. But it dealt with salmon. They were both Ph.D.s, and both Ph.D. programs were done in that lab. By 1974 it was becoming almost impossible to get there without running out of gas—do you remember the lines?

MD: Oh yes.

BM: And we were checking out cars from the motor pool to make it down. We couldn't make it down and back without getting gas. The state car at that time was the Pinto. It was small, but it didn't really get great gas mileage. So they closed it. A couple of other students and I went down with a U-Haul and emptied it out, and that was the end of it. I understand now that it became a county park.

MD: Yes. I was there last summer.

BM: Okay. That was OSU. That was an OSU marine lab from—I'm not sure—I would say 1971 to 1974, certainly '72 to '74 because I was there. I spent weekends here and weekdays down there in the summer. I took classes and did Ph.D. stuff in the winter, but I also ran down there when it was needed. There was a tech that was full time down there watching over stuff. I always wondered about what went on behind the scenes that I didn't really want to get involved in—about the decision to close it, which was the right thing to do [0:40:09]. Now I understand they're talking about having a lab down there or some kind of...[shakes head].

MD: I saw a proposal.

BM: It's odd. You know life is a big, lazy loop. They almost lost one of the researchers to a heart attack coming up those stairs. It was not a place for, you know...[shakes head]. I was twenty-three or twenty-four then, and that was okay, but it wouldn't want to do that now, especially in the winter. Some of the stairs are wooden and went over brush and stuff, and in the summer there is cement. It's kind of a Y. There are two different ways to get down there. That was an interesting experience. I learned a lot about people and managing people... and leading people, which is different from managing people. I saw some things that were missing from what they were trying to do. I was to write the final report to the power companies, and I managed to get another student on board, which I was basically responsible for. That was my first introduction to that. He did a project on salmon and temperature growth that filled in some holes needed. That project we did in Newport at the Marine Science Center.

During all of this I was also working on a Ph.D. So I was an employee, research assistant-unclassified, I was an employee of OSU. So by that point I had been a grad student for Sea Grant, a technician in Delaware for Sea Grant, a research assistant and Ph.D. student for Sea Grant; well, not *for* Sea Grant but *with* Sea Grant support. When I finished my Ph.D. I applied for a position of Sea Grant professor at the State University of New York in Stony Brook. The idea was that Sea Grant would support this position, which had been determined to be needed, for 100% for the first year, 75% for the second, 50% [for the third], and so on. The position would be one-fourth Extension and three-quarters research, pretty much. They held a competition in New York among the different schools. It ended up going to the marine science's research science center at the State University of New York, an all-graduate center, very much like oceanography is here. There was no fisheries; it was all oceanography. I applied, interviewed, and was offered the position, and we moved to New York. Back across country again with the car and the kids.

I was one-fourth Cornell Extension, and it was very natural. I didn't have to do anything I wasn't doing anyway. I worked with the bay men. This was working on bivalve mollusks, hard clams, in New York. I didn't realize it but at that time great south bay in Long Island was *the* largest producer of hard clams in the world: 700,000 bushels in 1976 was the peak. Tremendous. A hundred-million dollars. A tremendous harvest. 10,000 commercially-licensed bay men. It was managed to be inefficient; it was managed to maximize employment. So you had to use hand gear, and all these things that are what fisheries do when they are based on tradition. It would certainly be over-harvested if technology were applied, like the sailing vessels that were required in Chesapeake for years and years. I went through the tenure-mill and all that, which was horrendous. So, I'm a Sea Grant professor. There were others. There was one in Marine Law. There was one in Economics at Cornell. There was one in marine fisheries—fish—at Syracuse, and one in marine culture, algae at Stony Brook there [0:45:06]. For the most part it was a successful idea. From the very beginning you were indistinguishable from any other faculty member. I had the same teaching requirements so that it just kind of melted in, which I thought was a neat concept which we eventually applied here.

I got kind of, I don't know how to put it [hesitates]—the expectations there of research output were high; there were a hundred graduate students and thirty faculty [shakes head and shrugs]. Of course they're high, that's what you're there for. But we had to generate 40% of our own salary. We had to pay a tithe; that is, we had to pay 10% of our salary to the program, to the college, before we could have any summer salary. You could incur a debt if you didn't have a grant, so you really could get into debt. It was a tough show. I had five grad students, two technicians, and two post-docs. So I was this little empire and I was writing proposals constantly. And I realized I hadn't been out of my office in months. I was just doing this to keep things going, and I decided that isn't what I signed on for. At that time the director of New York Sea Grant was Don Squires, he was the original director—he was the Bill Wick of New York Sea Grant. New York Sea Grant is a Cornell-SUNY consortium. It's owned by a board of governors—half Cornell, half SUNY and different places in the state of New York, including the Great Lakes. New York is the only one that has both marine and great lakes, which I didn't mention, so there were Extension people in Buffalo and other places upstate. I decided to apply for

the position and was eventually offered the directorship of New York Sea Grant. It was moved from Albany, where it had been located, to Stony Brook.

MD: I'm wondering exactly where is Stony Brook?

BM: Stony Brook is about halfway out Long Island, so it's east of New York City by 30 miles. They had a vessel and it was there. Stony Brook was an old settlement founded in 1640s. The history is very different back there. So in 1986 I became director. I should be careful here. I became director officially on December 1st of '87, but there was no director. So I actually was making decisions and signing things in October of '86; there was a call for proposals out that needed to be reviewed and all this sort of stuff. And I had learned a lot about it; I was 10 years into it out there. I got a better understanding of what Extension was and how it worked and how you defend proposals, how you run the Sea Grant program. It was great fun. I had a really great time. I really had no intention of leaving. Our kids were grown up and off to college. They were leaving the east coast. Then I saw that Oregon Sea Grant was looking for a director. It wasn't that I wanted to leave Stony Brook, but I really, really wanted to come back here. So I applied, and I was lucky again. I know one of the other applicants, and, frankly, I would've hired her before I hired me [laughs]. But she chose not to come. She was a Sea Grant director at that time too, and just a real bundle of energy. She would have done great here. But she's a southerner and just really didn't want to come here. So I was named director. That was summer of '90 when that search was done. So we packed up our stuff and moved back across country [laughs] in '91. So by that time I had been a grad student, technician, Extension director in two different programs, starting from the very beginning of Sea Grant [0:50:05]. I watched Sea Grant evolve. How long was I director here?

MD: Well, from '91 to 2007, or '08?

BM: '08—seventeen years. I retired on July 1, well, I think it was July 1. It was February 1 at first, but they asked me to stay on. February is the fiscal year for the Oregon Sea Grant; that was why *that* time. All of the decision processes would be finished. It would be sort of put to bed for the next round. It was sort of an easy time, well, not an easy time but an easier time in 2008 to make that change. Sea Grant changed a lot in that time. First of all, it was zeroed out on the budget for twelve years in a row—not during that time but starting in 1980. Both of Reagan's terms and the first term of Bush—12 years. It was a fight. Sea Grant learned to be very political—to make visits to Washington D.C. twice a year as a group. We learned how to lobby, hire the lobbyists using non-federal funds, of course. It was a very different kind of job that it became as time passed. We developed a love-hate relationship with NOAA. NOAA didn't trust us, and they shouldn't have [laughs]. Sea Grant still has too many bosses, and you want to do what people need, and you want to do what the state needs because now the state support for Sea Grant—at first it was at one-third and you would receive an amount equivalent to 50% of the federal money and one-third of the total. It became fifty-fifty, or even more non-federal money. As that happened the federal expectations for reporting kept ramping up, and the expectations that we would meet NOAA's missions... NOAA doesn't do core of engineers kinds of things; NOAA doesn't do pharmaceuticals or law. So we got points for how well we met NOAA's mission and it put on a real stress. It's getting worse in some ways: "Why should NOAA be supporting this program if it isn't supporting NOAA?" It shouldn't have been put in NOAA in the first place. That's something Richard Nixon did when he created NOAA—took it out of NSF and put it in there. A few times there was serious talk about trying to move it back into NSF, but [sighs] it wasn't clear that NSF was going to know what to do with Extension. NSF doesn't do extension, so we weren't sure that was an improvement, and it would be a difficult thing to do anyway, politically. I'm not clear what the rewards would be for taking that kind of risk. So it hasn't been done. Maybe it will now.

MD: One of the quick questions that I had, you know, just eagerly wanting to ask with the current budget with the new administration with President Trump, it's all over the news that there's so much on the chopping block—

BM: And Sea Grant's part of it.

MD: —and Sea Grant's part of it, are you happy that you're not having to deal with that?

BM: Yeah. Twelve years, even though I wasn't director I had a very charismatic project, and I was usually the one they would have tag along to say, "This is what we're doing." And it has to be done, but it becomes all-consuming. I don't mind doing it, but I mind just doing it when that's all you do for six months or a year... traipse back there meeting with—and

the Oregon delegation was usually already convinced, they were usually for us because—I remember sitting—I don't remember his name, a senator. He was with Hatfield, what was his name?

MD: Les AuCoin? [0:55:01]

BM: No.

MD: I'm trying to picture the delegations.

BM: Anyway, I was sitting with a senator at a luncheon in Newport and in between us is a seafood processor person. I introduced myself to the senator, "I'm the director of Sea Grant," and the processor says, "Yeah if it weren't for Sea Grant I would've been out of business long ago." It just took off into all this—[gestures outward with hands]. And he's nodding there and I'm nodding, "Well, I guess I don't need to say anything," you know? He was saying, "If you don't get funding for these people I'm never going to support you again." And it was because we had saved their business. I mean, I hadn't, Ken Hilderbrand had, and Ed Kolbe—they had figured out how to do flash freezing, which had opened up new markets for them, and babysat them through the whole process. It saved that business, which was Depot Bay Fisheries. That's all he needed to hear, and it was no accident that the table was put together that way. We knew what we were [shakes head]. It was more than just the politics of it, it really made me feel good. I know this person. I never would have said it if I didn't believe it. Nobody owned them. That was good to hear. But it was wearing on me; it was wearing on all of us.

I'm kind of anxious, I feel uneasy, like "I ought to be doing something, for heaven's sake," you know? I'm confident that it's going to be okay. After all, we have been through this before. The reason I have a little ill-ease is that the congress is so unpredictable and not necessarily rational. Sea Grant is a small program. We were told on one of our visits, "Well you guys are just a rounding error" [exasperated sigh]. Which is true! [smiles and shrugs]. We're a rounding error. It's something they can do for the people that doesn't cost very much, and there's a lot of support for Sea Grant in grass roots.

MD: Oh Yeah.

BM: It's much more support than you would expect from a rounding error. That gives me confidence that it will work out. I talked to Shelby [Walker], the current director, and she's not terribly concerned, but it's a distraction. I'm glad she's doing it. I don't think I have the energy to do it again, or the will. Those trips back to Washington are not what—we're not trained to do that. So they trained us. They had these classes and things how to do these things—well, not classes, but they had people coming in to talk to the directors at directors' meetings.

MD: Well you've been through, I'm trying to count the administrations for your time as being a person between New York and here—you've gone through the gambit of both flavors—

BM: Carter...

MD: —both flavors of the political...[trails off], and I don't think it matters what side of the political aisle it's on. There's still those budget concerns that we have to assuage.

BM: It's true, and it's difficult when NOAA zeroes us. That has also happened. When there has been some sort of global 6% cut, or whatever it is. NOAA took those cuts whenever a weather satellite launch blew up. There would be surcharge, a cost, for every program. If you take 6% out of Sea Grant, we've already funded the projects, so it was "Where's that going to come from?" So you leave an Extension position unfilled for six months or something like that. That is virtually every single year that that kind of stuff happens: when they give you a grant and they take some of it back. [Furrows brow] can they do that? Apparently! [chuckles].

MD: It's such an interesting study to learn about this because I have talked to Extension agents and their whole thing is "I want to—," like Bob down there in Newport, "I want to get those survival suits on the fisherman" and things that touch the actual people. You're having to make sure that these things happen but at a different level. [1:00:04]

BM: I thought it was my job to insulate them from that as much as possible. "Let me worry about that. I'll call on you because we might need you, but don't worry about it."

MD: "Do your job."

BM: "Tell me what you need. Tell me. We can find a way." The thing about Sea Grant is that it has some flexibility. You're allowed to keep 5% uncommitted. Well, 5% of $2 million dollars—I don't know what that is, but it's enough; a $100,000 I suppose. If somebody could come and say, "Well I need to get a survival suit to go and do this," "Okay, well get one, but I need to know so I can do this." That's a really wonderful thing. The department heads don't have that kind of flexibility. We always had to justify in the end, but we could do it. The other thing was, well, [hesitates] I think we could take risks that other funding agencies couldn't. I felt that if everything we funded worked out, we weren't taking enough risks. I tell the national office that, "This one didn't work out." They'd say, "Well, gee that's— [shakes head]," and I'd say, "If they all work out, I'm not taking enough risks, and it's the way it ought to be." I don't want to see things not just pan out, but I know if I'm doing my job some will fail.

One of them we took risks on did fail and that was a big risk at the time; it was wave energy. They sent us a little proposal which got blasted by reviewers, and rightfully so because it didn't have any kind of outreach element to it: "we're going to build a thing on the coast and people will love it." I said, "I don't think so. You need to go back and connect with Jenny Goblirsch or somebody." And they did, and we funded it for a small amount. We supported a student, and it grew into this thing, this big deal. That was a big risk. We funded a project that had been turned down by reviewers. It was not turned down because of the technical elements, but it was turned down because of what was missing, and we added what was missing and supported it. There is a kiddy pool of funds that's allowed in Sea Grant besides this kind of money for Extension that's called Program Development, PD. You can fund projects up to $10,000 without any approval. Over that, you need to get reviews and approval, which is fair enough. I'd get reviews, anyway. That is just unheard of, that kind of flexibility. It allows you to respond to the ship, what was it the New Katrina, to respond to that with some studies. To do things that would take a year to get funded through other sources, maybe longer depending on the cycle.

MD: One of the other things that has come up in a lot of my research that is a thing now is the tsunami awareness and the whole big thing about tsunamis. That's a thing of just recent years.

BM: The sign they used was actually first drawn by Jim Good, our Sea Grant Extension guy, just kind of penciled it out. I always laugh when I see that: the person running with a wave behind him.

MD: One of the things that I was curious about is the difference between the Sea Grant and what they do in New York on the Atlantic Coast versus the Sea Grant and what we do for the people here in the Pacific Northwest. Similar problems? Or are there a lot of differences?

BM: Well, there are differences. The primary difference is—well, there are differences, let me put it that way. If you look at the Sea Grant programs they don't look all that different but the environment in which they work is very different. For example, in New York we had issues—the great South Bay is about 60,000 which is more or less equivalent to the estuaries total in Oregon, which is around 50,000. It has an average depth of about 6 or 7 feet. It's fed with an enormous amount of nutrients, as you might imagine because Long Island is [1:05:01]—the two rural counties of Long Island have a total population of 3 million. It's 70 miles by 20 [miles]. Fine. That's the biology. But the politics are different. The bay is divided into four areas. One of them is the town of Brookhaven. We don't have towns here, townships. It's a township. It's part of a county, which is part of the state. So there's another layer in there called township. The towns manage the shell fisheries. The fisheries inside town waters. That's all these bays that are highly productive. So there's the town of Brookhaven going from east to west. Then there's the Bluepoints Company: privately owned, 13,000 acres of bay bottom dating back prior to the constitution. It's been upheld by the Supreme Court that they received a grant from the king which is equivalent to the grant that the township got; same thing, to the Smith family. It's gone on, passed on. This is privately owned. Then there comes the town of Islip, a little bit of piece of one of the towns further north. They were very different politically. Then within those towns there's a shellfish commission which really matters. Entirely made up of what they call bay men back there, which we call fishermen.

So the politics of the management of the fisheries is extremely local, extremely political. To make a difference you need to deal with more than one town and Bluepoints Company, which doesn't want too much interference usually. The clam larvae don't care. We did one study that showed that the clam larvae, the larvae that fuel the fishery in Brooklyn, came from Iceland. So that managing the stock for larvae in Brookhaven was not going to help them. It was going to help Bluepoints as it circled around the other way. So we tried to get these things together, and that's a kind of political-social

issue that we don't really see here. It was all throughout everything, the different layers and different nuances, where Extension is—it's important anyway, absolutely crucial, to have the trust of people. By the time I left the two towns, Brookhaven and Islip, which were the major ones, the shellfish directors of both those towns got graduate degrees with me. They felt the need to know more. That really did help. They were doing their thesis on management, and I got to know Bluepoints people. One of my students went to work for them. They were very easy to work with, as it turned out. It's so steeped in the history of it, dating back to 1650, which we don't have here. It was quite an experience in that respect.

The other thing is that it's simply much more urban. We were operating within 50 miles of 20 million people. A very different kind of environment. Not so much in Delaware. Southern Delaware is quite rural. The town we lived in had about 2,200 people, something like that. It was very southern. We would say it's "right nice," not "it's very nice" - they used "right" instead of "very." It was very different. I think the east coast Sea Grant suffers from being overly competitive with each other. They don't share secrets sometimes until they've locked it in. it is a competitive program. I mean, you write these competitive—[shakes head and shrugs]. As that has grown in Sea Grant it has not closed the door but it's made cooperative multi-state collaborations more difficult, more difficult to justify if you really are trying to grow the bottom line of your Sea Grant program at a place like Rhode Island or Connecticut in particular.

MD: Well the fisheries, you know, like you say, the larvae—they don't care.

BM: They don't care. [1:09:59]

MD: So when you're dealing with the fishery that runs from Rhode Island clear up to Maine, the cooperation between these agencies, these Extension agencies—

BM: It's vital.

MD: —you would think, yeah. But there's little kingdoms.

BM: and it all comes down to personality. Some people are just not willing to give it any kind of inch. They're not very secure. New York was an odd place. The Sea Grant program was divided into regions by the national office and New York was part of the New England region, the Mid-Atlantic region, and the Great Lakes region. So I had the opportunity to try to make collaboration—which was most difficult in the Great Lakes, but New England was also difficult because there were big programs, like Rhode Island - one of the originals - and really small programs, like Connecticut, which was one of the newest and really small and really anxious to grow, and kind of secretive. Anyway, the point is is it's much more of an issue back east than it is here because there are so many in a small area. I guess what I'm saying is that the biology's pretty much the same obviously than a different species: you still have anadromous fish and striped bass and bivalves. What you have back there is a fragmentation of interest in politics that makes it difficult to have a truly regional programs.

MD: Then out here in the Pacific Northwest, I mean we're dealing with far more rural coastline basically. It's not dotted with houses, plus people don't own the beach.

BM: Right. You don't have to deal with a township, a township being responsible for managing this little piece of the Oregon coast. Back here there's only one program on the west coast that calls itself urban, and that's USC, which is a relatively small program. That's kind of the niche they've carved out in the LA area. Otherwise, you're right—it's pretty much rural. The programs seem to be pretty similar, which means they—and I'm being a little cautious because the California program doesn't have a close connection with Extension. They're at Scripps, which has no Extension. So they kind of subcontract with Cal-Davis, which is the land grant school, and they're not as close. They're closer than they have been. They have a new director. But they used to be, the Extension was just another grant. You know, go Davis, go do that. That's not the way Sea Grant thinks now. I'm not sure it thought that way then. I think we had that problem with Cornell. Cornell was Extension, and the Sea Grant professors were 25% Cornell so they could be 25% Extension, but it drew a line between research and Extension that I didn't like. It was an institutional line. One advantage to the Sea Grant director position there is you report to the chancellor. SUNY is a monster school. I mean it has 64 campuses, which means you don't report to anybody, in effect. And that's good and bad. It's good when you're making bad decisions but bad when you need support.

MD: Well the other thing that came to my mind right away when we decided to talk was you came here in the early '90s, basically, and left after the turn of the century. How do you feel that Extension and the Sea Grant developed and changed and got better during your tenure as the director here?

BM: Sea Grant did get better. Oregon Sea Grant got better in a way—and I don't mean this, it's going to sound like I'm being negative about Bill Wick's leadership, but he reflects a time where he did it the right way for that time. Sea Grant has now a much—its science is much sounder than it was. The attitude was that it needs to be applicable. But if the science is bad it's never going to be applicable to anybody. If the science isn't sound who's going to use it? [1:15:06] We and other Sea Grant programs have ramped up the science review and the expectations of its being sound. The success rate of proposals is way down from almost 100% in some case to 20%, even as low as 15%. Which means the competition is ferocious. So you have a stiffer competition, higher expectations of science through Sea Grant. I think the other way is that I believe that the research and Extension is better-integrated than it used to be. It used to look integrated on paper. Each project had an assigned Extension person. Well, you can't do that. You can't say: "You're going to be interested in this." You could say, "You're going to have to keep track of this." But we expect that connection to be made by the researcher prior to the writing of the proposal. We don't want to try to do it after the fact, because we expect the research some input that could be helpful. We don't have anybody that does that kind of outreach, like pharmaceuticals or marine engineering. We expect the connection to be made directly with potential users with no Extension person in between. That expectation, that that would be done, was there, but it's much more real now. So you have, I think, better science and a better outreach connection.

The other really big change that occurred in Sea Grant overall in the early '90s, partly because the directors demanded it, [was] it used to be Sea Grant was evaluated on the basis of proposals. You'd take a bunch of proposals from people and you'd review them. You'd package them into an omnibus proposal which included all the management and the Extension and all these research projects, and you'd put it together for a total of 115% of what you really expected to get. And off it went. The national office would look at it with reviewers of their own, and they would say yes or no to different projects. Well, you might have three good reviews and they'd get one bad one and then they'd turn it down. Well, we wanted them to judge us on the basis of what we produced, not what we promised: "You know, why don't you come back? You never look back. You never come and see what happened. And this is not good for reporting, or for us." To make a long story short, over a long period of time there developed a different kind of process. It's sort of a site visit where they'd come and they'd say, "Okay hot shot—you had $2,000,000 a year plus match, so let's say $5,000,000 a year for three years, let's see some products." That became the way Sea Grant programs were ranked and rated. Huge difference: instead of proposals it was products. It makes it a better, more accountable Sea Grant. It means that you're not putting proposals through a double jeopardy process. There's an expectation that the directors and the program officials will make good choices. If they don't, we'll find out and we'll see what comes of these. It also allows us to go way back.

One project we funded was part of the pharmaceuticals from the sea, and it had to do with developing a system of growing algae, which was the source of the pharmaceutical in a way that overproduced a particular product that they were looking for. Now what environmental conditions can be created so that—a farming situation—to produce ten, a hundred times as much stuff that you're looking for in these plants? They were multi-cell plants, but the person doing the work got the culture and single cells and really was successful. Well, we moved on from that. It turns out this researcher built onto that and got NSF funding, and he developed a way of taking these algae cells—different algae cells, diatoms—incorporating germanium into the twists and turns of the patterns of those shells and created little electrical circuits [1:20:11]. It became one of the primary progenitors of the nanotechnology center. He was asked to go to Washington D.C. and testify about the capabilities of this university for such a center, and it blew them away. Well that would not have happened without Sea Grant; to a certain extent the nano-product center has its basis in Sea Grant. He found out we were having a review. He called me and said, "I'd really like to tell this story." It was years past. But I said, "This is the kind of thing that they ought to hear." Because what they have in their records is, "Fine, he developed this, they cultured this stuff." Someday maybe it'll be a clinical trial and they'll want—right now nobody even wants this stuff. It's kind of cute, but that's it. Well, it's more than that. It's spun off in new ways. That's a new Sea Grant phenomenon relative to the early '90s. We developed a program area histories, and Sea Grant should have records of those—they're sort of family trees, this led to that and this spun off to something else. You can actually track some of those decades back. It's a much clearer story of the contribution of Sea Grant and not all success stories. It tells you, "That ended that" [shrugs]. And that's okay. Anyway, those are some of the ways that Sea Grant is different. Those are all better.

I think that one way that it's not better is that there is, I think, a ridiculous level of reporting required. They have to lay out their outcomes as "mission statement" things on a frequent basis. It seems like, why? I understand the politics of it, but it absorbs a lot of time in the Sea Grant offices. There are 30+ programs, and if you spend a few hundred hours for each program, that's a lot of investment that could be used differently. That seems to be growing. The national office is a very different animal. Most of the people in the office have little background with Sea Grant. There are career bureaucrats that know. The only person in the national office right now that has a clue about Extension is Sam Chan who is an Oregon Sea Grant specialist in invasive species. [He] is in the national office for two years on an IPA, you know exchange. And he's it. When he leaves there'll be no one that has any Extension background at all. That' s a big difference. That's a big change.

MD: There is this history from the actual nexus of Sea Grant to your perspective, wherever it's at today. And where else are we going to find this kind of longevity?

BM: You could find it.

MD: But you're ours!

BM: Yeah, I'm the one that's here. There are folks that I know have been through it. I don't know anybody that's been in as many different programs as I've have, I mean the three: New York, Delaware, and Oregon, and directed two of them. I mean, I've had every role: reviewer... [trails off]. I mean, the only thing I haven't done is been to the national office, which I drew the line there. I don't think I could do that. I just don't have enough tolerance for bureaucracies. But I have seen it from student, technician, professor, review, reviewee, and director in two programs and from the beginning. And I believe in it. It is a very productive program. It's made a huge difference to this country. Thousands of students. And things that wouldn't exist... Sea Grant started Whale Watch, Bruce Mate.

MD: Yeah, Bruce Mate, yeah.

BM: He was a Sea Grant Extension specialist. He was just starting as a prof. when I was there in Newport in the '70s [1:25:00]. He's been around a while but all in one role. I don't know if that would have happened without Sea Grant. Sea Grant was instrumental in hiring people in those days.

MD: One of the things we always like to do is catch up with our interviewee's family—like, where are the kids, how many grandkids, that kind of thing.

BM: Well I have two kids. The eldest is a son who watched the moon landing with me in '69. He's now a full professor of computational linguistics—whatever that is—at Cal State San Diego. He got is Ph.D.—well he has a degree in both computer science and linguistics from Stanford. He converts language into mathematical equations, statistical probabilities of what this means. And algorithms are used everywhere now. Google uses them. In fact, he has written some stuff that google uses. The CIA uses them; it's a good way to scan lots and lots of stuff. It puts words into the mathematical context. If someone uses the term 'bomb' talking about a theater production, it won't key on that because these algorithms will analyze the—

MD: content—

BM: —and they'll do it across languages. It demands a lot of expertise and computers, powerful computing ability. He says the discipline wouldn't exist without super computers. It came from that ability to apply math to language. So he is doing really neat things, and he's doing well. He has two sons: James and Elias. James is getting old. James starts his freshman year at Berkeley in the fall. He wants to be a lawyer. I don't know where we went wrong [laughs]; there are all these clams he could work on! [laughs]. Then he has a younger one, Elias, and he's fourteen and he'll be in high school soon, but I don't know what—he's the one that ought to be a lawyer. They're both great kids. I have a daughter who lives in Salem. She has a double bachelor's in English and geography, and she got her master's in geography at OSU. She did her thesis on alternative reward systems - I'm paraphrasing - to get landowners to do the right thing environmentally. What are states using? What works? It turns out that one of the things that people want is to be recognized for making a sacrifice for the environment—a letter from the governor meant more to them than anyone imagined, a thank you from the people. It makes sense when you hear it, but it turned out that's what people were finding in other states. She

was an outreach specialist at Siuslaw Estuary and Coos Bay for a while until her husband wanted to—they were taking turns going to school, and he got a master's and now works for ODOT and he does GIS and locations of road stuff, you know, culverts and all GIS. So he does that and they live in Salem. She has a daughter, Amelia, who is entering high school next year. She's fourteen. And they're doing okay. We're doing okay. We had our fiftieth wedding anniversary last year—2016 from '66, and... "you know it'll never last" [smiles] but so far we're doing okay. [1:30:01] "Those kids! Get married?" [smiles]. I was nineteen when we got engaged, twenty when we got married. I had to have my parents' permission to get married, and my wife, who was also twenty, had to sign the lease because I was underage. In Montana at the time, women were of age at eighteen, men at twenty-one. So we did start out as kids in an attic apartment for $55 a month.

MD: What are her interests?

BM: She's a teacher. She taught elementary school in Montana. She's a universal mother. She, in the last years in Stony Brook she was responsible for a sort-of latch-key program. A lot of commuters in that neighborhood would commute into New York City, so there was this program. She had 60 or 70 kids and some staff at one of the schools, and that's where these kids would wait for their parents. She became always very involved in them. I remember one case a mother showed up drunk, and I didn't know that until Judy came home with the child and said "I refuse to let her drive a child." I said, "Do you have any legal status for that? I don't care if she's not driving with the kid" [laughs, throws up hands]. When we moved here she kind of retired. She has a lot of volunteer work. That's the way she is now. She drives for Meals on Wheels, and she works at the OSU thrift shop and she does stuff all the time. She's busier than I am.

MD: What do you do with your free time? What is your special interest?

BM: There are two that are really different from what I do from my career. One of them is antique tools. I have a collection of about 800. I learned enough about them so I know how they were used. I have a whole set of tools - cooper - for making barrels. I know how they did it. I can't make a barrel, because that took an apprenticeship of 5-6 years. I have watchmaker's tools, which I think are interesting. I've learned how to use watchmaker's lathes and some of the other tools and taken watches a part to see how in the world did they make watch gears in 1850. Well I have a tool that they used for that, and I understand that it was an art. By the way, they didn't call them gears they called them wheels. The other is whittling, carving. I'm not very good at it, but I don't really care [smiles]. I get lost in it. Time just slips by when I'm working on it, mostly caricatures, just figures. It's what I do. And a lot of reading, which I didn't get to do. I read proposals. Now I read maybe two books a month.

MD: Finally be able to read for fun.

BM: Yeah. Lots of books that went unread that I'm catching up on now. I'm really enjoying it. It's great.

MD: It's the way it's supposed to be.

BM: Yep.

MD: Well, we always ask is there anything that we have missed, that we haven't covered in this session of your story, your oral history that you want to add?

BM: That's a good question. I'm trying to think. I pretty much dabbled away, so I'm thinking. I guess one thing I learned that I hope others do too is how many different places really good ideas can come from. We tend to listen to certain people, and maybe that's an Extension thing. But some of my best ideas have come out of nowhere, and I learned not to have learned advisors and only listen to them. That's been something I tried to live by. I respect anyone who cares about what they do and tries to be good at it. I don't care what it is, except for burglary and a couple other illegal things [smiles, laughs]. That really helped me. I do respect the person who paints my house or whatever. I understand [1:35:02]. One of the things that I did that I didn't mention is that I had jobs working through undergraduate that put me shoulder to shoulder with people who are still in those jobs. I worked for the Northern Pacific Railroad laying track, driving spikes, in the hot Montana sun, and I was 19. It was okay. It was fine. I hurt for a while, but it was good for me. There were people who were there who had been there as 19-year-olds who were now in their 30s or even 40s, and I realized this is their life. They were really good at what they were doing. It isn't really easy to drive a spike and to do it in a way that is energy-

efficient and effective, and I learned from them and I respect them. I also washed dishes in a bar for two years. [laughs], from 6:00 p.m. to 3:00 a.m. Same dishes over and over again. It's just what you do. It's what you do. It taught me to respect people that did that, to understand that somebody's got to do that and they deserve our respect. Also that isn't what I wanted to do. The railroad job was fine. It paid really well. I thought it was fine, but it wasn't satisfying. It is in a way and the track's still there and I think, "Wow, gee, I put this here!" There is something satisfying about that, but it wasn't enough. If there was any doubt about me going on—I was an undergraduate—for a Ph.D., that settled it. so I learned more than one thing in that experience, and I think that's a good thing for all of us to kind of have a chance to see a different way of life, to live from check to check like we were doing and make a living with your muscles, basically.

MD: It seasons you.

BM: It seasons you, it does. It's a good lesson, and I think I may be a better person than if I'd worked with my dad on his archeological digs every summer, which was the easy way. I mean, it was hard work but it was easy—didn't have to apply or work with people I didn't know. It was a crew of seventeen rough people. It was a good thing. That's about it, I think.

MD: On behalf of the Sesquicentennial Oral History Project, we really appreciate your insights about the Sea Grant and we want to thank you for your participation in the project. You are now a permanent part of Oregon State University's archives.

BM: Well, that's good to know [smiles and laughs]. Thank you. Thank you for doing this.

[1:38:21]