Oral History of

John Atkinson Knauss

Interview conducted by Laura Harkewicz

1 November 2005

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ABSTRACT:

John Atkinson Knauss was interviewed in his home on November 1, 2005. Knauss was born in Detroit, Michigan on September 1, 1925. He studied meteorology at the Massachusetts Institute of Technology (MIT) and received his B.S. in 1946. He received an M.S. degree in physics from the University of Michigan in 1949. He received his Ph.D. in oceanography from the Scripps Institution of Oceanography, University of California in 1959. His dissertation topic was "The Cromwell Current." His graduate advisor was SIO director Roger Revelle. In 1962, he left Scripps to become the first dean of the new Graduate School of Oceanography at the University of Rhode Island (URI). He served in this capacity until 1987. Among his many professional organization affiliations are: co-founder of Law of Sea Institute (LSI) and executive board of LSI (1965 – 1977); member, National Academy of Sciences Committee on Oceanography (NASCO) (1966 – 1970); member, Commission on Marine Science, Engineering, and Resources (the Stratton Commission) (1968 – 1969); and Undersecretary for Oceans and Atmosphere and Administrator, National Oceanographic and Atmospheric Administration (NOAA), U. S. Department of Commerce (1989 – 1993). He remains Dean and Professor Emeritus at URI. The interview stressed Knauss's experiences at Scripps Institution of Oceanography (SIO), especially those related to his history as a graduate student of Roger Revelle. We also discussed Knauss's views on the evolution of oceanography as a science and how his experiences at Scripps had an impact on his life and professional career.

INTERVIEW HISTORY: The interview took place on a beautiful fall morning in the home of Dr. John Knauss on November 1, 2005. Knauss's home is in Saunderstown, Rhode Island. His living room has a stunning view of Narragansett Bay. We talked for approximately two hours. We were interrupted several times by phone calls with the callers leaving messages on his answering machine. The tape was paused once due to the need to respond to a phone message.

Laura Harkewicz
Oral Historian, SIO/UCSD
December 20, 2005

John Knauss with oceanographic equipment aboard R/V *Horizon*, Shellback Expedition, 1952. SIO Archives, UCSD.

INTERVIEW WITH JOHN KNAUSS: 1 NOVEMBER 2005

Harkewicz: ##[1] This is November 1, 2005. I am in the living room of Dr. John Knauss. Good morning, Dr. Knauss.

Knauss: Good morning.

Harkewicz: We're going to start off our interview with talking a little bit about your going to Scripps. How did you decide to pursue a career in oceanography?

Knauss: Well, almost by chance. I graduated from high school during World War II and one thing led to another. I found myself at MIT learning how to be a meteorologist, rather than going to Oberlin on an English scholarship. That kind of changed my entire life. I found myself out at San Diego, at North Island, forecasting weather. As the war ended, I needed a job. I ended up at the Navy Electronics Laboratory there in San Diego with a very small oceanography program that was just starting. And, after a while I decided that if I'm really going to be an oceanographer, I've got to learn more about it. So, I ended up at Scripps working on my Ph.D.

Harkewicz: So you'd say your military experience affected your going into oceanography, then?

Knauss: [*Laugh*] Yes. Absolutely. As I told you, I was really all ready to be a liberal arts major. And I had, you know—. Science was not—. I was pretty good at those kinds of things, I guess, but that was not what my career goals were in 1943 when I was graduating from high school.

Harkewicz: What about Scripps attracted you?

Knauss: I don't know, quite. I think the point was that I ended up being an oceanographer. You know, in a kind of semiprofessional way, that's what the job was at NEL.[2] And, if you wanted to get more education in oceanography there was no other school to go to. Scripps was the only place, in the United States, where one could study oceanography. And certainly at the end of World War II it was the only place. And then a number of other places started up, Texas A&M, Oregon State, other places, Miami. I forgot exactly what those years were, but I think when I really wanted to start my graduate program there was no other choice.

Harkewicz: So, you just sort of fell into it?

Knauss: [*Laugh*] Fell into it, that's right. Yes.

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[1] The symbol ## indicates that the tape or a section of the tape has begun or ended. For a guide to tapes see the final page of this transcript.
[2] Navy Electronics Laboratory at Point Loma in San Diego.

Harkewicz: What did you expect that your days would be like as an oceanographer? Did you have any expectations at all?

Knauss: No.

Harkewicz: [*Laugh*] Well, that's succinct.

Knauss: No. You know, you sort of wander into it. There are no role models. At least, I didn't know about any role models. And I liked to go to sea, and I got interested in the field, and the more I got into it—. I found myself working in an area studying ocean circulation and ocean currents, rather than biology or chemistry or things like that. I had a master's degree in physics from the University of Michigan, which I got at some point along the line, and so, I stayed in physical oceanography.

Harkewicz: Okay. I know you worked in Roger Revelle's[3] office as a graduate student?

Knauss: Yes.

Harkewicz: Can you tell me something about that experience?

Knauss: Well, you know, I came to Scripps after working in Washington at the Office of Naval Research for a while. Somebody suggested that I had an assistantship and in those days it was not all that difficult to get an assistantship and nobody really cared very much about what you did. I was assigned to Roger Revelle and someone said, "You know, Knauss, he needs some help in keeping his office going, why don't you volunteer?" And Roger said, "Sure." And so I spent afternoons in his office going through his papers. Roger was an extraordinary person but he spent his time worrying about the big jobs, big problems and so forth, and he kind of ignored all the day-to-day paperwork. I ended up going through his "incoming" basket and telephone lists, and so forth, and trying to point out the things to him that he really needed to do something about pretty soon. And eventually I got around to actually knowing what he was going to do on some of these minor things, and so I kept doing them for him, which at one point got a number of the senior professors at Scripps a little bit unhappy. They were unhappy about Roger being director in the first place, and now they thought the damn place was being run by a graduate student rather than Roger. So anyway, I heard about it.

Harkewicz: Would you want to say anything about why people were unhappy about him being director?

Knauss: Oh. Well, Roger was, you know, younger of course than these senior people. This is Carl Hubbs, Fox, ZoBell,[4][who] were the people who were not all that

[3] Roger Randall Dougan Revelle (1909 – 1991), SIO director 1951 – 1961.

enthusiastic about Roger. Roger was a bright young man, but he was not a very good administrator in the typical sense of the word administrator. You know, like keeping things on schedule. He was late for meetings. The meetings would just go on forever. The place grew because Roger had great imagination. But he wasn't a by-the-book type of administrator and these senior biologists knew it, and they were not all that enthusiastic about him.

Harkewicz: Do you think your experience working in administration for him affected your going into more administrative things in the future?

Knauss: In a way, yes, because after I was working, got my Ph.D. at Scripps and so forth, it was clear that I had ideas about how Scripps should be changing to do things a little bit differently. And I still remember—. I was, you know, a young—. I wasn't an assistant professor. I had one of these jobs, I think they're called "assistant research" something or other. That's maybe still the same name. Anyway, it's the equivalent of assistant professorship but you're not faculty. And anyway, I was interested in doing this sort of thing. I kept seeing things that I thought should be done better at Scripps, and so forth. I've forgotten who it was but some senior professor—I think it was Bill Fager—he said, "You know, Knauss, you're not going to be made director of Scripps for quite a while yet." [*Laugh*] "You know, if you want to really run a place you ought to find some place other than Scripps to do it." And eventually when the opportunity came to come to the University of Rhode Island it seemed like a good opportunity and I did it.

Harkewicz: Okay. I want to talk to you about that, but I want to back up here a little bit again to your graduate experience. I know that when you were working in Revelle's office you wrote a play called *Endless Holiday*[5] that we have a copy of in the Archives. Can you tell me a little bit about that, or what prompted the writing of that?

Knauss: Oh, gosh. Anyway. Well, as I told you, I really was going to be a liberal arts major, and when I went to Michigan to get my master's degree in physics I spent two years getting a master's degree without a master's thesis. It was kind of long time to do that. Because I spent a lot of time taking courses in liberal arts and English, and so forth, I actually got involved in a playwriting course and got an honorable mention in a big national program that they had for that. And, so yes, I was interested in doing liberal arts kinds of things. And why I got involved in doing *Endless Holiday* I'm not quite sure I remember anymore, but it was kind of fun at the time, and so I did it.

Harkewicz: Did you actually perform it at any time?

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[4] Carl Leavitt Hubbs (1894 – 1979), ichthyologist at SIO; Denis Llewellyn Fox (1901 – 1983), professor of physiology at SIO; Claude Ephraim ZoBell (1904 – 1989), professor of marine microbiology at SIO.
[5] Roger Randall Dougan Revelle Papers, MC6A, box 115, folder 17. SIO Archives, UCSD.

Knauss: It was performed twice, I understand. I was back in the Navy when it was performed in the Revelle's living room one time, so I did not see it. And, I believe, in fact I have a copy of it. It was performed—did Scripps have a big anniversary here recently?

Harkewicz: Yes, it was the Centennial in 2003.

Knauss: Yes. It was performed as part of the Centennial.

Harkewicz: Ah.

Knauss: And, somebody sent me a—somebody made a copy of it.

Harkewicz: Oh, a videotape?

Knauss: A videotape. Excuse me, that's the word I was looking for, yes. So, I have a videotape of it, which I've seen, and it was like, well it wasn't quite as—. Well, you know it's kind of gotten a little bit old. But it was not bad. I was impressed. [*Laugh*] I still kind of enjoyed it.

Harkewicz: And, what was it about? It was about planning an expedition or something like that?

Knauss: Yes. Let's see. It was a strange thing. What it was, was that Scripps was planning an expedition to go to sea, and Roger was in charge. And Roger did all the important things, as he always did, and did them very well. And so everybody got ready to go to sea, but he had ignored one little bit of paperwork, which was you needed to get permission from the Board of Regents, and from all these other organizations and so forth, before you could really take off on something like that. In those days, you still had to—. Essentially, as I recall, if you were going to go out on a major something like that you had to get an "okay" from the Board of Regents, believe it or not. And Roger took care of everything, everybody was ready to go, all the equipment was ready, everything was to go and it turned out he'd ignored the permission from the Regents. So anyway, the idea was "Well, we'll go anyway and we'll get permission from the Regents while we're out at sea." And, the point was some crazy details, you couldn't come home because everybody would know that you've been to sea because there'd always be newspaper reporters and the thing would be, you know, reported. So, you could go to sea and nobody would know, but you couldn't come home. [*Laughter*] And that was the issue.

Harkewicz: Okay. Just one other question about *Endless Holiday*, and then we'll get off that.

Knauss: Okay. No problem.

Harkewicz: You said that the storyline was that Roger had forgotten to get permission?

Knauss: Yes.

Harkewicz: Do you think that something like that could really happen?

Knauss: Of course. [*Laugh*]

Harkewicz: Okay. That was one of his administrative failings, or whatever, that you were talking about?

Knauss: That's right. Roger was wonderful on the big picture, but the details he could ignore, and he often did. And, there was one wonderful story which I was told by Warren Wooster[6] at one time, that as director he had to sign something each month to be sure that people who were on certain contracts, and so forth, could get paid. He forgot to sign it once. So Roger, at least between Ellen[7] and Roger, they had a little bit of money. So he actually wrote checks to all the people who didn't get salary that month.

Harkewicz: From his own bank account?

Knauss: From his own bank account, so they could get paid. [*Laugh*] And then somehow they would eventually get paid and then they would pay him back. But anyway, he solved that problem by just actually writing the checks himself.

Harkewicz: So, was it left to somebody else then, to take care of the bulk of the administrative duties, or—.

Knauss: Yes, but the point is, it was up to somebody else, but you know they put it on his desk and he didn't sign it, and I guess somebody didn't note that it wasn't signed. And so, that was their mistake. But, anyway, yes, it didn't get signed and so that happened at least once. That's the only time I know of. That was an extraordinary example but it's not atypical of Roger as an administrator.

Harkewicz: So was there somebody who had to follow up on him to make sure he kept things running?

Knauss: Yes. And, as I said, when I was doing my assistantship that was my job. I was a graduate student, but I also tried to follow up on some of these things for him. But he eventually had a couple of other people: Jim Faughn[8], in the office for a while, and then eventually there was a retired admiral, Admiral Wheelock[9], who

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[6] Warren Scriver Wooster (1921 -), Scripps oceanographer; currently professor emeritus in the School of Marine Affairs, University of Washington.
[7] Ellen Virginia Clark Revelle (1910-), wife of Roger Revelle.
[8] James L. Faughn (1910 - 1985), ship's captain, project officer, and technical marine superintendent at SIO.
[9] Charles DeLorma Wheelock (1897 – 1980), rear admiral (ret.), associate director of SIO (1953), acting director of Institute of Marine Resources (IMR) (1954 – 1958), professor of oceanography and director of IMR (1958 – 1961).

came along and he, you know, he had been a good admiral in the Navy. He was, well, retired. He was very good, and he kept that place running while Roger did all the big things administratively. I can't remember what Wheelock's first name was. He did it for quite a while and then unfortunately he had a stroke—I think it was a stroke. But anyway, he died in office, so to speak. I don't remember how many years he was there but while he was there, it ran very smoothly.

Harkewicz: Do you think that made Revelle a bad director, then?

Knauss: No. No. No. No. I think Roger was a great director. All he needed was somebody to come along behind him and take care of the paperwork. He made Scripps the best oceanographic program in the world. He did it with his imagination, and he did it by being sure he got the best faculty in the world. He decided that oceanography could be expanded to other things. So he expanded the whole—what the term "oceanography" was all about. I mean, excuse me, not what it was all about. He got people interested in the oceans who came from all kinds of various fields and they applied their expertise to the oceans. And yes, no, he was a great director.

Harkewicz: Okay. Let's talk a little bit about your experience with him as your graduate advisor.

Knauss: Yes.

Harkewicz: What kind of an advisor was he to you?

Knauss: He left me alone completely.

Harkewicz: And that was good?

Knauss: Up to a point, yes, it was good. I, how shall I say it? When I decided that I wanted to come to Scripps and learn how to, you know, do research, because I'd been working in the Office of Naval Research and my job was to essentially provide money to these guys who were doing research, and they seemed to be having a lot of fun doing that, and it was exciting work, and so forth. And, I said, "Gee, it looks like it would be more fun to do research than to just give out money to these guys doing research. So, why don't I go to do it myself?" But I needed more education. So Roger said, "Sure, come to Scripps." And so I came to Scripps and I started out as a graduate student. One of the things I kind of realized by watching these guys who I was supporting, back when I was in the Office of Naval Research, was that some were better at doing this than others. And I figured that I better learn how to be a researcher. And so the question was, "Well, how do you do it?" So, I thought I better muddle along and try it out myself, because the alternative was to—. The only person on the staff who would have been an obvious major professor for me was Walter Munk[10]. And Walter

[10] Walter Heinrich Munk (1917 -), physical oceanographer at SIO and professor of geophysics at UCSD.

was so bright and so good that if I got to be his student—. I noticed with some of his students that Roger, I mean Walter, would find an interesting project and he'd set me on it, and sooner or later I would have done it, and I would have gotten my Ph.D. But, I'm not sure I would have gone on and done anything else. That was my feeling, anyway. I'm not sure it would have happened that way, but that was my attitude. So I said "Okay, Walter's not going to be my major professor. I'm going to have to muddle around and learn how to be a researcher on my own." And so Roger was an ideal major professor. He was too busy doing other things, so I never talked to him. [*Laugh*] He just left me alone and I muddled around. I got a research assistantship, which I earned by essentially helping out in his office. And eventually I did good work and I got my degree.

Harkewicz: Yet, you wrote in your biographical notes that you sent to me that Revelle encouraged you to use the undercurrent measurements that you had made during the International Geophysical Year[11], the IGY, as your dissertation topic?

Knauss: Yes.

Harkewicz: What did you think about him encouraging you to do that?

Knauss: Well, you see, what happened was that I started out a project. I was making some measurements of currents up further to the north, the equatorial countercurrent. I spent some time doing it. I had a lot of data, and that was going to be my dissertation. But during the IGY I got a chance to make these measurements of the equatorial undercurrent, which turned out to be quite spectacular. And Roger said, "John, put away those countercurrent measurements for the time being. Make this your dissertation." And he was right. I did.[12] And, you know, I've taken a certain amount of pleasure over the years in recognizing and realizing that what my Ph.D. dissertation was all about was one of the more spectacular sets of measurements and observation programs that was made during the IGY. You know, it ended up in a big article in *Scientific American*[13]. It ended up as one of the highlights of the—oh god, that wonderful meeting we had during the end of the IGY at the United Nations in New York and so forth.[14] And so, Roger was absolutely right, you know. Those are great measurements, and why not say that was your Ph.D. dissertation? I mean, not many people can point to their Ph.D. dissertation as such a spectacular set of observations.

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[11] The International Geophysical Year (IGY) was from July 1957 to December 1958 and involved 67 countries. The IGY was a comprehensive series of global geophysical activities spanning the globe from the North to the South poles and included the launching of artificial satellites into space by Soviet and American participants. American participation in the IGY was charged to the U.S. National Committee (USNC) appointed by the National Academies of Science. Joseph Kaplan, professor of physics at UCLA, was appointed chairman of the USNC.

[12] John Atkinson Knauss, *The Cromwell Current* (University of California, Los Angeles, 1959).

[13] John A. Knauss, "The Cromwell Current." *Scientific American* (April 1961): 105 – 116.

[14] The reference is to the first International Oceanographic Congress held at the United Nations in New York from August 31 – September 11, 1959. The Congress was chaired by Mary Sears (1905 – 1997), oceanographer, U. S Naval Service and Woods Hole Institution of Oceanography, whom Roger Revelle once referenced as the "first oceanographer of the Navy."

Harkewicz: And so, you think that was due to . . .

Knauss: Oh yes. If Roger hadn't, I would have—. I was already halfway through my dissertation with the other work. He said, "Put that aside. Do this."

Harkewicz: Well, that . . .

Knauss: And, he was right.

Harkewicz: That brings up a good question, though. I mean, how did you feel at the time? I mean, in retrospect you can say, "Oh yes. It was great," but if you were halfway through, how did you feel about putting that aside and start using something else?

Knauss: I guess I knew that the equatorial undercurrent measurements were nice and straightforward, and at least, I'm sure, I had to get them out in terms of some kind of paper published, and so forth, immediately. Turning a published paper into a dissertation requires a little bit more work. But no, I didn't feel badly about it.

Harkewicz: You said you had to get it out immediately because they were so important?

Knauss: Yes. Yes.

Harkewicz: The results or something?

Knauss: Yes. That's right. You had to—. You know, I published a short thing in *Nature* and another one in, oh, *Science*[15] and so forth, on these results. And so these people knew about them, so they did get published quickly. At least the short version was, so that people knew what they were all about. But then, to turn them into a longer paper and turn them into a dissertation meant quite a bit more work. And yes, I didn't feel too badly about that.

Harkewicz: What was it like, though, to—. I mean how did you know they were so important when you were doing them?

Knauss: Oh, that was so obvious. *[Laugh]* I'm sorry. I mean, here was a current, a big, powerful current that nobody had ever known about before, and it was right on the equator. It knew where the equator was. Nobody had a clue in the beginning as to why it should be there, or how it was there. And when I first reported these observations I didn't have a clue, either, about why it should be there, but it was there, and so forth. And there was a lot of excitement amongst theorists and others about what's it all about. And so yes, it was a big deal.

Harkewicz: Was that actually while you were out there that you realized they were so important, or was this afterwards when you came back and looked at the data?

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[15] J.A. Knauss, "Equatorial Undercurrent of the Indian Ocean," *Science* (Jan 1964) 354-356.

Knauss: Well no, you kind of knew. Luckily I had designed the program for making these observations with a bit of foresight but also a fair amount of luck. So, I made a great set of observations on the first cruise in '58. And so what I came back with was some data that was clearly, fairly straightforward and to present, at least in an outline form, what it was. It got everybody's attention. And yes, it went very well.

Harkewicz: Now you said in your notes, and you just sort of referenced it to a certain extent now, that you actually planned a two-ship expedition for the IGY?

Knauss: Yes.

Harkewicz: And, you said that wasn't unusual for a graduate student to do that.

Knauss: Well, it wasn't. A two-ship expedition was a bit unusual, but graduate students led a lot of the cruises in those days, at Scripps. Yes. Bob Fisher[16] certainly led a cruise. Townie Cromwell[17] led cruises. We all led cruises, because Scripps was growing like mad. A lot of the senior professors there had never been to sea. Roger had all these ships and we had support for them. And so, a lot of us learned how to do our science while, you know—. It turned out that senior graduate students could lead those programs.

Harkewicz: What was it like to be planning an expedition, or a cruise I should say, at this time?

Knauss: Wonderful. It was great. Well, I enjoyed it anyway. I'm not sure everybody did. But I enjoyed the combination of worrying about all the details, being sure you had everything aboard, being sure that—. Hopefully, what I did learn was that: overplan. That is, be sure you take extra things aboard your ship because whatever you have, something's going to break and be sure you have something to replace it with. Be sure you have extra kinds of equipment, because maybe your original plan—turns out it ain't going to work. And, on the other hand, you've seen some things that you'd like to make measurements of. So, yes. And, yes. There's several of us that did this. Warren Wooster, Bob Fisher, myself, and lots of others. And, yes, I was pretty good at it.

Harkewicz: So, does that mean you were in charge of everything at sea, then?

Knauss: Yes. Absolutely. [18]

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[16] Robert L. Fisher (1925 -), physical oceanographer at SIO.
[17] Townsend Cromwell (1922 – 1958), oceanographer at SIO and discoverer of the Cromwell Current.
[18] After reviewing the transcript,, Knauss added: "The captain was responsible for the safety of the ship, but the chief scientist decided where the ship went and when it stopped and when measurements were made."

Harkewicz: That's pretty impressive. Do you think graduate students nowadays could do something like that?

Knauss: I don't know whether they do or not. My sense is—. No, I don't know. I haven't followed what it's like, either, at Scripps. Here at the University of Rhode Island, back when I was running the program, you know, we had graduate students who led programs here. I'm not sure that's still the case, but it was, at least for a while.

Harkewicz: Okay. I know that the IGY involved international interaction between scientists. Did you interact at all with any Russian oceanographers during that time?

Knauss: Yes. In a small way, yes. You know, I was a graduate student, so there were these big international groups that would meet together for planning, and so forth. I didn't get involved in that very much. I did get to one or two meetings like that, and I met a couple of Russian oceanographers. But my recollection is, as far as the Russians were concerned, I got to know them after the IGY rather than before. I was a graduate student and so these international affairs where the people met and so forth were at a higher level than I was at the time.

Harkewicz: So, there wasn't anybody onboard ship that was . . .

Knauss: At one time, yes, at one of the programs I had a Japanese oceanographer with me, but I've now forgotten how he showed up. He may have been a visitor of Scripps and he just came along on the program with me.

Harkewicz: When you say you interacted with these Russian oceanographers later on, was it still during the Soviet period?

Knauss: Oh yes. Yes.

Harkewicz: What was that like?

Knauss: Well, politics didn't get involved. That's all I can say. As, you know, as scientists we try to understand one another and work together and no, there was no—. This was after the period of Stalin. So Russia had really kind of opened up a bit, a lot. And so, there was no—. We didn't discuss politics. Let's start with that, okay?

Harkewicz: Well that's, that's good. *[Laugh]* In the realm of science, what was it like to be—what was science at sea, versus science in the laboratory, like for you?

Knauss: Well, I, I never did much science in the laboratory so I don't know much about science in the laboratory. But, science at sea was wonderful. I just liked it very much. But one of the things, once you go to sea, you just close off all the rest of the world. There are no newspapers. There's no television. There's no—well, occasionally you would get something in the morning the radio operator would write down. So you had maybe one 8 by 11 sheet of headlines of the world.

That's all the news you knew about. You were just away from everything. If your wife really had a problem, you know, you'd hear about it, and so forth, but you know just nothing. You know, it's just wonderful. You could be immersed in science and you didn't feel guilty because you were not out doing anything else because you couldn't do anything else. And so, yes, I enjoyed it very much.

Harkewicz: It sounds like the perfect life for a scientist?

Knauss: That's right. Yes.

Harkewicz: Let's back up, or go forward, or however you want to think about this. As far as Scripps as a community goes, I know that you wrote a history of the Scripps Estates Associates for someone at one time? Can you tell me a little bit about that? And, I know you had a house on that property, right?

Knauss: Yes. SEA, Scripps Estates Associates, was something that, again, this is Roger's idea. You may know, and I think there's still a few of those little wooden houses around down there at Scripps? Well, at one point there were, I think, twenty or thirty of them. And back when Scripps got started that's where all the staff lived, because we were way off, way off from La Jolla. There wasn't anything up there to the north, other than until you got to the Beach and Tennis Club. And, certainly there was no UCSD, so we were just all by ourselves out there. And anyway, one of the things that bothered Roger was that he didn't think that full professors should be living in those little wooden houses. And so, he and others, and Helen Raitt[19], who was the wife of one of the professors there, and a couple of others, kept looking for property. And, I've forgotten the details, because I was not involved at that time, but they found this area to the north of Scripps. They bought it, got it subdivided, and made it available to Scripps faculty, in the first place, with the idea that they were going to invite a few other people so it wouldn't be a faculty ghetto. So then it would be simply some other groups involved. And, at one time they didn't have everything sold, and so a few of us, as senior graduate students, were able to buy into it and so I got a lot there, Lynne[20] and I did. And, yes, I wrote the history of how that happened, at one time. I got involved in it quite early because Roger was running the thing, and I was his student. And so, for example, the question came up, "Well, how do you decide who gets which lots?" And, they had the bright idea that they would get together and buy the property and then they'd raffle off the lots. Not a raffle in the sense that how much you paid for them, but they figured out what each lot would cost, in order to cover the bills. So then they would draw numbers out of the hat and you'd get your choice, you know, one through nineteen. First choice gets first of any of the thirty-eight lots that were available and so forth. I didn't own a lot then, but I was Roger's student and so I essentially sat there on the

[19] Helen Hill Raitt, (1905 - 1976), wife of Scripps oceanographer Russell Raitt (1907 – 1995), author of a number of books related to SIO including: *Exploring the Deep Pacific* (1956) and (with Beatrice Moulton) *Scripps Institution of Oceanography: First Fifty Years* (1967).

[20] Lynne Knauss, who married John Knauss in 1954. Their children are Karl and William Knauss.

living room floor of the Revelle house and helped the members pick the numbers. So okay, I was the raffle chairman, so to speak.

Harkewicz: That's an important job.

Knauss: And then they had a very complicated way if a member wanted to get out how other members with less attractive lots could move up, and so forth. It's all written down. I've written it somewhere.[21] And, so yes, I got involved in that.

Harkewicz: Wasn't there a problem with Jewish covenants or something in La Jolla?

Knauss: Yes. That was another reason for having it. Because guys like Ed Goldberg, for example, were going to have trouble. That's right. Yes. You know, it was, how shall I say it, there was no—. The Supreme Court had already knocked down such covenants but there was kind of a gentleman's agreement amongst the La Jolla realtors at the time which continued in spite of the Supreme Court statement. Yes. And, we had—well, I don't remember how many Jews we had, because I don't remember who's Jewish and who's not. But yes, we had two or three in the SEA.

Harkewicz: Do you think that the SEA was the only way that they would have been able to live in La Jolla?

Knauss: I don't know. I can only assume that Roger thought that it may not be the only way but let's make it easy for them.

Harkewicz: Did you experience any discrimination in any way, or did you feel like it affected work at Scripps at all—

Knauss: No.

Harkewicz: —for yourself or for anybody else—

Knauss: No.

Harkewicz: —that you could tell?

Knauss: No. I'm not Jewish.

Harkewicz: No, but I mean, even did you notice it? Did other people complain about it at all or anything like that?

Knauss: No. I don't think so.

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[21] John A. Knauss, "Scripps Estates Associates – The Early History," 2001. Biographical Information Files, SIO Archives, UCSD.

Harkewicz: Okay. Let's talk a little bit about your wife and children. I think you had one son that was born while you were living in La Jolla? Is that correct?

Knauss: Yes. That's right. Yes.

Harkewicz: Did your wife have a career at the time?

Knauss: Well, not exactly, no. Let's see. Yes, she had a degree from Radcliffe but she didn't make much use of it. She got a job as a secretary, clerk work, and so forth, and ran a few things at the Allen Mortgage Company out in La Jolla, and no, she never did feel that she wanted a major professional career.

Harkewicz: Did the wives and children, or spouses and children at Scripps, was it like a family amongst them? Did they socialize together?

Knauss: Oh boy. That's a tough question. I can't remember. I would say yes, we socialized together but it was not where we all socialized together because, you know, some of us didn't care for each other. It was like any other organization, yes. So, yes, we had a lot of friends, and a lot of our friends were amongst the staff at Scripps. But we also had friends who were not, had nothing to do with Scripps.

Harkewicz: So, you didn't feel like there was some sort of cruise director mentality where somebody was trying to get everybody to hang out together or anything like that?

Knauss: Nothing like that at all. No.

Harkewicz: Okay. One other thing I mentioned before that I forgot to ask you, though, is you said that Roger didn't want the SEA to be an "academic ghetto," so they wanted other people to come and live there? What other kind of people were living in that area, or were encouraged to live in it?

Knauss: Well, let's see. I'm trying to think of some of the ones who weren't.

Harkewicz: Were they all Scripps people, though?

Knauss: No. No. No. No. They just came from all over, you know. They lived in La Jolla, generally, and I don't know how they got in, quite frankly, but they were invited in.

Harkewicz: And, was it always that lottery situation, where . . .

Knauss: Well, no, excuse me. Once, in the beginning, you held the lottery—and I think there were nineteen members at the time and there were nineteen lots that bordered the canyon. And so, the point being that the original group could all have a wonderful view lot, of one kind or another. And that's when they held the

lottery and they divided them up. And then all the other lots were available, and then you could invite other people. Groups were invited. And, with the nineteen you had enough money to start to pay off the bill for the property, the roads, and other kinds of improvements. And, you still had a bit of a bill that had to be paid off and then you'd sell lots to other individuals and you'd invite others to come in.[22]

Harkewicz: I see.

Knauss: Yes.

Harkewicz: When was it that you actually were able to buy a lot, then?

Knauss: Oh. I don't know, '57 or something like that. I don't remember.

Harkewicz: Was it still one of those nice canyon areas?

Knauss: Let's see, I got married in '54. No. So, I had the original lot, I must have gotten in '53 or early '54. The lot I got was not on the canyon, but when some people who had these lots got out, then it became possible to move up.[23] It was a very complicated way John Isaacs[24] and Carl Hubbs put together, and I've written about this somewhere, about how it's all done. And so I got a chance to move up, eventually. So I got a canyon lot, eventually, but I didn't get a canyon lot when I first became a member.

Harkewicz: It sounds like there was a sort of a group that decided who was going to go where, or who could get in, or something like that?

Knauss: Oh yes. You had to be voted in.

Harkewicz: I see.

Knauss: By the members. But the rules about once you got in, about who got where was by the numbers, you know. It was a little bit complicated but you didn't get voted to where which lot you got to. All you got—you had to be voted in. And then, which lot you got was A, in the beginning by lottery, and then the pecking order was seniority of when you joined SEA. So, if you were number twentieth on the list, you, and a lot became open, you got a chance to get to it before number twenty-three on the list could get to it, okay?

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[22] While reading the transcript, Knauss clarified: "But to finish all of the improvements, you needed more money and then you'd sell lots to other individuals and you'd invite others to come in."
[23] The Knausses originally acquired lot 26, then relinquished it for lot 9, which they built on in 1958.
[24] John Dove Isaacs (1913 - 1980), Scripps biological oceanographer.

Harkewicz: Do you remember at all how people were, how you got in, in the first place, though? It sounds like—. I mean, what if somebody didn't like you, were you just sort of —. I mean, was it more democratic than that? Or . . .

Knauss: As I recall there was one case where a significant number of the members were unhappy about somebody who was going to come in. And, that was a big stink amongst us. You know, it was all private, but anyway we really fought it. But anyway, the . . .

Harkewicz: You fought it because people were against it?

Knauss: No. We just thought it was a lousy idea, you know, to turn somebody down just because a few of them didn't like the person. But anyway, that person didn't get invited in at the time, and it made a lot of us very unhappy, but it was the only one case that I know of. In fact, it was the only case.

Harkewicz: Did it cause anybody to want to leave the group or anything like that? Or . . .

Knauss: Those of us who were in already owned property. No. We were not going to leave. *[Laugh]*

Harkewicz: You're not going to leave property in La Jolla, right? So, we were talking a little bit about activities. I know that you, you and your wife, put together a fiftieth birthday party for Roger Revelle?

Knauss: Yes.

Harkewicz: And, it had a *Cannery Row*[25] theme, right? Is that correct?

Knauss: Yes, that's right.

Harkewicz: Why was that and what was the party like?

Knauss: Well, it was a great party. Most of the ideas for social things like that were my wife's. So, we'll start with that. She gets all the credit. Yes, Roger was having his fiftieth birthday. He was the director. There was some thought that he was going to be made UCSD chancellor, because they were just starting out like that. So we were going to lose him as director. And so we thought we ought to have a fiftieth, you know, "It's his fiftieth birthday and we were going to lose him as Scripps director and so let's do something." Lynne's idea. It was—I don't know, have you ever read *Cannery Row*?

Harkewicz: I have read parts of it.

Knauss: A long time ago?

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[25] John Steinbeck, *Cannery Row* (New York: Viking Press, 1945).

Harkewicz: Yes.

Knauss: Okay. Okay. Anyway, the point was that in *Cannery Row* they said they decided they ought to have a party for Doc. And anyway, the point was that everybody had to bring a present for Doc, and so forth, and Doc wasn't supposed to know about it. Anyway, so Lynne said, "Well, let's do it." So, we did it on a *Cannery Row* type theme, but we decided it was not—we had to have a little bit more structure to it because we couldn't just assume that everybody would just know to show up. But anyway, we did and Roger didn't know about it. We kept it secret. It was his fiftieth birthday and I think George Shor—not George Shor—George Shumway, his son-in-law, had a piece of property at Scripps. And so George invited his father-in-law for dinner at the house that night. Anyway, so that was all arranged. And then we all started to show up, and picked him up, and we had a little parade down the street to our house and it was a great party.[26] And everybody brought presents, homemade, of one kind or another, for the party. And of course, the pièce de résistance was Texas Bobbi Roberts, who was a major striptease dancer. And what happened was that, oh, a few people had gone down and talked to Texas Bobbi—Leonard Liebermann[27] and Harmon Craig[28], and a couple of others—and she said, "Sure, I'll do it." And so they went down and got her that night and brought her back. Roger was opening all of these presents of one kind or another that came, and they were homemade various kinds of things, and somewhat interesting. But the only one that I can remember now is of course Texas Bobbi, who was brought in, in a box that a refrigerator had come in. A big enough box. Okay. And so anyway, it was a well-oiled party, I can guarantee you. And Texas Bobbi was brought into this big box and Roger opened it up and there came Texas Bobbi out with, you know, G-string and everything. Roger said something to the effect that, "Did you really come out of there?" And she said, "Yes. It's easy. See." And she crawled back in. Roger crawled back in. People took them out, and around they went, and later came back. And [Roger], as I said, just got out and Texas Bobbi said, in memorable words, you know: "I never knew oceanography could be that interesting."

Harkewicz: *[Laugh]* Oh. Was that an unusual kind of party or did you have a lot of those kind of things?

Knauss: Well, that was kind of unusual. We had a lot of good parties. But that, you know, you don't just throw one like that everyday. That's right.

Harkewicz: With Texas Bobbi?

Knauss: Yes.

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[26] Knauss added: "Another *Cannery Row* theme [that was featured at Revelle's party] was that everybody bought some liquor and it was all dumped together in a large crock with plenty of mix."
[27] Leonard N. Liebermann (1915 -), physicist at SIO, currently at the University of Washington.
[28] Harmon Craig (1926 – 2003), Scripps geochemist.

Harkewicz: Okay. Well, let's change wheels here, a little bit, and talk a little bit about you going to URI, and how URI compares to SIO? I know that during the postwar period Scripps stressed research over instruction. What role do you think scientists and students had in creating a research institution at SIO?

Knauss: Well, I guess I don't understand what you're saying. Try it again.

Harkewicz: Well, do you think, did the scientists and students that were at Scripps affect— ##

Harkewicz: ## Okay. Continue with what you were saying. Research gets done by the students?

Knauss: By the scientists and students. So, the institution is the students and the faculty.

Harkewicz: Right.

Knauss: And, they determine what the research is. It's not done from somebody up in Berkeley saying, "Do this." What you do is what the scientists decide to do, and what the students are interested in doing, yes.

Harkewicz: Right.

Knauss: Yes.

Harkewicz: Did the students and the scientists have anything to do with the curriculum that was designed at Scripps?

Knauss: I don't think the students did, but certainly the scientists do. The faculty determines the curriculum in general, at all universities, not just Scripps.

Harkewicz: But, I mean way back when it first started out. In your experience, when it was more of a research, you know, postwar . . .

Knauss: Oh, I see what you're saying. Well, the formal curriculum was not well taken care of back in the beginning. While I was still there, and just as UCSD was just getting started, a number of the faculty who had come from other organizations felt that we had kind of a lackadaisical set of curricula and requirements for that. We were primarily research, and course work was secondary. And there was a feeling amongst several others we had to pull up our socks. And so there was at, I would say—I forget when that period was, sometime in the late fifties, early sixties—there was a major effort to kind of make the curriculum a little bit more formal, a little bit better organized. Roger never felt strongly about the curriculum. And so it was kind of lackadaisical. But it was formalized a little bit more then.

Harkewicz: So, that would have been when you were a graduate student—were you faculty soon after that?

Knauss: I was never a faculty. I was a research staff member in '59 or something like that, yes. And then I left in '62, so I wasn't there that long.

Harkewicz: Okay. But, how did you feel about the way the curriculum was, as a student and as a research faculty person?

Knauss: It was okay as far as I was concerned. I didn't know anything about that sort of thing, in those days. *[Laugh]*

Harkewicz: So, do you think—maybe you can't answer this either, because you left soon after that, but do you think they've got the right balance now from . . .

Knauss: I wouldn't even care to guess.

Harkewicz: You don't know, okay. Can you describe how you got your position at URI?

Knauss: Yes, sort of. This was in the days before Affirmative Action, so you didn't have to advertise for a job. The University was looking for somebody to come to Rhode Island and take over what was called the Narragansett Marine Laboratory. And a number of people got letters. I got one. I don't know how they got my name, and I don't know how many letters went out, but I know that at least two or three other people got letters. So I can only assume there must have been at least a dozen or maybe twenty people who got letters asking if they were showing any interest. I showed some interest on the basis that the Narragansett Marine Laboratory at the time was interested in Narragansett Bay. It's not an open ocean. I said, if you want to be an open ocean program, and so forth, I might be interested in doing it. And I then wrote to some of my friends in the Office of Naval Research where I'd worked at some time, and said, "Look, if I should get this job, will you grubstake me to a ship?" And, they said, "Yes. We think there's room for at least one other major oceanographic institution and if they pick you, we'll help out." And, one thing led to another and I got the job.

Harkewicz: Do you think anybody at Scripps, or anything about your Scripps experience, helped you get the job?

Knauss: Oh sure. I mean, you know, I'd built a bit of a reputation at Scripps as a researcher. I had some administrative talents, you know. I had worked in Washington for the Office of Naval Research and things like that. So I had some administrative ability, they thought. So yes, it was a combination of those two.

Harkewicz: Okay. And now you just mentioned it, you said something about the open ocean. I'm sorry, let me back up here a minute. When you wrote in your notes that you wanted to have an open ocean Scripps-like program?

Knauss: Yes.

Harkewicz: So, you just said something about if they wanted to do—. Did you, when you say "Scripps-like," did you mean the open ocean part or did you mean stuff more directed towards the way Scripps actually ran?

Knauss: Well, I meant two things. One is we were going to get out from under just doing work in Narragansett Bay. The program here at the time was primarily biological oceanography. It did not include very much in the way of physics, chemistry, geology, and other fields. And so when I said, "If you wanted a Scripps-like program," I meant both. Namely, this was not going to be a program dealing primarily with biological oceanography within Narragansett Bay. If you want to expand it to include all aspects of science here, and if you wanted to go from Narragansett Bay to the open ocean, then I might be interested.

Harkewicz: Okay. Did you see certain strengths from SIO that you tried to incorporate into the URI program?

Knauss: Oh, I started out by making the program as much like SIO as I possibly could, in terms—.

Harkewicz: Anything in particular you can name?

Knauss: Well, A: it became open ocean. And, B: we went from biology to all the other fields. I just tried to duplicate, if you will, in a very small way, the Scripps program. And I was not the only one who did that sort of thing. They did it at Oregon State. They did it at the University of Washington, and so forth. Yes.

Harkewicz: And those were all started by students?

Knauss: Scripps graduates.

Harkewicz: Scripps graduates. Yes. I thought so. Yes. What about, you know, earlier you said that you saw some problems in the way Roger managed things or there were problems at Scripps. What kind of weaknesses did you try to get out of—or how did you try to overcome those weaknesses in your program development?

Knauss: Well, I guess I learned a lot from Roger, but I also learned that you had to worry more about the details. And I tried to worry a bit more about the details, but I also tried not to worry so much about the details that I missed the big picture. And I liked it. Roger taught me a lot about how to run programs, and so the only thing I tried to do that Roger didn't do very well: I tried to keep track of more of the details. On the other hand, I didn't keep track of them as well as I should have.

Harkewicz: *[Laugh]* Care to elaborate on that, or—.

Knauss: No.

Harkewicz: Okay. You don't want to—you refuse on the grounds you'll incriminate yourself or something? But you got your Ph.D. from Scripps in 1959, and you became the dean of the graduate school at URI in '62?

Knauss: Yes.

Harkewicz: Was that an unusual occurrence for somebody who just got—.

Knauss: Yes. But, of course the other thing is that, yes, I was a dean but I was a dean of a very small program.

Harkewicz: Okay.

Knauss: Now . . .

Harkewicz: Still a dean though? *[Laugh]*

Knauss: That's right. But, Fran Horn,[29] who was the president of URI, decided that he wanted to make oceans a bigger part of the University of Rhode Island. And so he took the small Narragansett Marine Laboratory and made it into a separate school. Well, the school doesn't have a department chair, it has a dean. And so, you know, I was a dean but I had a faculty of nine when I first got here, as I recall. Maybe ten. So yes, I was a dean, and I was reporting to a president who said, "Well, let's go." I was reporting to a cheerleader, which is a wonderful situation to be in, to have your president, you know, pushing you all the way. So it went very well, when I came here.

Harkewicz: Well, it sounds like you had a, you know, a lot of enthusiasm for—.

Knauss: Yes. It went well.

Harkewicz: Well, you said it was small.

Knauss: Yes.

Harkewicz: But how can you describe the Research at Sea program from URI versus the SIO program? Did you have only like one ship or something like that?

Knauss: We had only one ship, and for a while it was not really as well utilized as it should have been, but we kept it going. We tried to emulate Scripps. I tried to be sure we had geology, and chemistry, and physics, as well as biology and so forth, in our program. In a small way we tried to duplicate Scripps, you know, just as

[29] Francis H. Horn, University of Rhode Island president 1958-1967.

they did at Oregon State. Just as they did at the University of Washington. We all took the Scripps model and tried to do the best we could to emulate it. It was later that here at the University of Rhode Island we began to expand out, and so we had ocean engineering, and marine economics, and things like that. But that came, you know, a couple years after I got here.

Harkewicz: So, you said you had a cheerleader in the president of the university?

Knauss: Yes.

Harkewicz: You also said that you started out as the biological lab and you sort of brought all the physical stuff in? I know that that's how Scripps started out a long time ago?

Knauss: A long time ago.

Harkewicz: Did you find that difficult? I mean, was it hard to get faculty, or to have people be interested in turning it from biology to more physical and geological stuff?

Knauss: Well, the problem was, I had some great ideas about some people I really would like to hire to come to this program. You know, real—well not senior stars but middle-level guys who were really moving up and so forth. I couldn't get any of them to come. You know, why should they leave what they've got to come to a place that has, you know, lots of aspirations but not much of a track record. So I ended up mostly with hiring young Ph.D.s, postdocs and so forth, and building our faculty with those people. And luckily, you know, when you do it at that level you have some successes and you have some that don't turn out. And luckily I had a much higher success rate than failure rate. And so in time the program got to be pretty good.

Harkewicz: In your video[30] with the Heinz Center at Woods Hole in 2000—I don't know if you remember that—you said . . .

Knauss: Well, you better help me. *[Laugh]*

Harkewicz: Yes, you said that "Rhode Island is the Ocean State, and that URI is the Ocean University in the Ocean State." So, with your experience at URI, and the community, and the state here in Rhode Island, can you compare that to the situation at Scripps with La Jolla and California?

Knauss: Well, I think there's—. No, I don't think Scripps had any problem in arguing with the people in the state House in Sacramento that clearly we have the whole Pacific ocean out here, and clearly we ought to know more about it. That goes well

[30] Office of Naval Research and the H. John Heinz Center for Science, Economics, and the Environment. *Oceanography: the Making of a Science, People, Institutions and Discovery* [videorecording], 2000. MC87. SIO Archives, UCSD.

before Revelle. You know, that's what Sverdrup[31] did, worrying about the sardine fishery, and these kinds of things. Yes. My argument was that, you know, we have Narragansett Bay, which is in the central part of our state. We have almost as much sea water as land in this place. And so the university, and the state, decided they were the Ocean State and so forth, and so I had no difficulty in convincing people that this should be a major part of the academic program of the university. And so it wasn't just oceanography, but it would say, "Ocean engineering, marine economics." All these other things we brought there. It became obvious, you know, you didn't have to argue that these were exotic fields at this particular university.

Harkewicz: Okay. So, let me clarify, though. You said you didn't have to argue it. I understand that because it's . . .

Knauss: I mean, I did argue but it wasn't difficult to convince people.

Harkewicz: Right. Because . . .

Knauss: Against those—yes.

Harkewicz: So much of the economy of the state is around it?

Knauss: Right. Yes. Right. Yes.

Harkewicz: Did you say that Roger Revelle had more difficulty, or did you say he didn't have to?

Knauss: I don't know what difficulty, if any, Roger ever had, in that sense.

Harkewicz: I just was wondering if you thought, in your experience, that it was harder to convince, since California's so big, that maybe is was harder to convince?

Knauss: Well, one of the things, of course, is that what I sort of overlooked when I came here, is Rhode Island's a very small state, and you don't have a big tax base like you have in California. So, in that sense it was much more difficult, because, you know, you're dealing with a much smaller base. As long as Scripps doesn't have any competition from other oceanographic centers within California, if it's the only one, they've got it a little bit easier than I had.

Harkewicz: I see. Okay. I understand. I forget how big that state can be sometimes—

Knauss: Yes.

Harkewicz: —and how much that can affect the economy. Let's see. You were still on the faculty at Scripps while you were here, weren't you?

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[31] Harald Ulrik Sverdrup (1888 – 1957), oceanographer and third director of SIO.

Knauss: No.

Harkewicz: No?

Knauss: Oh, excuse me. When I came here, yes. I took a leave of absence because people said, "You're crazy to go there, Knauss." You know, so I took a leave of absence for one year or two years, something like that. And then I decided, you know, I'm here. I thought this was a good move. I'm not going back. But, it was just an anchor to windward, so to speak.

Harkewicz: So, you didn't actually teach at Scripps at all?

Knauss: Yes, I taught one year. I taught there, but when I left to come here, I was urged by Roger, and so I took a leave of absence. And I forget how long it was, one year, two years at most, and then I said, "Okay, I'm here."

Harkewicz: Did you notice any difference between the students at Scripps and the students at URI?

Knauss: At least in the beginning, the Scripps students were better. I like to think we sort of caught up.

Harkewicz: Well, I know it took a long time for Scripps to have any kind of undergraduate programs at all. Did you have an undergraduate program when you started here?

Knauss: We, I came here and we just copied Scripps, to begin with. Yes. The other programs that we added, some of them were undergraduate. Some of them were graduates, and so forth. There was no Scripps model to follow. This was sort of something we did on our own and so we didn't have any organization or university to look to, to say how to do it. But certainly, the Graduate School of Oceanography, we emulated the Scripps model.

Harkewicz: Did you notice a change in graduate or undergraduate students between when you were a graduate student, and as you've taught people have you noticed a change over the years?

Knauss: Yes. They're smarter. *[Laughter]* Well, maybe not, they're not necessarily smarter, but they're better prepared. They're better prepared in the fundamentals of physics and chemistry, and things like that. I think so.

Harkewicz: Do you think that was that due to changes in the country, or changes in science in general? Or what do you think caused that?

Knauss: Well, I don't know. You know, I think that—I don't really know what the answer to that is.

Harkewicz: Okay. And can you tell me something about your Law of the Sea Institute and your Sea Grant programs?

Knauss: Well, let's see. We started with the Law of the Sea Institute.[32] We did start back in, good lord, when was it: sixties?

Harkewicz: I have it written down somewhere.

Knauss: I have it written down, too, somewhere. Anyway . . .

Harkewicz: I'll check the date.

Knauss: Yes. There was some concern about, you know, people were using the ocean for more things now. There's a movement to move the territorial sea to make it from three miles to twelve miles. There were lots of things going on. There was more economic use of the oceans, in terms of offshore drilling. There was people thinking that maybe manganese nodules[33] and so forth [34]—. It's open ocean, and clearly the idea that the ocean was only to be used for transportation and war, and things like that—there was a kind of an underground of talk going on. And, it wasn't my idea but Lou Alexander[35] here at the University of Rhode Island, and Dale Krause[36] who was one of my faculty—kept pointing out, you know, "Look, we got to do something about this." So we held a conference here on Law of the Sea, and it turned out because the idea was being discussed down at the United Nations in New York, we held a conference every year for two or three years. They got to be kind of a pretty big deal. And we would get people to come and talk to our conference, discuss things which they could discuss in a kind of informal manner, which they couldn't quite do in the formality of the U.N. So it was a great success in the beginning, and so we formed this Law of the Sea Institute. And then, of course, there got to be this U.N. conference to try to set up the, you know, to work on this. So, for a number of years it worked very well. And, we just happened to be at the right place at the right time, with the right idea.

Harkewicz: Okay. So, you say, "the right place at the right time." Do you think if you had been director of Scripps, say, that you would have been able to do something like that? Or . . .

Knauss: I don't. It would have been the wrong place. You aren't going to get people to come from New York all the way out to San Diego to go to a conference, on a systematic basis, particularly when they have to pay their own way.

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[32] Law of the Sea Institute was founded in 1965 by Lewis Alexander and Dale Krause.
[33] Since the 1960s, manganese nodules have been considered a potential ore source to replace depleting supplies of land-based mineral resources.
[34] Knauss added, "…would be of economic importance"
[35] Lewis M. Alexander (1921 -), professor marine affairs University of Rhode Island.
[36] Dale Curtiss Krause (1929 -), research geologist, currently at Marine Science Institute.

Harkewicz: So, it had more to do with location versus . . .

Knauss: It had to do with location.

Harkewicz: Administration or something like that?

Knauss: Well, the other thing I think, is, that University of California is a complicated university. I'm not sure I could have gotten away with it *[laugh]* in California. We at the University of Rhode Island were just, you know, we had just started our Ph.D. program not too many years ago so it was easier to do things like this. And you had much more flexibility.

Harkewicz: Was it a way to put yourself on the map, so to speak, do you think? Or . . .

Knauss: Well, I didn't think of it that way but it did. You know, what we did was put ourselves on the map in what you might call marine affairs as distinguished from oceanography. That is the economic aspects of the oceans, the political aspects of the oceans, that kind of thing. And we did, in pretty short order, get to have here at the university the widest range of academic programs dealing with the oceans, and aspects of the ocean, of any university in the country.

Harkewicz: So, that sort of brings me to my next question, so to speak. I know that a lot of times people have referred to the sixties as "the golden age of oceanography," but perhaps with your input there about the political and then marine affair end, maybe you would disagree with that. I don't know. What do you think about people that say that the sixties were this "golden age?"

Knauss: Well, I think it was the golden age of a lot of things in this field. I once looked at how we were, how the University of Rhode Island was expanding over this period of the sixties, and I said, "Gee, we're really growing." And then I took a look at what universities were doing all over the country. We weren't going any faster than anybody else, on average. So, yes, it was a golden age for many things, of which oceanography was one. And our growth here at the University of Rhode Island may have had a much stronger marine orientation than some of the other fields. But, it was, yes, it was a golden age of growth in universities.

Harkewicz: In universities? Okay. So, you think it was more a golden age of just educational growth over anything else?

Knauss: That's right. Yes, it was indeed.

Harkewicz: Okay.

Knauss: That's my view. It's a long time ago and I can't remember how I figured it out, but I did look a little bit at one time about growth in universities in general, growth in

programs on a wide scope, not just oceanography. Because I had kind of the idea that you just mentioned, you know, "Gee, we were lucky." It turns out we were not changing all that much faster than others. We may have specialized a little bit more in the ocean part here at the University of Rhode Island, but all universities were growing, and all programs, and they were growing programs all over the place.

Harkewicz: But, what about some of the stuff like the United Nations thought that fish could solve the world hunger problem, or there was all this federal money, or people were optimistic about it? Do you think that was true at that time too, and it isn't anymore, or that changed over time?

Knauss: Well, yes, of course that goes back a long time. I'm trying to remember. But, you're right. There was this view that, you know, fish, that—. There was a period where people thought that aquaculture and these kinds of things, and growth in fisheries—you know, fisheries grew rapidly in the number of fish caught. But it didn't take very long before some people had the smart idea that, you know, there probably is an optimum amount what you catch out of the ocean in general, and we're getting there in a hurry. So, yes. Oh, that's a long time ago, about that, but yes, we got involved in trying to figure out how much fish there was and we certainly kept track of what other people thought about how much fish there was. It was clear that, you know, we were getting there in a hurry.

Harkewicz: So, were you trying to figure out ways to . . .

Knauss: Well, we started out—. We developed a fisheries program to teach fishermen how to catch fish, believe it or not. A small program, and it worked very well. We had a fairly successful fisheries, I mean, a fishing industry down at Point Judith down here to the south of us. But one of the guys who was very influential in that program said, you know, "Wouldn't it be useful if—why don't you just start a little two-year program, a two-year trial program to teach these guys, you know, things that they should know about navigation, about fishing, boats, and so forth. All these kinds of things so they don't have to—it'd be much more efficient to do this than to just have an on-the-job-training type of thing?" So we started a two-year junior college type program in fisheries here that taught them a lot more than I have, and it was quite a success. You know, a bunch of these guys went down—and in fact, we got some of the senior fishermen to come down and be part of our faculty, so to speak, adjunct faculty, and to teach. It was a great success for a number of years.

Harkewicz: But, there was a need, a desire, for that amongst the fishing community, then?

Knauss: Yes. Uhm-hmm.

Harkewicz: And, would that involve any kind of scientific management programming, too, or was it mostly, like you said, navigation?

Knauss: In the beginning there was some—having to do with some management, but if you're going to teach fisheries management, you teach that to more than fishermen.

Harkewicz: Yes. I wondered about that. Yes. *[Laugh]* They don't want to hear that kind of stuff, huh?

Knauss: Well, some do.

Harkewicz: Well, how do you have fishermen out there and still manage the fish, then, if they're not going to necessarily . . .

Knauss: Well, you have to set certain—that's what you do now, of course, is you set the rules about how much fish you can catch. And fishermen have to live by those rules. And the fishing councils will make those decisions. Or, at least they make the recommendations, which are then approved by the Department of Commerce, as I recall. They have a couple of fishermen, at least, on those individual councils to help make those recommendations. So it is not made entirely by outside experts.

Harkewicz: So, the fishermen have some input into that, then?

Knauss: You bet. Yes.

Harkewicz: A few minutes ago we were talking about the sixties as being like this time of change, and growth, and that was also, you know, the time of the Civil Rights Movement, and the Women's Movement. How do you think that affected oceanography as a science?

Knauss: Well, the two examples you gave: not much.

Harkewicz: Really.

Knauss: Not the Civil Rights Movement, certainly. And I'm not sure what role the Women's Movement had in terms of women students going into science or not. I think they'd have gotten into science without the Women's Movement. Maybe I'm wrong, but that's my view. I always think of the Women's Movement as women's equality, sort of thing. And, maybe there's some spin-off. We've always had women in science but maybe the fact that Women's Equality Movement made more women go into science, so that was perhaps the case.

Harkewicz: Earlier you talked about Affirmative Action when you got your job at URI, and there wasn't any Affirmative Action. Did those kind of hiring policies affect your research at all, or your work at URI, or Scripps?

Knauss: I think the only Affirmative Action requirement, primarily, was that you had to advertise nationally, or at least make information available so that you couldn't just have a small search committee and they would go out and look at a few people and so forth. The Affirmative Action aspect of it was that you had to make the fact that there was a job availability open and it had to be available nationally, if not internationally, so that people could apply for the job. That was the only difference. And when it came to making your recommendation up the line to the president, you had to prove that you had indeed advertised widely.

Harkewicz: So, you didn't notice any increase in minorities or women coming into the field at all, after these movements?

Knauss: Well, we've had more women come into the field, certainly. And that's true of all fields, not just oceanography, you know. Women are just doing much more in all kinds of science. To the extent that that is a result of Affirmative Action I leave to others to decide. We have never been able to get much in the way of minorities—by minorities I mean "blacks"—in the field. And we are not alone. It is a field where blacks, for whatever reason, just don't seem to be interested. You know, we've had one black graduate student, I think, in all the years we've been here.

Harkewicz: Hmm.

Knauss: Maybe two.

Harkewicz: You said women scientists have always been around, but did they have any impact on oceanography as a science at all, as more women got involved? Did it change at all? Or . . .

Knauss: I don't think so. Oh, I guess the one aspect of it was that, you know, insofar as you go to sea there was some—. Sailors[37] didn't, at one time, you know, were kind of nervous about women going to sea. So that was one aspect. You also had to worry about how many bunks you had, and how much privacy women could have, and so forth. But that was relatively minor. That could be resolved. That got resolved rather quickly.

Harkewicz: There wasn't a particular feminine aspect of oceanography that was added with more women?

Knauss: I don't think so, no. I mean, no, I don't think so at all. You take any science, is there a feminine aspect to any science?

Harkewicz: I don't know.

Knauss: Okay. I don't—I'm not aware of it.

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[37] Knauss later clarified by expanding his reference to “sailors” to “ship’s crew.”

Harkewicz: Just thought I'd ask.

Knauss: Okay. Well, there may be others who have studied this issue and who have found such, but I've not read anything about it, no.

Harkewicz: Okay. But, as long as we're on the topic of change, and change in science, nowadays there are some scientists that are collecting data using computer models, or satellite imagery. What kind of impact do you think those kind of technologies are going to have on oceanography?

Knauss: Well, I'm sure they're going to have a lot. But oceanography, the progress in oceanography in particular, is based primarily on collecting information.

Harkewicz: Collecting?

Knauss: And analyzing it, and trying to understand it, and developing comprehensive models and theoretical models that explain the data. Unlike some fields, and particularly some aspects of physics, there is little that has been done based upon mathematical, theoretical, concepts that have come forward that said, "Gee, that's what it should be," and then go out and see if you can discover it. I think what's generally true in all of geophysics, including oceanography, is that it is the observational aspects that come first and then you have to try to explain them.

Harkewicz: So, you don't think that'll—you think going out to sea will always be part of oceanography?

Knauss: Well, I think it'll always be some part of it, yes. You may do more and more with buoys out there, collecting information of one kind and another. Of course, buoys and that kind of—and what you can do with satellites. You're collecting information in many more ways now than you used to by having to go out on a ship. That's for certain. But my guess is there will always be some need for ships to do some kinds of observations, if only to verify certain things. Let's say your buoy information, your satellite information, suggested maybe something is out there that needs to be further studied. The best way to study it is to send a ship and go out and make some measurements. I'd be very surprised if we ever run out of a need for ships.

Harkewicz: Okay. On a different track, earlier you talked about your political connections, or getting more into political ends at URI. Can you tell me a little bit about your activities in the political arena? I know you've been involved in a lot of things. But maybe briefly, just a few of your highlights there?

Knauss: Well, I guess political or not in the sense of Democrat or Republican?

Harkewicz: No. No. I mean, more just, you know, like your experience in the NOAA and stuff like that.

Knauss: Oh, well. I guess the first part of it was my involvement in the Sea Grant program. I think that was probably my biggest political contribution at one time or another. And, it was, the idea was that of Athelstan Spilhaus[38], who gave a talk up in Minnesota at some time. Oh god, you know, sometime in the fifties. And one of our faculty, Saul Saila,[39] saw this and heard it and said, "Gee, that's interesting." And, he came back and told me about it, and one thing led to another. I'd known Spilhaus vaguely. Not vaguely, I'd known him a bit. And one thing led to another and we ran the first Sea Grant conference here at the—well, the University of Rhode Island sponsored it. And I had a chance to introduce the whole concept to Senator Pell[40], who was a young senator. And he got quite excited about it, and he introduced legislation on it. And the fact that Pell had introduced legislation and it was just—that was a time, as you say, when things were bubbling in all kinds of fields. We had a huge wonderful conference over in Newport, Rhode Island. Pell was there. We had people from all over the country come and talk about Sea Grant, and what Sea Grant might be, and then we went out and generated, got the troops going, and believe it or not we had a Sea Grant legislation, you know, within about eighteen months. Remarkable. And, it worked.

Harkewicz: Well, it sounds like it had a lot to do with your being in Rhode Island? Again, that's, you know, right place at the right time. Do you think you could have done something like that, or did you think Scripps, it contributed to that at all, or your experience there?

Knauss: Well, my experience there probably helped a little bit. But, I think you could have probably done this thing in Massachusetts. You could have done it in Oregon State. You probably could have done it California. Because the idea, when it took off, it took off like wildfire. People were excited all over the country. But on the other hand you needed a Senator Pell. And, you know, a Senator—. We're a small state and you can get to know your senior members of the legislature relatively easy, and so I would say it was a combination of a few people here in Rhode Island saying, "You know, this is a neat idea," introducing it to Pell, holding the conference, and then generating interest all over the country. No. It could have been done in a lot of other places. If it'd only been a Rhode Island idea it never would have gone anywhere.

Harkewicz: Right. But, having Senator Pell on your side, I'm sure that contributed?

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[38] Athelson Frederick Spilhaus (1911 – 1998), South African-born geophysicist who developed the bathythermograph for deep sea temperature measurements.
[39] Saul Bernhard Saila (1924 -), University of Rhode Island professor of oceanography.
[40] Clairborn de Borda Pell (1918 -), Democratic senator from Rhode Island (1961 – 1997) for whom the Federal Pell ("Basic Educational Opportunity") Grant is named.

Knauss: Oh, that was, that was absolutely key. Absolutely, right. Yes.

Harkewicz: Uhm-hmm.

Knauss: You had to have a senator, at that time a junior senator from Rhode Island, who said, "This is a wonderful idea," and who pushed it. And, he was able to generate a lot of enthusiasm within the senate. And, it turned out we had a lot of people who went around and generated it, that enthusiasm, within their own, you know, their own senators and so forth. So, you know, Pell had some help from people all over the country, scientists who were pushing the idea. Yes.

Harkewicz: I don't know if this is, if you think this is along similar lines or not, but I know some historians have written that work, like with atomic weapons testing or nuclear waste disposal at sea, gave oceanographers the opportunity to influence public policy, or to say what was safe or what was not safe for public health and safety. What do you think about scientists affecting public policy? What is your opinion about that?

Knauss: Well, you mean should they be involved in it? Or should they . . .

Harkewicz: Yes. Do you think that's a proper role of a scientist?

Knauss: Yes. Absolutely.

Harkewicz: Can you elaborate on that at all?

Knauss: [41]Scientists have had a lot to do with the fact that Narragansett Bay is a lot cleaner now than it used to be. Of course we should be involved. Scientists have been involved in saying, "Look, we're catching too many fish." Scientists have been involved in saying that, "Look, sea level is rising and we better worry a little bit about how close we build to the coasts." Yes, I think scientists clearly have a role in public policy. In some sense, we're experts. Now, we can sort of go off the deep end, and sometimes we do, and sometimes you get kind of embarrassed by what some of your colleagues are doing, but no, clearly we have a role.

Harkewicz: Is there any kind of—I'm not sure what words. You say, "sometimes people go off the deep end," is there a way to pull people back in? Is there some sort of, you know, the community of scientists or something? What role does reputation and that kind of thing have nowadays?

Knauss: Oh, that's complicated. It really is. I mean, you know, it's a question of individuals. You know, it 's not just one group of scientists saying things like that. You know, scientists disagree on issues. They just, you know, disagree on

[41] Prior to this comment Knauss noted that "atomic waste is kind of a special issue" but he did not elaborate and continued with the transcript as written above.

policy and political issues, clearly. No, I think scientists certainly have a role, and I would say we have a responsibility to be involved.

Harkewicz: Have you ever had to try to encourage somebody to be more involved?

Knauss: Oh, dear. I can't remember anything right now. But, I'm sure I have at one time or another. I've tried to encourage people.

Harkewicz: Okay. Now, this is a question that my faculty advisor came across in her research.

Knauss: Okay.

Harkewicz: So, in 1971, in a message to a colleague at the National Oceanographic Atmospheric Administration, discussing global monitoring as a future direction in oceanographic work, you wrote, "Concern for the environment is not a passing fad. The problems are not going to go away." Can you tell me about your concerns for the environment and the role of oceanography?

Knauss: Well, gosh. When did I write that?

Harkewicz: 1971.

Knauss: To whom, and under what circumstances?

Harkewicz: I don't know. I don't have the person's name. You were writing to someone at the NOAA about global monitoring as a future direction in oceanographic research.

Knauss: Oh, okay. NOAA? National Oceanic Atmospheric Administration in 1971? Oh yes. I'm probably writing to Bob White.[42] I'm sorry, what's the question?

Harkewicz: Well, I was just wondering what you think oceanographic science—what its role is in as far as the environment goes?

Knauss: Well, seventy percent of the Earth is covered by water. And, in terms of forecasting long-term weather changes, for example, that's probably controlled by the ocean more than anything else. I mean, the oceans are a big factor in—not in the day-to-day changes of the weather, but certainly in the long period changes of the weather over time. Climatic changes, that kind of thing. So, yes, we have a big role in that. In so far as there is ocean pollution, or pollution of near-shore waters, we certainly have a responsibility of monitoring that, because you know it creeps up on you slowly. There's a lot of ocean out there. There's a lot of coastal waters. It's going to take a long time to truly pollute the ocean. But, I think

[42]Robert M. White, first administrator of NOAA. Knauss later noted that Bob White was “in charge of NOAA” at this time.

scientists have a role of monitoring that and keeping track of what's going on and reporting on it. Absolutely.

Harkewicz: Hmm. Well, I know that my advisor is interested in the whole climate change issue, and I think she felt that your comments were rather prescient or maybe ahead of their time in some ways. And I guess I was wondering, do you feel oceanographers have gone far enough in their support, you know, in relation to addressing environmental concerns? Like climate change?

Knauss: Yes. Some of us have. Some have, I should say, and some haven't. I mean, you know, as a class we're involved in a lot of things. And, you can't expect all of them to work, say, on the issue of climate change, for example. But, there are a significant number who are involved in trying to keep track of what's happening to the ocean over time, monitoring its changes, monitoring how that is affecting, if it is affecting, what's happening in the atmosphere. Yes. That's been going on for some time, and yes, I agree and I have felt for a long time that we should do a better job ##.

Harkewicz: ## Okay. We were talking about climate change, and oceanography, and environmental concerns, and you were saying you felt that some people hadn't done enough, or something like that?

Knauss: Well, I don't want to say some people—you know, not everybody's going to get involved in these issues. I think some people are, and some people will continue to. I think monitoring the ocean is clearly an important part of keeping track of what's happening with respect to climate change, for the ocean is a huge heat sink, and it changes very, very slowly over time compared to the atmosphere which changes quickly from day to day, and so forth. But if you're going to monitor long-term changes then you've got to track the ocean. Now, the only other thing that it can change, cause climate change like that is, you know—maybe the sun is getting hotter or cooler? That kind of thing can happen, of course. And I don't have a clue as to whether there's any—I'm not sure whether anybody has any real clue now as to whether or not there is climate change caused by sun radiation, although there's some evidence that suggests that there is a sunspot cycle to climate change. And so there probably is a radiation effect.

Harkewicz: But we were talking about scientists' responsibility for effecting public policy before, and we're talking about importance of monitoring. Do you think that sometimes—oh, this is not it. Do you think scientists should be more vocal about some of their stands on some issues? Do you think they're not involved enough in public policy in some cases? I was asking you if you felt that maybe scientists should be more vocal with some of their concerns?

Knauss: I don't think anyone can generalize. I believe some scientists should be more vocal. Some scientists are vocal. But, I think it'd be too much to ask, and one should not ask, all scientists to be vocal. Some would just prefer not to get

involved. As long as there are some who are prepared to speak out, and be closely involved, that's fine.

Harkewicz: Okay.

Knauss: I just don't, you know—scientists come in all shapes and sizes, flavors. *[Laugh]*

Harkewicz: But, if science had the answer to the world's problems, and one scientist has the answer to the world's problems and he was the quiet person, you don't think that he should go and . . .

Knauss: Well, if he really knew he had the answers to the world's problems, well then he should talk up, speak up. Yes absolutely. *[Laugh]*

Harkewicz: Okay. Well, I didn't mean to take us off on such a weird track, but I had one other interesting—on a different, totally different note, in your biographical notes you talk about the Albatross Award?[43]

Knauss: Yes.

Harkewicz: And you mentioned that it was—and I found the copy of *Science*[44] of September 1973, where it was on the cover, and there was a commentary in there that said, "Do oceanographers have more fun?" Do you think they have more fun?

Knauss: Well, we used to back in those days, anyway. *[Laugh]*

Harkewicz: So, it's changed?

Knauss: Oh, I don't know.

Harkewicz: You think it's not quite the same?

Knauss: Well, I think we still have a lot of fun, but I've been well retired from the field so long I can't, I shouldn't comment.

Harkewicz: Okay. But, the award—I know you were one of the creators of the award?

Knauss: Yes.

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[43] The Albatross Award was established by the American Miscellaneous Society (AMSOC), an organization of geoscientists at the Office of Naval Research, which was founded in 1952. The AMSOC founding members were Gordon Lill, John Knauss, and Arthur Maxwell. The organization's journal, *Otherwise*, has never been published. AMSOC's established divisions include: Etceterology, Generology, and Triviology as well as a committee to welcome visitors from other worlds and a committee to teach animals their proper taxonomic order.

[44] R.G., "Do Oceanographers Have More Fun?" *Science* 181 (4103): 926 (7 September 1973).

Harkewicz: And, did you see it really as a joke, or was there some sort of serious connotations involved with it?

Knauss: Mostly as a joke, but some serious. You know, we wanted to essentially present it to people who have done sort of unusual things, and so forth.

Harkewicz: Unusual in?

Knauss: Well, you know, we'd give it to people who make unusual contributions to science, or to some aspects of science, and so forth, or science policy and things of this nature. Yes. And, so that's the basis of it.

Harkewicz: Okay. I know in the commentary they said it was a mariner's substitute for the Nobel Prize, and that there isn't, you know, a Nobel Prize for oceanography. Do you think oceanographers have been suitably rewarded for their contributions to science?

Knauss: I think we have over the years, yes.

Harkewicz: You think so?

Knauss: Okay. Yes.

Harkewicz: You have no, no bitterness towards . . .

Knauss: No bitterness. No. *[Laugh]* Absolutely not.

Harkewicz: Okay. That's good. That's good. So, as we're sort of wrapping up here, in your opinion, having spent your graduate years at Scripps, what do you think made Scripps succeed?

Knauss: Well, Scripps was one of the first places where one could go to a university and study the oceans. It was the first place in the United States, certainly, and I think it continues to be the most important such place in the United States in terms of the—both because of its size, the quality of its graduate students and so forth, and where they've gone and what they've done. So, and the oceans are clearly becoming of increasing interest in a variety of ways. So, yes, that's one way of explaining it.

Harkewicz: What do you think threatened Scripps's success?

Knauss: I'm not sure that anything has threatened Scripps's success so far. You know, budget cuts can. You know, a long time ago there was some question about the University of California system during the so-called communist scare and that kind of nonsense, and so forth. But, the University of California seems to be doing quite well these days.

Harkewicz: You're talking about the loyalty oath[45] type thing?

Knauss: Yes. Yes. And, I have no—my own view is, I think, ocean sciences is doing okay. We're going to—a lot depends upon being able to continue to make new observations and interpret them. And, you know, the field's come a long way since I first got in it. Maybe I don't follow it closely enough, but I don't see it sort of withering anywhere.

Harkewicz: Are there any final thoughts about Scripps or your experience with them, with having been there, that you would like to add?

Knauss: Oh, no. I think it was a great institution when I was there. I don't see it that much anymore, but I have no reason to think that it is going downhill at all. You're looking for a new director now, I believe, are you not?

Harkewicz: Yes.

Knauss: I don't quite know why Charlie Kennel left, frankly. But because I . . .

Harkewicz: I don't know the details of it.

Knauss: Because I thought he was doing a pretty good job. But yes, there's always that kind of issue. I'm sure that, there was a time, of course, when the University of California [at San Diego] was just getting started, when it was Scripps, frankly. And for a long time, as far as the research was going on at the UCSD, it was primarily Scripps. And I forget who was the chancellor who said, "When you list your affiliation you've got to also list UCSD. You can't just list Scripps Institution of Oceanography." *[Laugh]* And he was very firm about that, because he didn't want Scripps to go off and think they were independent. And so, he really cracked down, as I recall. I had left by then, of course, a long time ago. But, oh god, who was it? He used to be head of the National Science Foundation.[46] Anyway, but I'm sure that there's been a tension over the years between Scripps and the main campus. And, I suppose that will never change. But, I'm sure those confrontations have died down over time, too.

Harkewicz: How much interaction did you have with Scripps once you came here? I was under the impression, I guess somehow or other, that you would still go there

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[45] In 1949, the Board of Regents of the University of California imposed a requirement that all University employees sign an oath of loyalty to the state constitution as well as a denial of membership in certain organizations, including Communist organizations. Many faculty, staff, and students resisted signing the oath, claiming that they felt it conflicted with tenets of academic freedom. Many who refused to sign the oath were dismissed. Several non-signers took their case to the California Supreme Court. In 1952, in the case *Tolman v Underhill*, the Court ruled in favor of the non-signers and ordered their reinstatement to the University.

[46] Richard C. Atkinson (1929 -); president, University of CA (1995 – 2003); chancellor, UCSD (1980 – 1995); director, National Science Foundation (1977 – 1980).

every once in a while, and had—according to your CV you were actually on the faculty up until like the nineties, I guess.

Knauss: Oh, was I?

Harkewicz: I think so. Yes. I'd have to go and verify my thinking, but I think you were. I don't know exactly what that means. Perhaps that was more a title than anything else?

Knauss: It must have been. It wasn't for that long, because you know I had a couple of graduate students at Scripps, and so you stay on . . .

Harkewicz: I see. Okay.

Knauss: You stay on the faculty in an adjunct status until your last graduate students have gone through. Because that's certainly—I left in '63 and I didn't have any there for seventeen years. So, I may have stayed on for a couple of years, on the faculty, but, I'm surprised that I was still listed.

Harkewicz: Okay.

Knauss: I'd like to think I—. I don't know where you found that[47].

Harkewicz: I'll check my notes and see. Do you still own your house there in La Jolla?

Knauss: We sold it a couple years ago.

Harkewicz: Do you miss going back there in the wintertime at all, or . . .

Knauss: Well, we decided, *[sigh]* how shall I say it? You know, I'm getting on, I'm eighty years old. We decided going back and forth was kind of a bunch of nonsense. And so, we decided that if we could handle the winters here we ought to stay here. So we spent one winter and it was a cold miserable winter, and we said, "Okay, we can handle it." So we sold our house in La Jolla and got an outrageous price for it, and we're satisfied.

Harkewicz: Sounds good. What kinds of things are you doing nowadays?

Knauss: I'm doing less and less, frankly. I think I just resigned from my last major national committee. I was on the Sea Grant Advisory Committee. I'm on a local committee here at the university, having to do with reporting and science: science and environmental reporting, environmental ocean reporting. And that keeps me just a little bit involved. But, other than one or two small committees at the university, that's it right now.

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[47] According to information found in the SIO Archives biographical files on John Knauss, Knauss was listed as a research associate at SIO from 1994 – 2003.

Harkewicz: Do you . . .

Knauss: Do I miss it?

Harkewicz: Do you miss it? Yes. That sounds goofy, but do you miss it?

Knauss: No. Because I think I could be more involved if I wanted to.

Harkewicz: That's good.

Knauss: Yes.

Harkewicz: Is there something that you feel like I should have asked you that I didn't ask?

Knauss: No. Nope, not that I'm aware of.

Harkewicz: Okay. I think I'll stop.

Knauss: Okay. ##

TAPE GUIDE