

**Carl Long**  
**Professor of Engineering and Dean of the Thayer School,**  
**Emeritus**

An Interview Conducted by

Chris Burns

Hanover, New Hampshire

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Special Collections

Dartmouth College

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INTERVIEW: Carl Long

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PLACE: Rauner Special Collections Library, Dartmouth College

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BURNS: Today is February 22, 2001 and I am speaking with Carl Long, former Dean of the Thayer School of Engineering. You have some comments, I guess, starting with the Murdough Center. You were telling me about the opening reception--that was one of your first activities as Dean.

LONG: The Murdough Center, I think, opened in the spring of 1973, but you can check that. The purpose of Murdough was to try and develop increased relationships between the two professional schools, as well as provide support for some of the programs that existed within the College. One of the first activities, at least for me, in the dedication of Murdough was a dinner that was, in effect, hosted by Ed Lathem ['51], and which was held in Feldberg Library and was, as its purpose, the honoring of the gift by the two Feldbergs to the College.

The dinner had as part of its activity a walk through the Library, which was great in terms of getting to know what it was and where it was, as well as to show what a nice piece of work had gone into producing that Library. At each of these designated places, which represented a particular activity within the Library, a toast was proposed and the people proposing the toast--the Dean of the Thayer School, the Dean of the Tuck School, the Provost of the College--John Kemeny was there too, I believe--and with an ample supply of champagne to ensure that the toasts were properly accompanied by something worth having, the success of the identification of the locations and their role within the College was determined and was implemented. That's kind of awkward wording, but you can fix it up.

At about that time, Thayer was in the last stages of implementing new degree programs through the doctorate and this placed a new set of demands on the faculty, and in order to respond properly to those demands, it was obvious that the faculty had to be expanded and more attention had to be paid to the specific nature of the contribution to Thayer's future that they could each make.

BURNS: So this was, again, in the early '70's?

LONG: That's right. Well, it really started--I guess the tail end of the '60's. Myron Tribus ['42] was the Dean at that time. He left to go to Washington as Assistant Secretary of Commerce and he maintained a connection with Thayer School through about 1968--something like that.

BURNS: '68 or '69, I think.

LONG: Then he, in effect, gave up the responsibility of Dean of Thayer School and we went on a hunt and the School had trouble finding someone. So it took really a couple of years. Bill Davis, who was I think the Treasurer of the College at that time, acted as the administrative person who could sign off on Thayer School activities--on any representation of this activity or that activity with respect to the rest of the College. So he was, in effect, Acting Dean, although he didn't have the title.

BURNS: Why do you think the search was so difficult to find the right person?

LONG: Part of it was the fact that Myron was neither fish nor fowl. He was sort of still the Dean, but sort of full-time in Washington. You couldn't very well recruit while he was still part of the activity because it just wouldn't look right. How could they get up and say, "You're done, you're not bothering with this, go bother with them."

Then, I think in 1970, Dave Ragone was offered the position of Dean. That's how I really got involved in the administrative end. I became Dave's Associate Dean. And when he left, the College started a search, but they decided, I think, that maybe they'd be better off if someone came from the inside who knew the problems, knew the people, everything--that might be a more efficient way of proceeding. So I became Dean. I guess it was September of '72.

BURNS: The Murdough?

LONG: Well, somewhere around that time. That was my first activity on the platform representing Thayer School, all that sort of stuff; but I was in good company, so it went all right. Significant changes were occurring in the 60's and 70's and required Thayer to define what it believed its role should be. The School grew beyond, really, the point that it could afford to stay in business. We were living on the tail end of a grant from the Sloan Foundation that was aimed at supporting a professionally-oriented degree program through the undergraduate level and through the graduate level and one that would

make use of the strengths of Dartmouth in terms of the liberal arts content and the strength of Thayer in terms of the expertise of the faculty.

The problem was that you hired all these people and you had all these research goals and enrollment goals, and when they didn't all materialize, the problem was "How was Thayer going to pay its way? Was it going to be able to stay afloat?" Let's see what I've said here-- There's a new set of demands placed on the faculty and we had to recognize that Thayer was part of Dartmouth and we weren't the only one that was having financial problems at that time. That's when the Campaign for Dartmouth came in. I forget exactly when that was.

BURNS: That was '77, '78.

LONG: Something like that. And ended in '82 or '83.

BURNS: Right around there.

LONG: The professional schools' goal of financial independence was not easily accomplished. Our problem was a lack of endowment and the lack of a fair sized student population, both at the undergraduate and the graduate level. We were supported at the undergraduate level on two bases: one, how many students did we have enrolled in courses that we offered. We got paid for those.

BURNS: Was subvention the other one?

LONG: Yes. The other part was about two hundred thousand annually as a subvention which, in effect, was to cover the difference between income and expenses.

BURNS: Am I right in remembering that the College did that with Thayer and Tuck and the Medical School?

LONG: The Medical School was very different. Their problems were very much bigger. Tuck School was pretty much the same. Tuck School, however, really had its reputation enhanced by all the good things that their people were doing. The faculty expanded, the student body expanded. They got labeled as one of the best business programs in the United States. They gave up the subvention--I don't remember whether it was before the Campaign was initiated or during the early stages of it. Right around that time.

BURNS: I think Dean [John] Hennessey really pushed towards getting off subvention and he finished as Dean in '75; so it probably was a little before the Campaign. So they were a little bit ahead of Thayer in terms of financial independence?

LONG: Yes. The Campaign for Dartmouth that existed during that time was based upon the sum of the individual needs that existed within the College. One of them was obviously endowment for Thayer School. So we had, I think, a five million-dollar goal, which in today's system doesn't seem like an awful lot. But Thayer School's endowment in 1972, when I became Dean, was about four or five hundred thousand dollars, so five million or so looked pretty big. The Board of Overseers, as was I, were concerned, not that we couldn't make the goal--we knew we could make the goal. At least that's the way we went into the campaign. What we were concerned about was how to cover expenses while Thayer's endowment got built up and produced the needed annual income. People stretch out their gifts over five or six or ten years or something like that so the question was, "Could Thayer manage without the 200 to 250 thousand that the endowment was expected to provide each year." Thayer would achieve its goal, but would it be in time.

So we went in to the Board of Trustees of the College with an idea, a means of trying to help them with their financial problems and help Thayer with its financial problems. So we said, "We'll sell you our subvention." We said, "If you give us a million dollars--that's the price--we won't accept any more money as a subvention. You will save two hundred--two hundred and fifty thousand a year," which is what the subvention was then, "and it will cost you fifty thousand a year," which is the loss of the income on a one million dollar payback to Thayer School. I don't know whether I made that coherent, but in any event, the College would give us a million dollars and in return, we would decline to make use of the subvention from then on. Since the subvention was two hundred--two fifty--that's how much the College would save and it would cost them the income from one million endowment. But, you know, it isn't the endowment that's important, it's how much is the loss of income that the endowment produces. And at the time of the campaign, 5% was what the endowment produced (or was allowed to be used). So it would produce at least fifty thousand.

The other thing we said, "We're going to need some help financially in order to get to the end of the Campaign when the money all comes in, so we would hope that you would set up a loan fund for us that we would use to make ends meet during the course of the Campaign and the build-up of all the gifts. We would pay you for the use of that

money--that loan fund--on the basis of whatever was the rate of return of Dartmouth's endowment." And John Kemeny says, "Oh, no. You're not going to do that. The College is not going to pay you to use our money." [Laughter] Because the College was running a negative rate of return during that time. So John picked that up very quickly.

BURNS: It would be hard to slip that by a mathematician, I guess.

LONG: That's true. But it wasn't quite that dismal. We did manage and one of the things that aided us was the establishment of, through the generosity of the College, the first endowed chair within Thayer School. This was the Sherman Fairchild Chair in Engineering. John Strohbehn was the first holder of the chair. The chair was the result of John Kemeny's efforts, otherwise we would not have gotten it.

BURNS: This was in the '70's?

LONG: Yes. Well, really the tail end of the '70's, because it was part of the Campaign, so that meant that Thayer School got, in effect, credit for one million dollars of its activity. Now, I think you indicate Thayer got somewhere around six and a half million or seven million--well, one of those millions was...

BURNS: Was this endowed chair?

LONG: This endowed chair.

BURNS: Now was that a goal going into the Campaign?

LONG: No. That was the implementation of this "We'll buy the subvention." So John said, "You're not going to buy the subvention on that deal." [Laughter] (i.e., the loan fund) "But what we will do, we'll cut off the subvention and we'll help you in funding an endowed chair." The Trustees had gone on record as, "If the College meets its campaign goal then every part of the College will also have met their campaign goal"... So, in effect, John said, "You're guaranteed the million dollars because we're raising your goal by that much."

Well, then the Trustees changed their minds about that policy. You got what you get. "If we, the Trustees, were successful in raising money, it was going to be for the College. If you are successful in raising money, it was going to be for Thayer School, but we're not going to mix those two." All of a sudden, here we are giving two hundred thousand a year with the hope that we can find a one million-dollar donor someplace. [Laughter]

BURNS: That must have been a scary moment.

LONG: It was. John removed the scare by saying, "We'll give you this chair."

BURNS: So the goal originally was five million and you ended up raising almost seven--six and three-quarters. Was it mostly from Thayer alumni that you went out to?

LONG: Well, a lot of it came from Thayer School alumni. No doubt about that. A major part--although this wasn't really in the same time frame, but it's indicative of how some of these things happen. I got to meet a couple of people--one on the West Coast and one in Florida--Charles Jones ['18 TH '19] was the name of the guy in Florida. And he was--I don't know what--Class of 1918 or something...

BURNS: Wow.

LONG: He was a very elderly gentleman when I met him and his wife, Bernice. They were just two really very nice people. He had never married until after he retired from the Department of Transportation. He was a civil engineer. So that must have put him somewhere around seventy when he got married. And as a hobby, he had played the stock market during all the years he had extra money. He set up several funds at Thayer School as a result of my meeting with him and his catching up on the School and its plans. With no heirs other than Bernice, his question was, "What else can I do?" Very modest man in terms of--we wanted to label the seminar series "The Jones Seminar Series". He said, "No. I don't like that." I said, "Well, you've got to do something. That seems to be the best". He said, "Okay. We'll do that, but I don't want my name broadcast all over." All that work was done back in the time of the Campaign, ending in the early '80's, and Charles died several years ago and everything then went to his wife, Bernice. Bernice died a couple of years ago and the gift to Thayer School was two and a half million dollars. When you stop and you think about the productivity in terms of how much time you spend with these people, that's a marvelous rate of return.

We had another elderly lady on the West Coast, whose father worked for American Tel and Tel. I guess his daughter was the only one in the family left after his death and she wanted to do something. And Bob Kaiser ['39] was the development officer here at the College--part of the development staff at the College. Bob Kaiser went out and met with her and tried to get her to give something to the College. She said,

"Why should I give something to the College? My father was an engineer. " He said, "Well, we do have a part of the College that's engineering." Preceding Thayer School was the Chandler Scientific School and that's where Ida Patterson's father received his engineering education. Here too, it was Bob Kaiser who arranged a visit for me, followed by several other visits. She gave generously to Thayer. Thayer received her estate only to find that her financial advisor had a history of invading the estate. After appropriate suits, most of the estate was reclaimed. I don't know the size of the estate, but at that time it was one of the largest gifts to Thayer.

BURNS: This was her financial advisor?

LONG: Yes. From a local bank. The guy was of questionable honesty. [Laughter] It tends to be that way now. Another one we got was from Marian Miner Cook. Her husband was an interesting guy. In fact, I got to know several of the people there...Bob Rodday who was president. John Brown Cook ['29] was a member of Thayer School's Board of Overseers and so came the campaign and the hope was that we'd get something. The story is that John had left a significant bequest to Thayer School and then had called for the will to be re-written so as to reflect that. He got the revised copy of the will. There was one small change that had nothing to do with the Thayer School grant that had to be made, and he sent it back to the lawyer. Of course, he hadn't signed it yet, and died. So there went Thayer's hoped for million.

So then the activity in trying to raise money was aimed primarily at Marian Miner Cook, John's widow. We thought, well, we've got this activity going which employed engineers and students encouraging formation of new companies, bringing industry people to share their expertise with students and faculty. "Why don't we call it the Cook Engineering Design Center?" We had it listed in the gift opportunities as two million dollars in order to be able to put your name on it. So I went and saw Marian and, after several meetings, she thought yes--and Greg, her son also felt that it was a good idea to have something like that with John's name on it. So that's how we got the Cook Engineering Center. I guess it was a little over two million to endow it.

The rule was that you had to give at least 50% in order to get your name on something. Of course, if you use exactly 50%, then they'd be fighting with each other as to whose name should be on it. So, in any event, I told Marian, "You know, we're a little short here. You're really very generous; but if we want to put John's name on it, you have to cover a little bit more than that." She said, "How much?" I said, "Well,



one hundred thousand or two hundred thousand, whatever it is." After thinking it over somewhat, she said, "Fine." Then the first check I got from her sometime later, she said, "Carl, I think I've been had." I wrote back and said, "Yes, you have; but it's for a great purpose." [Laughter] "It's something that will last a very long time and there will be appropriate ways of saying 'thank you' for your generosity, but your first comment was pretty close to the truth." So then I asked her whether she would like to be an Overseer of the Thayer School. This was much later. This was I think the transition from John Kemeny to Dave McLaughlin [54]. Marian was a conservative and I don't know that you could describe either Dave or John as conservatives.

BURNS: Certainly not John Kemeny.

LONG: That was when she came in, I think, when John Kemeny was still President. She said, "Why should I be an Overseer? I don't like what so and so is doing, and I'm not too enthused about this, that and the other thing..." So I said, "If you're an Overseer, you'd be real close to the head of the place and you can throw your rocks and get better success at hitting something." She said, "That's right." So she became an Overseer. And she was a good one too--very conscientious, very generous of her time and her circumstances. She was a really nice person, nice lady.

But that's sort of how it goes. I mean, you know, you try and build up contacts with people, maintain them. But what's very interesting--when the Dean retires or is replaced by his successor, you don't maintain those contacts with those people. It stops. But they seem to assume that "that's the way it is," so that's the way we react to it.

BURNS: Did you, as Dean, do more fundraising than previous Thayer Deans? Was that more of your job?

LONG: I'd say somewhere between a third and a half of my time was fundraising.

BURNS: Do you think that previous Thayer Deans had done as much?

LONG: Myron, yes. Myron got a major grant--fundraising is a funny thing. Myron went to the Sloan Foundation--the Alfred P. Sloan Foundation--with a description of a program that he wanted to implement and Dartmouth--Thayer School--was the only place where it could be done. Engineering had to have a strong background in liberal arts and it had to be more professionally oriented and more applied in

nature, and it has to be more closely involved with industry in order that all this can come about. The Sloan Foundation bought it and made a grant of about one million dollars to Thayer School to implement the program.

So Myron got one or two major grants, which in effect obviated the need for fundraising, except the activity applied to industry. That was sort of a quid pro quo, so I don't know that you'd call it fundraising. You go before that, there was none at all. Dave Ragone didn't do any. He wasn't here long enough to really get going. Bill Kimball, who was before--the other side of Myron--didn't do any, and the years that Thayer had no Dean, it had no fundraising.

BURNS: Was some of that due to the way Dartmouth and Dartmouth's Development Office looked at fundraising--that they didn't want the associated schools to do that kind of fundraising on their own so much?

LONG: Let me start off with something related to that. I think it was only in about the years that Myron was Dean and thereafter that the decision was made--Dartmouth is going to operate with each of its parts as a tub on its own bottom--in effect, the Harvard model, I think. "We'll help you all the way, but you're either going to make it or..." In my view, it was, "Thayer School was either going to make it or disappear". We got the services of one of the people out of the fundraising part of the College, Lansing Reed. He was the first development officer that Thayer School ever had. We were over a hundred years old before we got somebody to help us raise money.

So that meant then that you had this required financial independence hanging over your head. And the disappearance of the subvention meant that you didn't have a pot to dip into at the end of each fiscal year. I think that obviously Thayer School responded to the challenge. In my early years, we lived on the remainders of the money that Myron had raised from the Sloan Foundation. I went down there to see them to keep them posted. We had a couple hundred thousand left of the grant--something around that number--and we had targeted it for modification of the space within Thayer School, I hated to see the money go for that because we had more pressing needs than how the space within Thayer was to be used.

I went down and asked them whether we could use it for program development as opposed to space development. They said, "If you don't use it for what you said you wanted it for, give it back." The response to that was very simple. "We weren't going to give it back."

So we modified the inside of the Thayer School. It was done well enough so that at one of the College faculty meetings when John was giving his five-year report he recommended that Arts and Sciences faculty go down and have a look at the modification and the changes of the space at Thayer School. "It's truly good looking." [Laughter] We thought it really was a great report.

### **End of Tape 1, Side A – Beginning of Tape1, Side B**

LONG: I think what's interesting are the ways certain things happen. You have on your list the fact that during my tenure as Dean--that Thayer School developed a graduate degree program in Cold Regions engineering—ice engineering—in cooperation with the U.S. Army Cold Regions Research and Engineering Laboratory. So, you might very well ask, "How did that ever get going?" Well, every three or four years the leadership of the Lab changes. That's the duration of the normal tour of the Labs CO.

So when the new Lab CO was coming to Hanover, the head of the Corps of Engineers hosted a reception at CRREL. I got invited to that reception and spent some time talking with the new chain of command, especially General Smith—I think that's correct—the Head of the Corps. As part of that conversation, he remarked, "You know, this is the only school with which we are in close contact that doesn't have a program or a relationship with one of the labs. Isn't that worth thinking about?" I said, "Well, I think it is a great idea; but, if you really want to see something like that happen, go to the new commanding officer for the lab and tell him to do it." So he walked across the room and told him to do it. We had a meeting scheduled and, within a month or two following that, we had a signed agreement establishing the Cold Region Science and Engineering Program at Thayer School and CRREL.

BURNS: Through an informal conversation. That's great.

LONG: Some of the best things get done that way. We had a lot more in common than just that; but, in any event, it was nice that that occurred. It has been a good program. We've had some of their people as adjunct members of our faculty and so forth and so on. It's a marvelous facility that's up there and it's nice that we can have occasional use of it.

BURNS: And there was significant student interest in the program over the years?

LONG:            Pretty close to what we feel we want and can afford. You see, a lot of it gets built into research activity of a faculty member, like Erland Schulson, one of the very competent people on the faculty. His area--well, let me start over. We were looking for someone in mechanics and Erland Schulson looked like the best guy we had seen, even though his primary interest was materials. We thought, "we can't let a guy who's that good go some place else." So, even though he didn't fit our description one on one, we offered him a job and he came.

After he'd been here about two years, he said, "I want to be put up for tenure." He was an accomplished person and all of that and his background was sufficient to warrant consideration. I said, "Well, you know, you look at your resume here, there's not very much down here on research. You're just not going to make it." So I said, "Why don't you go find something that is supportable. You've got two years in your present appointment. But if I were you, I wouldn't ask to be reviewed during this first four-year period. I'd push it off to the second one. Give yourself six years." [He said], "I don't want to wait that long."

I don't remember how it happened, but he got involved with someone from CRREL, obtained a grant from the federal government that helped to put in a controlled environment lab for ice. And he built a whole research program out of ice--finding that some of the governing relations that described ice behavior under different load conditions aren't much different from other materials that were subject to the same kind of behavior. So we've got a really good program--research program on ice. Like I said, "You'd better find something, otherwise you're going to be on your way out." [Laughter] Everybody doesn't respond that way, obviously; but he was good, is good, and he was able to attract some good people to work with him. And it was a good program. It is worth mentioning that initial support for this program was obtained from the Mobil Foundation.

We also got a letter from Warren Rudman. "Why are we asking the federal government to build temperature rooms, temperature-controlled rooms, and a whole lot of equipment all aimed at ice research when we have a whole laboratory up there--multi-million dollars. Why don't they just do it and forget you people?" So we got into a brief discussion--not too brief--but in any event, the head of the research lab--the Army Engineers Research Lab--was supportive of our request. He told Rudman, "They can do things down there that we can't do up here because we're committed to government contracts." So Rudman became a supporter of both the ice lab and Thayer School. You've got to be in the right place at the right time. Then you get a lot of credit for

all the wonderful things you did; but the only thing you did was just go there. [Laughter] It was really good.

BURNS: One of the things I have on this list is the Dean's Fund.

LONG: Oh, one more comment. Dave McLaughlin, always when a new CO came in at CRREL, always had them to a luncheon in his office at the College and I always got invited to that. He always maintained an awareness, on the part of CRREL, that the College was supportive of the activity that would be of a cooperative nature between CRREL and Thayer.

BURNS: This was something Dave McLaughlin did?

LONG: Yes. Do you mean in terms of setting up that luncheon?

BURNS: Yes.

LONG: Yes.

BURNS: Did John Kemeny do this also?

LONG: No. But--I guess the answer is no. Whenever we started appointing adjunct faculty and so forth from CRELL, it was obviously with John's blessing. John was pretty good in that he never really bothered you unless it looked as though you needed some help. You know, "You're on your own two feet. Go ahead. I'm not going to get involved unless I have to."

BURNS: Was Dave McLaughlin more involved with the Thayer School?

LONG: Yes, because Dave had been an Overseer of the Thayer School before he became President of the College, so that he had probably the best awareness of what Thayer School was doing and what Thayer School's thoughts were in terms of its future than did John. This is only because, if you are an Overseer--although John was an Overseer, but he had enough on his plate not to get involved with us. But things never really came around with Dave. We had a lot of good ideas, but we never seemed to be able to get them off the ground.

BURNS: For whatever reason.

LONG: You wanted to talk about the Dean's Fund?

BURNS: Yes.

LONG: I think that's an interesting thing.

BURNS: My notes say that it was started in 1977, which is under your watch, obviously, and grew to over a hundred thousand by the time you were finishing up as Dean.

LONG: Yes.

BURNS: What was the Dean's Fund and how did it start?

LONG: Well, it was just a response to the fact that Thayer School always needed money, and alumni represent one of the sources associated with a positive effort to involve alumni. One interesting thing--the first alumni fund, a fund that exists as a result of contributions from alumni--was about 1905, 1906, something like that.

BURNS: Under Tucker [William Jewett Tucker], but I think run by Hopkins [Ernest Martin Hopkins '01], is that right?

LONG: No.

BURNS: No. Is that Thayer? Is that what you are going to tell me?

LONG: Around the turn of the 20th century, as usual, Thayer was operating at a deficit. Robert Fletcher scheduled a meeting in New York City to which he invited as many alumni as he could. He acquainted them with Thayer's finances and asked the alumni for help--which they gave. Their first meeting to enlist Thayer alumni assistance preceded the College Alumni Fund by a few years. For many years, the two were carried on in parallel--the Dartmouth College Alumni Fund and the Thayer School Fund--or whatever they called it.

The question came up, "If I give to the Thayer School Fund, does my class get credit for it as a gift to the Alumni Fund?" The answer of the College was, "No. If you give to Thayer School, they count it in terms of what their goal is, but it has no influence whatsoever on a gift to the College or the College achieving its goal." So then, here we are with two different ones. We said, "That doesn't work too well. Why don't we combine them?" They said they would and "you'd get part of the annual giving of all the alumni and you'd be better off." Well, it never really worked out that way. We did not have a meaningful share of the College's success.

Well, the Alumni Fund of the College is unbelievable in terms of the way it functions. So we thought, "Why can't Thayer School set up one that would ultimately do the same thing?" So we got the development office of the College to do a study to see what we could expect and they concluded, "You'd be lucky to be able to cover half the salary of the development officer. No. Don't do it."

Well, this was on the agenda of the Thayer School Board of Overseers. In effect, I was in the position of having to recommend that they accept the College Development Office recommendation that there be no Thayer alumni fund. We used to meet on Friday/Saturday, and on Thursday my father died. Since several of the Overseers were on their way to Hanover, it did not seem possible to cancel the entire meeting. I shuttled back and forth between Hanover and New York City, and met with the Board on Friday and let them decide what to do on Saturday. Since one of the items on the agenda was the Thayer alumni fund, they decided to meet on Saturday.

So what did the Board of Overseers at Thayer School do? They voted to direct the alumni office of the College to establish a fund for Thayer School based upon gifts from its alumni. That's how it started. I often conclude that my absence from the Saturday meeting of the Board allowed the Board to recommend starting an alumni fund, called initially the Dean's fund. The first year I think it raised twenty-five thousand. It at least paid the salary of the development officer. What is it now? Around six hundred thousand.

BURNS:       Something like that.

LONG:         Not bad at all.

BURNS:       By this point, I assume that one of the reasons for starting it is because Thayer had more of its own alumni that weren't also Dartmouth's alumni, especially at the graduate level. Is that correct in saying that? Because, during the '60's, you had instituted more graduate programs.

LONG:         Not initially. The only source of gifts was, in effect, Dartmouth alumni. We were graduating like maybe twenty students a year for a number of years. In 1984, I think we graduated ninety-nine. We couldn't hit a hundred. We couldn't do it. It may very well have been--I'm not certain about this--it may well have been that Tuck School, which drew most of its population from sources other than the

College, had a very successful alumni fund. Why couldn't we emulate them?

BURNS: Right.

LONG: We had nothing to lose. If it didn't work out--it would just die a slow death. But it has worked out and generosity and involvement of the alumni has been impressive. Now we are talking about producing a hundred alumni or so and also when you start counting the undergraduates who were engineering science majors--Thayer does pretty good.

BURNS: Do the undergraduate majors--do they have the option of giving to Thayer or the Dartmouth Alumni Fund?

LONG: If they give to Dartmouth, it gets counted as a gift to Dartmouth. If it's given to the Thayer School, it's counted as a gift to Thayer School, but not also as a gift to the College. So, if they want to do something for both, they have to give to both and they have to designate how their gift is to be split.

BURNS: So that gets a little complicated.

LONG: Now it's well enough established that it is not troublesome anymore. The College has a body of literature they put out, the College also has its phone-a-thons, faculty visits Dartmouth Club meetings, etc. etc. Thayer does the same. Every technique that produces positive results is used by both. It doesn't seem to bother the alumni that gifts are not double counted. If they give it to Thayer, it doesn't count to the College.

I remember talking to John Kemeny about that. I said, "You know, you've done a number of things that are controversial and alumni are turning off the spigot. How do you feel about my going and saying 'Your gift to Thayer School is not a gift to the College.'?" He said, "Do you think it will work?" I said, "Well, I think it will do some good." He said, "Go right ahead." [Laughter] It was funny.

One of the early visits was to Chicago. A guy by the name of Craig Cain ['45]--he is now up here in Kendall. His son also went to Thayer School. I went out to meet with him. He said, "I don't like what the College is doing. I am not going to give anything to the College." So I said, "Well, how about Thayer School?" He said, "I'll have to think that over." He said, "Why were you coming here anyway to see me?" I said, "Well, I'm going to ask you for money ultimately and I think I



ought to at least know who you are before I do that." So I said, "The next time, I'll be asking for money." So I came back about six months later. He said, "I know why you're here. Here is what I am going to do." [Laughter] He has been a very generous supporter of Thayer School ever since then. Why not? After all, if you don't like the College, you still have an opportunity to help the greater world of which the College is a part, without really giving to the College.

BURNS: So were there several people that you did that with or was it a small number?

LONG: I don't think there were too many.

BURNS: A handful. I wanted to talk a little bit about the Tuck/Thayer relationship while you were Dean. The Murdough Center brought the Library together. And there were also faculty offices for both Thayer and Tuck?

LONG: The third floor.

BURNS: Were there some offices that were supposed to be kind of collaborative offices? Is that correct?

LONG: I don't think so.

BURNS: No? But part of the idea of the Center was to bring the two schools closer together. How did that work out?

LONG: It really didn't for a long time. Many years ago, at the tail end of the Second World War, Thayer School had four programs that it offered--a degree in civil engineering, a degree in electrical engineering, a degree in mechanical engineering, and a degree in business administration or business management. The one in business management was more commonly known as Tuck/Thayer.

BURNS: Right.

LONG: In effect, what it consisted of was a core of engineering courses plus optional courses offered by the Business School. If you looked at the population at the fifth year level--masters, bachelors, whatever--there would usually be maybe six or seven students in each of the three engineering programs--twenty, twenty-five. And maybe fourteen students in the Tuck/Thayer. It, far and away, was the most popular program the Thayer School offered. The administration--I don't think it was me. My recollection is that it was Bill Kimball's time,

or the beginning of Myron's tenure, but I probably had a hand in it. The administration established a committee to identify how that program could be reinforced, and that committee killed it. Really and truly. They put a core of courses in that nobody wanted to take, that you had to take in order to be part of the program. So the population just went down, down, down, down, down!

Well, then more recently--let's say within the last ten or fifteen years--the program has come back, but with a much stronger business orientation and a much stronger professional engineering orientation. The administration tried to produce what you might call really a hands-on business and engineering program and it's very successful. I don't know how many are in it now, but a major part of Thayer School's graduate programs is this Master's Degree program in engineering management.

I don't think it's a coincidence that this thing only came off the ground and developed its success at the same time that Thayer School developed a significant endowment. It seemed to me that the one thing a business school doesn't want to do is to associate with a loss leader. That's what we would have been. We just couldn't keep up with it. We didn't have much money; but, when we started to build up the endowment and we started to build up annual gifts, that program blossomed.

I guess it was under Hutch's [Charles Hutchinson] administration that it really took off. In fact, maybe he was the one principal in defining it. But it's been very successful. It's an outgrowth of the old Tuck/Thayer program, really. The Tuck/Thayer program was one that was pushed in terms of emulating in the near term--most recent time--the program that had the strong support of the Board of Overseers. Whenever they started talking about curriculum, "What's going to happen with Tuck/Thayer? What's going to happen with Tuck/Thayer.?" It's really good. I understand that the average starting salary of graduates from that program is more than the starting salary of the Master of Science graduates, which is sort of unusual--at least, I think so. It's been very good. It's really viewed as the Thayer School program in combination with Tuck School, as opposed to visa versa.

BURNS: Has that been the most significant pairing between the two schools, is over that program?

LONG: Yes.

BURNS Was the Tuck/Thayer Program originally--was that one of the 3/2 Programs?

LONG: Yes. It was really the Tuck School program that was 3/2, as opposed to Tuck/Thayer. Tuck/Thayer did operate that way, but not as formally as did Tuck School. Tuck School also was able to have the College endorse the fourth year as a set of courses satisfying the requirements of Dartmouth College's A.B. In effect, the first year of the Tuck School program was accepted as the fourth year of the Dartmouth program.

BURNS: But, it didn't affect what Thayer was doing as much.

LONG: Prior to the development of courses specific to this Engineering management program, the interim program was, "You meet all the requirements of the Tuck School, you meet all the requirements of the Thayer School and then you get a degree from each. Neither Tuck nor Thayer is well served by a degree program made up of two independent programs.

BURNS: There's a significant amount of research growth while you were Dean. Was this a general trend in engineering schools at the time, or was this something that you folks at Thayer really went after?

LONG: Well, supported research is a competitive activity. Major funders are the National Science Foundation, the Department of Defense and other government agencies. Thayer School in effect said to the faculty, "If you're going to have students work with you to take your courses, then you're going to have to help pay the cost of their education, because we're just not going to draw very many people here if it costs ten, fifteen, twenty thousand, thirty thousand, whatever it is."

It became the policy of the school that faculty should be involved in research, and the research should be such that it covers approximately one-third of the total cost of a faculty member and all the cost of the students who were involved in the research activity. So, if you look at people costs and over head costs you come up with a pretty big number resulting from a commitment to attract and support students. Just as an indication--faculty member, say \$25,000; two students, tuition and stipend, about \$20,000 each; technical support, say \$10,000; overhead say at 50% of direct costs--Total more than \$100,000. The business of the school is producing graduates and the cost of advanced degree candidates is very expensive and looking at the competition, the best programs have a strong research base.

You know, you don't know how certain things add up to certain results. There's always the curiosity as to who's doing what; but it's kind of hard to identify ways in which you can broadcast who's doing what. So what we did soon after I started was to put together a research booklet, which briefly described all the research activities in which a faculty member was involved. It also indicated who sponsored the work. It didn't say how much money was involved. It just said "study of this, that and the other thing and here's a paragraph descriptive of it." We also had student theses written up and put in there. But so far, you've only got a book that's got a whole bunch of descriptions in there, it doesn't tell you who's doing what. So, at the end of the book, we put a listing of all the faculty at Thayer School and it became obvious who was and who wasn't doing any research.

I don't recall the numbers exactly, but anyway--the science division of the College used to put out a listing of all research undertaken by the faculty and papers published. Thayer contributed less than 10% of the listings--an unimpressive showing. The next year we asked each faculty member to provide a write-up of his/her research and a listing of papers published. Within a year of so, somewhere around half of the entries were from Thayer faculty.

With this obvious commitment of the School to research, the amount of research undertaken just took off. We hired people who were interested in doing research and the School helped them get it. We also made plain the importance of research productivity (in addition to teaching and professional/community service) in determining promotion to tenure. Although research productivity will not guarantee tenure, its absence will preclude tenure.

BURNS: Was there more money available during this time from groups like the National Science Foundation?

LONG: I don't think so. We may have received some grants to help new faculty in starting a research program, but these start-up grants were also awarded competitively. Thayer was pretty successful in developing research funding due in part to the quality of faculty developed in Myron's tenure (e.g., Wallis, Sonnerup), but it was a very competitive environment. But look at a couple of our "younger" faculty--Graham Wallis--a leader in 2-phase flow; Bengt Sonnerup--a leader in space physics--both widely known and consistently successful in developing funding for their research.

But how to identify the future world-class people. You do the best you can--consider Francis Kennedy who came to Thayer after completion of his doctorate at RPI. A faculty committee was established to investigate and recommend. To evaluate research, the committee wrote to 15 or so people in his field--the recognized leaders. All put Kennedy in the top of his field--if anything, the committee was surprised at how important a person he was in Tribology, his field. He has a world-class reputation.

But no matter how hard you try, you can not always hit home runs.

### **End of Tape 1, Side B – Beginning of Tape 2, Side A**

BURNS: So also in the '70's, kind of in this research area, you started the research faculty appointments that were kind of younger Ph.D.'s that did 80% research and 20% teaching. What drove you to start that program?

LONG: Well, success in academia is very strongly influenced by the quality of the research work you do and the amount of that high quality research. A new faculty member comes in and he has probably not done any teaching so that the development of course material for whatever it is he's teaching takes a significant chunk of time out of each week. In fact, it's probably more than he can handle in a normal timeframe. So, how is he/she to develop a research area? So, we said, "We will hire you assuming 80% of your time is for research and 20% for teaching. This will give you a chance to get your research started and write a few papers. This should make you more attractive to other universities after completion of the 3 or 4 year term of this appointment.

You could say that we instituted these appointments as a service to the profession and to young faculty. You could also say that it brings young potential faculty to Thayer who can contribute to Thayer's research activity. We thought the idea had merit and several potential faculty accepted this kind of appointment.

That was the thinking behind it. It didn't always work that way because we found that we would like to extend the term of the research appointment but did not think it in the best interests of the individual or the School. There was also the concern that tenure is assumed granted after 6 years of service. But we recognized that there would be exceptions--some people that we "had to have." Also we encountered some people who needed a "home" for their research. Depending on the potential to benefit Thayer, we often bent our rules.

Then we found out that the idea of a limited term research appointment was attractive to some people. For instance, the Physics Department wanted to hire a very able/established faculty member--Mary Hudson. The difficulty was that she was interested only if there was a position for her spouse, Bill Lotko. Physics had no "slot." Thayer came to the rescue by offering Lotko a research appointment--he already had a research grant and it complimented Bengt Sonnerup's strengths, so it seemed fine. It was, Bill is very productive--so much so that we later offered him a tenure track position from which he received tenure. Physics is/was very pleased with the addition of Mary Hudson to their faculty. So we all came out ahead.

I remember seeing the reviews for one of Bengt Sonnerup's research proposals. The reviewer said, "I don't see any way that Bengt Sonnerup is going to be able to deliver what he says he'll do in this research grant. It's more than you can expect anyone to do. But, knowing Bengt Sonnerup, I think he will probably do it." [Laughter]

So, in effect, we were using the research appointment, not only as a way of getting young faculty to develop a history of their activities, but also as a means of adding to the School's faculty research efforts in a way that didn't tie us down forever.

BURNS: So it gave you some flexibility in terms of faculty recruitment.

LONG: Also, we could describe it that way—that this candidate who's had these three years at Thayer School is going to be better equipped to get an offer in competition with other people from say R.P.I. or M.I.T. or wherever. So it wasn't totally selfish, but there was some of that.

BURNS: This sort of leads into the area of faculty recruitment. Is that something that the Dean plays a large role in at Thayer School?

LONG: Well, I guess--the answer is "yes", depending upon how closely the Dean and the search committee are in agreeing to the qualities they're seeking in a new faculty member. It's very democratic. In effect, there might be a three-man, three-person, committee--and maybe four with the Dean. The Dean gets voted down every so often and that's all there is to it. It's very hard to get someone that everybody likes, everybody wants, and we make mistakes. You don't know how to avoid it. Everybody's mistakes are really based upon the image they have of the school and, if it's much different from the one

that the others have, well, what do you do? Initial appointments at the assistant professor level are always for a three-year term, so mistakes can be remedied.

BURNS: How common was it to come across the situation when you were Dean where you had a husband/wife team that were both kind of looking for positions, because Hanover is--there aren't too many other schools around.

LONG: I don't know that the Thayer School ever had a couple--a married pair.

BURNS: Right. But there was the Meadows. Dennis and Dana?

LONG: Dennis' appointment was at Thayer School.

BURNS: Right.

LONG: He obtained tenure while he had that appointment. Dana's primary appointment was in Earth Sciences or Environmental Studies with an adjunct appointment at Thayer. She held that full-time for a while and then gave up most of it to be part-time because she wanted more freedom than she would have as a faculty member at Dartmouth. They were big research producers. *Limits to Growth* was the beginning of a whole lot of other things that dealt with problems associated with the environment and limited resources and so forth. When they decided to break up, I don't know; but they were very productive as a pair and/or as individuals. Each had their own goals and their own directions. Dennis decided to go his own way and to do it at UNH. Dana decided to stay in Hanover and received one of the MacArthur "genius" awards (\$500,000 or so). So all her time could be devoted to her research since financing was no longer a concern. You know that she died recently.

BURNS: I didn't know that.

LONG: I don't know if they call it spinal meningitis--no that's the wrong. But some kind of a member of that group of diseases. The story last week or two weeks ago was that it was treatable and that they hoped for a speedy or reasonably speedy recovery. Then in yesterday or the day before yesterday's paper, they announced her death.

BURNS: I didn't see that.

LONG: It's funny--really, when you get down to it, there was no place for Dennis--for his skills and his research interests--in this place; but one of the arguments that some of the faculty made when they were discussing his re-appointment—"it's terrible that there isn't a place for someone with his skills because he is a very competent guy and he could raise the funds needed to support those interests." So we decided that we would be the part of this place that was receptive to the unusual and that promotion and tenure could be available to people with those kinds of "strange" skills. [Laughter]

That has been maintained--I think that attitude and the environment in which it exists may have been started by Myron. That may not be true, but I know it was in the works when I became Dean. Recognize that this was the image that the School wanted to portray or display--that we were interested in high levels of competence, and if there's any thought at all that it can relate to anything we're either doing or hoping to do, all we want to make certain of is that you're competent--that you're really good, because we want to get people who are the best, or at least among the best. If we can do that, everything else will take care of itself. There is a lot of truth, I think, in that statement.

BURNS: I imagine that would be attractive to certain faculty as they looked to come to Thayer and looked at whether they wanted to come to Thayer--to know that they would have that amount of freedom.

LONG: Yes.

BURNS: This sort of gets us at the area of environmental engineering and bio-medical engineering that start to become programs in Thayer. Did that happen before you were Dean or right around the time you became Dean?

LONG: Right around the time I became Dean. John Strohbehn was--you know of him...

BURNS: Right. He became Provost.

LONG: Has he been on your list?

BURNS: He's on the list.

LONG: Okay. In any event, John Strohbehn was involved in the research area--lasers, coherent light, and he became well regarded in his field. He's really good. He found that, in order to continue his research, he would have to get involved with government activity that



required clearance and John did not want to do any research that required a background investigation in terms of his worth as an American citizen. So he was looking for a new field. He had to find one.

I had been Dean long enough that it was obvious that we had to have an Associate Dean and Leonard Rieser ['44] also kept pushing for an Associate Dean. John indicated he was available. He said, "I need some time to get a new research area going. Maybe I could find it as the Associate Dean." "Well, I'm looking. So, yes."

We realized soon--this maybe not quite precise, but close enough--we realized soon after he got involved in the Associate Dean's position that one of the big problems in laser was background noise and you couldn't really see what you were interested in seeing because there was so much garbage there. How could you filter out the garbage? John discovered that the problem of garbage in masking signals was true in radiation therapy for cancer. What you wanted to do was to, in effect, be able to concentrate and not have this noise in there influencing everything.

So he found that there were some students who were interested in those areas and also some faculty over at the Med School that were interested. Soon, population interested in Medical School research started to grow. It was interesting. Some of it was new. There were real new worlds to conquer. A faculty member was really interested in it, and others were becoming interested. We got a biomedical engineering program established by the students who were interested in being in it and starting it. I think the big thing that we did was not to discourage the students from involvement. Then some of the faculty would get interested in some of the research projects that took off on the basis of internal interest and significant cooperation from the Med School.

BURNS: So he really drove that...

LONG: John really established the thing. Yes.

BURNS: And environmental engineering--do you remember how that started?

LONG: Well, the big push in environmental was really Dana Meadows. Dennis was also involved peripherally. I think that's fair. His wife was really the major force in all of this, although I'm quite certain he had a certain level of contribution that was important to the

work. Then the question was, "Who else is there around here whose interest is similar." The Meadows found that Jim Hornig out of Chemistry was interested as was someone--whose name I can't recall--from the Government department. In any event, this nucleus interested other faculty and was sufficiently committed that they could develop and offer courses. Ultimately a program was defined and a certificate in environmental studies was awarded. I'm unsure of the title, but I know it wasn't Environmental Engineering.

BURNS: No?

LONG: Natural resources or something like that. It was like a structured minor in a student's undergraduate course work. There's some research that was done in Thayer School, primarily by Dennis. In fact, we had a three-four-five person research group in that area. We hired them all out of M.I.T.

BURNS: Is that where the Meadows came from? M.I.T.?

LONG: Yes. I think they both did.

BURNS: I think they had worked with Jay Forrester down there. Is that correct?

LONG: Yes. That's right.

BURNS: Engineering became a much more significant option at the undergraduate level during the time you were Dean. Is that correct? Was the undergraduate major started while you were Dean? In engineering?

LONG: I'm getting hung up with the word "started".

BURNS: Was that option available already when you were Dean?

LONG: The engineering science major was initiated at the tail end of Bill Kimball's tenure as Dean. The transition from the "old" major to the "new" major was accomplished during Myron's tenure. Then the major kept getting reinforced and honed by all the people who came after Kimball: Tribus, Ragone, me--and it's still going on by Hutch and those that follow. I look at courses that are now offered--many of them are complete strangers to me.

The idea was that the major should provide a coherent offering of those courses and content that was common to all (most?) branches of

engineering. Learn the basics, then specialize later. Myron wanted to follow the major with a program leading to the MS and PhD and another program leading to the BE and DE. The “old” undergraduate program had to continue to be offered until all students who were enrolled graduated. The ES (Engineering Science) major started to attract an increased number of undergraduates and the trend has pretty much continued to the present.

The undergraduate interest was influenced by the interest of industry, government agencies, the financial world, in the people who came out of this program. It soon became obvious that the program was providing its graduates with very marketable skills. Also, starting with very competent undergraduates didn't hurt.

BURNS: Was a lot of this market change due to the computers--the introduction of computers? Was that the biggest...

LONG: Well, the computer, in effect, made faculty and other users much more productive. I don't think Thayer School ever had a course in computing. [Rereading this makes me recollect that Thayer offered a computer course one summer to replace what used to be a required post-AB summer course. The summer computer course was offered only once. After that initial offering, the summer session was omitted. The computer was a beneficial asset and you taught yourself how to use it.]

BURNS: How was the undergraduate engineering education different at Dartmouth than other undergraduate engineering programs?

LONG: You really have to say, rather than the undergraduate program, you have to say the four-year undergraduate program plus the one-year professional program. Okay?

BURNS: Okay.

LONG: Most engineering schools had a four-year program. Thayer School is five. The difference in these programs is the liberal arts content of the program at Dartmouth and the absence of any significant liberal arts content in programs elsewhere. If you go back about 30 years or so, you encounter the Grinter Report. This report resulted from the study of engineering and engineering programs. The major conclusion was that the Liberal Arts content should be increased--there were too few social sciences, too few humanities in almost all engineering degree programs.

We were accused of meeting those recommendations by excluding courses that supposedly prepared you to utilize professional skills. But professional skills often become dated and their application often involves society and the public's value system. We try to teach our students how to learn and to understand the environment with which problems exist. Four-year programs can not fit all this in, that's why Thayer's program is five years.

BURNS: Right.

LONG: Other schools are really hard pressed to get everything in. They just keep adding courses that they want. You can't continually do that. So I think that, if anything, Thayer School has become well known for the diversity that's displayed in its programs--diversity being defined by what is it that makes a whole person in terms of what he can do to warrant his place in society. That sounds very profound. [Laughter]

BURNS: It is. It's something that you run across in the literature about Thayer again and again; the uniqueness of the liberal arts and engineering combination at Thayer. It's something that people really point towards.

LONG: One problem we're having is that the cost of a year at Dartmouth is now about thirty five thousand.

BURNS: Something like that.

LONG: If you give a five-year program and a four-year program, the extra thirty-five thousand bucks isn't chicken feed. So this produced an increased demand on the Thayer School's fundraising because, in effect--I don't know what the policy is now, but then it was something like "If you're going to stay this extra year, we're going to pay much of the cost of it for you." So you had to be careful how big an enrollment you want. All these little thirty-five thousand dollars bills...[Laughter]

BURNS: We talked a little bit about the fundraising for the Cook Center, which had started before it became the Cook Center. Is that right? It was called INVENTE. Is that how you pronounce it? Different ways?

LONG: Different ways. We liked the word "invent" but we had to put an "e" on it because invent without the "e" was copyrighted--we

couldn't use it. Somebody else had already laid claim to it. So we put an "e" on the end of it and no one had laid claim to that. [Laughter]

BURNS: How did that get started? The concept for that? Do you remember?

LONG: I mentioned before that one of the sources of funds in developing the program was from the Sloan Foundation. We had to give a report to the Sloan Foundation to tell them that their money had been well spent. To some extent, that was difficult because the enrollments were so small. We're talking about graduating six BE candidates or seven. In any event, we made a presentation to the Sloan Foundation. We did it here in the Murdough Center.

One of the things we mentioned as a goal that we were trying to reach would be a greater involvement of industry and the real world in the education of our students and we thought the way of doing it would be to try and associate a particular student or students with a particular industry or company and see how things worked out. We indicated that we hoped there would be instances where useful work would produce useful results. Maybe these results might have a potential market and yield some income for the School. We just put that in as sort of a statement of philosophy in the report. We just included this thinking as consistent with our professional program--part of that program's philosophy.

A year or two after that, the National Science Foundation established a research program to try and increase the level of activity or interaction between industry and academe. They gave each school that they selected a million dollars to implement a program that would lead to increased levels of worthy results--some of which might even foster the beginning of businesses. Carnegie Mellon had one of those grants. Utah had one of those grants. I don't think any of them are still in business.

The best I could do was to review some other people's grant applications [Laughter] for NSF thinking, "If I get involved, maybe something good will occur (or nothing good will occur)." We touted our program as one that was independent of any federal funding. Of course, it didn't have any funding at all at the beginning. In any event, we were going to do the same thing that NSF was trying to do with schools like M.I.T., Utah and others; but without the help of funding from the government. We set up the framework, and when the campaign came along, our feeling was that "Hey, this might be an

attractive funding opportunity for somebody who's really well fixed."  
That's it.

BURNS: The idea was to get companies involved to partially fund some of that research.

LONG: We got grants from Sanders several years in a row, from Reliance Electric. There were several companies that liked the idea and got involved with us. I forget what we charged them--twenty thousand, twenty-five thousand a year--something like that.

BURNS: I think that's the figure I saw.

LONG: It worked pretty well for several years. We established a board of outside people to aid us in directing our activities. We just ran out of steam.

BURNS: So the students would work on these research projects that the companies needed help on or would set up. Was a faculty...?

LONG: It was a thesis, in effect. A thesis was a requirement of the degree and this was an opportunity to get involved with some very competent people in a real world situation. We ran into all kinds of different problems. One with Sanders--I don't understand why they had gotten so interested in it, but it was "how to grow lobsters." "Instead of going out in the ocean and harvesting them, can we set up a system that allows us to grow them internally?" I don't know that they ever implemented the system, but--you see, the problem was a circulation system to get rid of all the waste from the lobsters and make sure that they had clean water, proper salinity, volume, temperature, light, etc., etc. Part of the problem was how do you identify the data you need and then, how do you get it. Where do you get the information that tells you whether you add more salt or less salt? It's really a good problem.

### **End of Tape 2, Side A – Beginning of Tape 2, Side B**

LONG: Probably the best description of how well that could work was to look at John Colliers' [72 TH '76] research. I don't know if his name has come up.

BURNS: I've seen his name.

LONG: He got involved in hip replacements and found that you could get the bone to grow into your fixture. Instead of anchoring it

with glue, you allowed the hip to grow into the prosthesis and provide strength enough through that growth that it would work. That work was done for DePuy. Now that's got to be close to twenty years ago and we're still doing research for DePuy. Part of John's activity is trying to determine how well a prosthesis has functioned. Reclaimed prostheses are sent to Thayer where they are analyzed and evaluated. I believe it is the biggest research lab in the U.S. devoted to that purpose. The quality of the lab's output is extremely high. (John has been appointed to the College of Surgeons in recognition of his research.) The continuing research activity is a goal, as is the involvement of students in the research. Thayer profits by the existence of this research at Thayer. The prosthesis directed research started with DePuy is how you would like this industry/academic activity to work. John's appointment is not a tenure track appointment, but reads Professor of Engineering. John has been offered a tenure track appointment, but John would not go.

BURNS: You mentioned that one of the goals for the Cook Center then was possibly some patents or business or things would develop out of this. Was the Cook Center successful on this level?

LONG: Moderately. We undertook some work for Reliable Electric--an effort directed to the development of a connection for fiber optics cables. The work developed a connector that appeared to have market potential--sufficient to warrant an agreement for division of profits and a patent search. Good work--no profits.

The Center has attracted several companies, but none have yielded any profits. One research/design/development activity resulted in a company with annual sales in the low 7 figures. They had cash flow and inventory problems and folded.

But maybe the greatest return from all this activity is the kind of environment it produces at the School.

BURNS: Under John Kemeny, a couple of things that he did in the very first couple of years, was he made kind of a renewed commitment for Dartmouth to bring more Native Americans to campus. Before he had started, there was more of a commitment to bring more African-Americans and, I think, rural New Englanders was the other component. Then, also, coeducation starts in the early '70's. How did these affect Thayer--these changes? Obviously, in the undergraduate--you were part of that. Did these affect your graduate student body at all?

LONG: The first two, I think, really had no effect whatsoever. It happened--it was thought about and it happened. The last one--what was the last one?

BURNS: Coeducation.

LONG: Coeducation. If you go back to the early stages of my tenure as Dean our big problem was that we were plagued with too few students. We needed more people, especially those who could pay part (or all?) of the costs of the fifth year of the AB-BE program. Involvement of BE candidates in sponsored research was infrequent since most research grants did not contain funds for award to BE's. There were scholarship funds for award and the available funds increased as our success in fund raising increased.

But the existence of scholarship funds will not, by itself, increase enrollment. We had to find a way to lure people to the school.

There were a number of women's colleges that had strong programs in the sciences who might have students who were interested in engineering as a career, but have no way of satisfying that interest without forfeiting the degree they were working toward. Also, a case could be made that if an engineering program was possible--involving these primarily women's liberal arts colleges--if that was available, it might help these colleges in recruiting students to their own degree programs of expanded course offerings and career choices. So we found out that we would be able to offer an attractive program, either 3-2 or 3-1-1 or 3-0-2--almost anything you might think of.

The problem was how to get them admitted since they'd be taking undergraduate courses and be regarded as an undergraduate. Also Dartmouth never liked transfer students. Although they have since changed. So, in any event, we found that there are a number of Dartmouth students that don't make it through four years. What is it--92 or 95% of all the students who come to Dartmouth as degree candidates finish that degree in five years or less--something like that? 5% of a thousand is fifty, so there is space within the College to accommodate a limited number of transfers. And the College reserved five or ten (I think that's correct) spaces for transfers to Thayer 3/2 or similar programs. John Kemeny gave his blessings, which approved the reservation of spaces for transfer students.

This 3/2 or 3/1/1 or other sequence was moderately successful--although average enrollments did not differ greatly from five. The College was generous in handling all the paperwork associated with



participants in the program who were enrolled in two institutions. This program continues with an occasional transfer from Simmons, Colgate, and others.

In any event this program gave Thayer another several students. Since enrollments in the late 60's and early 70's in the BE program was most years around 10 to 15, it didn't take too many transfers to represent an appreciable increase. Since they were theoretically enrolled in Thayer School, we were able to accept women when the College wouldn't or couldn't. And one of the first--I think--maybe the first woman who came to Dartmouth was one who received a Bachelor of Engineering Degree from Thayer School.

BURNS: So you were ahead of...

LONG: John Kemeny was happy about that. "That's fine."

BURNS: So this was prior to coeducation, but not that much prior, if Kemeny was President.

LONG: This was while I was Dean and I'd say maybe half way through--so that would be 1977. That would be twenty years ago, anyway.

BURNS: When did you start accepting women to the Ph.D. program? Did that come in with coeducation?

LONG: No specific decision when to do it. It was just that we're going to admit. We decided we're going to admit qualified applicants and we didn't care whether they were "he's" or "she's", black or white or reds--nor did we care whether or not they were out of Dartmouth's undergraduate programs.

BURNS: Was there an effort to bring in women faculty after coeducation?

LONG: We always got creamed on affirmative action. There was something like--I don't have the numbers straight--but, as an example, it's as though there were a thousand doctoral degrees in engineering awarded in a year. Of that thousand, ten were to women.

BURNS: So there weren't that many to pick from.

LONG: There weren't that many around. We got by with that argument for quite a while; but pretty soon they said, "You've got to

make more of an effort and show that you're making an effort to recruit someone like that." We did. But I don't think any of those that we recruited back then are here now. I think they all left or had been asked to leave. It's very hard. Sometimes you had to take both the husband and the wife. That makes it even harder, although there are occasions when the two of them are both really excellent. Where husband and wife are being recruited, Thayer has dealt only with pairs who have different areas of expertise. The recruiting of women for faculty appointments has eased off with increased women following engineering careers but it still is very competitive. Competition involves industry as well as academe, so life is still hard.

BURNS: So that trend has continued of more males in engineering education than females.

LONG: Yes. But these concerns, affirmative action, dual candidacy, were not concerns that existed during my tenure as Dean. At least not to the extent that they exist today.

BURNS: You also started some cooperative programs with the Royal Institute of Technology in Sweden and the University of Aachen in West Germany. How did those start?

LONG: [Laughter] That's a good question. I don't know how correct this all is. It's close, though.

BURNS: Okay.

LONG: The National Science Foundation was a supporter of this applied engineering program and there were some indications of interest on the part of some faculty from Sweden. So NSF--we had nothing to do with NSF at that time--arranged for a contingent from Sweden to come to the United States and take a look at some of the engineering programs that existed here. "To see how successful was this innovation/entrepreneur program in developing real-world awareness of the students. What was successful? Come and see for yourself."

We had had nothing to do with NSF and that program. I couldn't get a nickel out of them, so, you know--The NSF program officer frequently took advantage of our existence. He said, "Can we have them come to your place and look at what you're doing because, after all, you're doing it without government funding and that might be of interest to them." It's sort of a nasty description, but nevertheless. So, okay. They came. They had a good time. They saw some of the work that

was going on. We lined up some of our better people for them to talk to etc., etc. That's how I got to know those people from Sweden.

Then some months later we received an inquiry from the leader of that Swedish delegation as to our (Associate Dean Bob Boylestad and me) interest in visiting their program. I may have made a mistake, but I declined the invitation and recommended that Bob accept the invitation. It was obvious that a continuing relation was sought and it also became obvious that we were interested in developing such a relation. How best to implement a relationship? Exchange students! So we did all the paperwork that was needed, and developed a program that allowed several Swedish students to spend one year at Thayer and earn the BE. Language pretty much excluded Thayer students from going to Sweden. Swedish students had reasonable fluency in English.

Usually it's two or three Swedish students who are admitted to this program. We profit from their presence but I don't know how to measure or describe that profit. The most common advantage cited is the intermixing of two different educational programs. We have required that they satisfy our degree programs--both at the AB and the BE level. More often than not, any deficiency in the Swedish students program is in the social sciences and humanities--so they take undergraduate courses to remedy that deficiency. Thayer values highly the breadth of its programs--hopefully that will be noticed in Sweden.

So that's how we started the program and it has continued ever since. Over the years of its existence--I estimate that there have been more than 50 Swedish students involved. I set a tuition level when it started believing that our costs might make it difficult for the Swedish students to participate. Providing a half tuition scholarship was about right to avoid cost determining who would participate. Participation, I understand, is quite competitive.

The program with Aachen came, I think, as a result of an awareness that we had the program with Sweden and one of our faculty who had been here from Aachen before as a research faculty member was Horst Richter. He said, "You know, I go back there and they're interested in what we're doing and they'd like to have some of their students come here." So we arranged to have up to four students from Aachen to come here to our program, pretty much the same as was arranged for the Swedes. The difference, I think--I think it's true--the ones from Aachen, I think, are looking for a graduate degree program since they are masters degree candidates at Aachen.

BURNS: So it was mainly--well, entirely--their students coming to Thayer. There wasn't the reverse?

LONG: Well, we tried to do that. We've had--I think you can count them all on the fingers of one hand--students that have either gone to Aachen or gone to Sweden. Dartmouth has this term abroad program and I think that one year that term could be spent in Sweden. I think that was a direct outgrowth of the program at the engineering school. Bengt Sonnerup gave them a rush course in [Swedish] so that they could at least say something in the native language. So there was that. That was a good offshoot, but I don't think it's ever been repeated.

BURNS: Some continuing education components come in while you are Dean. There was an annual symposium that was started. Some other names I came across were a Fluid Dynamics Institute, that might have happened once. Was the continuing education--was this a new mode for the Thayer School? It had been going on with...

LONG: No. I don't know that it has been continuing. Bob Dean was a faculty member at Thayer School. He may still have an adjunct appointment. A very bright, a really bright, guy--much concerned with entrepreneurism, invention and so forth. His philosophy was, "It's got to get into the market, and if the market rejects it, then the work wasn't as good as it should have been. Then do it over." He started a number of companies in the Upper Valley. You can find the list from him if you need it. Creare wanted to start educating some people in fluid mechanics in a way that also advertised the quality of work that they were doing in fluid mechanics because they had to be a profit center or otherwise they were going to go out of business.

Well, it's okay to say that you're going to do this and why would you come? Well, one reason they might come is if it was offered by an engineering school. So Thayer School got involved in supporting this activity, although not responsible for the creation of the activity. We got some of the best people in the world to come and speak at this thing--a good audience, but after having done it several times--three, four, five times--we had hoped that some other schools might pick it up so it could rotate because there was just more than we could handle and we were paying so much that it was almost impossible to make a profit. We were giving each speaker a thousand dollars a half day. Although we never developed a profit, neither did we develop a loss.

In any event, that was one level of activity. I guess you could call it continuing education; continuing education is now a requirement in maintaining your registration as a professional engineer. So, a three-

day seminar or something like that comes awfully close to meeting all the requirements. The annual seminar--that got started because we thought it was a good idea and that it would attract a different grouping of people to the school, most of whom would have something to say that we would like to listen to. So we did it. It worked pretty good. We attracted some very good people. We tried to get Greenspan [Allen Greenspan], I remember, way back then. He was too busy--and also [Robert] Reich ['68], out of Harvard I guess--the former Secretary of Labor.

BURNS: Robert Reich?

LONG: Yes.

BURNS: He may have done Harvard graduate work. He was a Dartmouth undergrad.

LONG: Yes, I think he was on the faculty at Harvard when we tried to get him.

BURNS: Oh, he was teaching at Harvard at the time.

LONG: He was too busy. [Laughter] But we did that. That was, I think, a two-day, or one-and-a-half-day activity. We tried to do it once a year. I think we tried to put out proceedings for it. It was one of those things that you don't realize how many people felt it was a really worthwhile experience until after you've stopped doing it.

BURNS: Where there...

LONG: In fact, a lot of this stuff that we're talking about that we tried to do has all been for the purpose of trying to increase the level of awareness of Thayer School and what it does and what its commitment is to the profession and to its students. Sometimes you're successful; sometimes you're not.

BURNS: So they weren't necessarily revenue-producing ventures.

LONG: No. We gave all the members of INVENTE at the Cook Center a free ride. The others paid their way. There was a good-sized dinner involved in all of this, and an open bar...

BURNS: Didn't make a lot on that...

LONG: We didn't make any money on it. And it was a hell of a lot of work.

BURNS: Who was responsible for putting those together? Who was responsible for doing it?

LONG: Me.

BURNS: You. Mostly the Dean.

LONG: I wanted to make sure that it got done. That was the only way I knew.

BURNS: We've talked a little bit about computers at Thayer. Did these--I imagine these probably started coming into Thayer in the '60's or so? Maybe even earlier? No. Not until then?

LONG: Tuck School had a computer center. I don't know when Kiewit had one, but Kiewit was about that time. Somewhere in the '70's, I think, for Kiewit.

BURNS: Yeah. I guess with the...

LONG: When I was Dean, Dartmouth was just going to the requirement that all of the students have an Apple Computer. I don't know when that was. I don't remember.

BURNS: I think that was in the '80's.

LONG: Well, at about the same time, the question came up before the Thayer School faculty, "Should Thayer School pay for a computer for every one of its faculty?" Everything costs money. The faculty voted unanimously that every faculty member should have a computer. [Laughter] So we established a committee. The committee looked at what there was, what it would do, what our needs were. Made a recommendation, and then we implemented it. That was it. Each faculty member got a Mac.

We did get into a discussion with some of the people on campus in terms of "How does Thayer School's activities, with respect to the computer, inter-react in a meaningful forum with the rest of the College and the rest of the College's faculty?" We sort of said, "This is what we found. This is what we're going to do. Unless there's something better that you can suggest, we're going to implement it." Not that our system was that good, but at least it got every faculty member to develop

some fluency with the computer that otherwise wouldn't have been the case. It's taken off since then. Now even the classrooms have their own computers. If you've got twenty seats, you've got twenty computers. Amazing.

BURNS: It's a different world. The Murdough Center had a computer lab. Is that right? The Bosworth.

LONG: Yes. A fairly good sized one.

BURNS: Was that used extensively for Thayer classes?

LONG: I don't think Thayer used it--hardly at all.

BURNS: Tuck?

LONG: Oh, yes. It was a Tuck facility. In order to use it, any of our people would have had to sign on through Tuck in order to get time for it. That's how they worked it. Tuck paid for it, it was their show.

BURNS: So the Murdough Center wasn't--the main shared resource was the Library. Did you share the Cook Auditorium also for classes?

LONG: Well, it eventually got to the point where we had to use it for classes. Whenever we had a seminar or similar, we always used the Cook Auditorium. That's the same Cook of Marian and John Brown Cook.

Then the question came up—who is going to pay for this library. Obviously, Tuck, Thayer, the College, so the next question was how much for each. There were several costs to be distributed, operation, acquisition, maintenance. We attempted to apportion all these costs based on level of use by Tuck, Thayer, College. When we got an agreement we said that's it. Costs sometimes had to be revised to account for purchase of equipment, and similar, or significant changes in patterns of use. We treated these needs and changes on a case by case basis. We each had our own book budget and were responsible for specialized equipment.

BURNS: Was there staffing also? Was there separate staffing budgets?

LONG: Yes. Feldberg was part of the Dartmouth Library system and independent actions by a part of the system could impact

negatively on the other parts of the system. I provided input (as did the Dean of Tuck School) helpful to Ed Lathem ['51] in apportioning salary increases, or personnel additions for Feldberg.

BURNS: How successful do you think that joint venture has been--that Library?

LONG: Well, I think that we have one of the better libraries around. Rather unique in its combination of business and engineering. With an engineering program devoted to real world input, it requires that if you develop a creative solution to a real problem and then wait for a path being beaten to your door, you are going to have a long wait. You need to determine how to get your solution to market, cost, required capital, etc. Feldberg is built beautifully for that kind of activity. You have all the references needed to do a complete job. So it's an important contributor to the quality of our engineering program. The one problem we have is that Feldberg is so attractive that we are often inundated with College freshmen and sophomores who take up large chunks of space that is needed by Tuck and Thayer students.

#### **End of Tape 2, Side B – Beginning of Tape 3, Side A**

BURNS: Before I started the tape, you were saying that John Kemeny, without his presence, that a lot of this stuff maybe wouldn't have happened at Thayer? Is that correct, my paraphrasing?

LONG: Well, I always felt that--let me go back a little bit. My direct contacts with respect to the School and what it was doing and how it was operating was through Leonard Rieser. I don't know what his title was then. Vice President of Academic Affairs or Provost or something?

BURNS: I think for a lot of the '70's, he was Provost and Dean of Faculty, maybe.

LONG: When the time of year came around that the budget was supposed to be submitted, the budget was always submitted to Leonard and always reviewed by Leonard. If any arguments developed, resolved by Leonard. Leonard was also a member of the Board of Overseers of Thayer School. So he had input from there. John Kemeny was also a member of the Board, ex-officio. Leonard was ex-officio as well. Now I don't know to what extent any of the things that I brought before Leonard might have been discussed by him with John Kemeny. There were some things that we wanted to do that



really required John's approval or even maybe his involvement; but there weren't too many of those.

John always attended at least one of the meetings of Thayer's Board of Overseers. The purpose was to get an evaluation from the Overseers as to how the School was doing and how I was doing my job. I was excused from those meetings.

LONG: John always had a multi-day--two days, three days--meeting at the Minary Center each fall. All the major administrative officers of the College were there. There were some College questions, issues that were appropriately addressed by the assembled group; but there was also an opportunity to get John or for John to get you in a corner and start talking about this, that or whatever. The details associated with appointments as adjunct faculty were worked out with John up at Minary Center one year. I don't know whether that was the best way, the best place to do it; but that's the way we did. There were some details associated with it that I hadn't worked out and that John said had to get in there because, otherwise, we were making a commitment that the College might not be able to honor for the infinity of time that I had displayed.

So you always knew that this was coming and that it was an informal place where you could talk about what you wanted to do and how you wanted to do it. John was always receptive and always willing to critique and suggest alternatives, if appropriate. John had a good sense of humor so that things really went along smoothly. One of the Overseers, Barry MacLean ['60 TH '61], was bothered by the fact that Thayer School didn't have any kind of logo. Anyway, he finally got one, printed it up in green and yellow hockey shirts. John was at one of the Overseers' meetings and Barry MacLean, who later became a Trustee of the College made a big deal out of presenting this hockey jersey to John Kemeny. John took a look and said, "The next time I play hockey, I promise to wear it." [Laughter]

John was a very likeable man. One story concerns John's interaction with one of the College's committees. John was a heavy smoker and the story has it that in John's absence the committee voted to disallow smoking at all meetings of the committee. On John's arrival, he was informed about this new policy. John got up and said, "When you change the motion to permit smoking, I'll be back. Until then, don't even bother to inform me about the meetings." [Laughter] Before he could get out the door, I understand that smoking was no longer banned.

BURNS: It sounds like the picture you're painting is that his administrative style really sort of meshed well with your administrative style and what you were trying to do at Thayer. Is that correct?

LONG: That sounds fair.

BURNS: He was supportive when you needed him to be and hands off when you needed him to be.

LONG: Say it again.

BURNS: He was hands off when you needed him to be.

LONG: Yes. I think Leonard's presence had a lot to do with that. Leonard was, I thought, a very unusual man. John used to have meetings once or twice a month in his office with all the administrative people, about fourteen or so altogether. John often used these meetings to get reactions, thoughts, etc. concerning major policy decisions that would affect the College.

Leonard could put his finger on all the pluses and minuses--on all the good things and all the bad things that would occur depending upon what John decided to do. This was a great interaction of two very competent people. It worked perfectly (in my opinion)--Leonard was great at identifying potential problems, John was great at making decisions that took these problems into account. I think knowing that that filter was there may have influenced the way he operated. I think John was more comfortable with meetings or issues that were the subject of the larger administrative group, rather than by himself or with just one or two other people. He liked the diversity of opinions from which he could select what he felt most comfortable with, or which he felt was the most proper way to go.

BURNS: Did you know him well before he became President? When he was in the math department?

LONG: We met back in 1954 when John came here. He came really the year before--1953--and was given a sabbatical for one year. So he came in 1954. John Dickey used to have a tea for all of the new faculty each fall. That's how I met John Kemeny. We both went to the same tea together. I think I may have been somewhat in awe of John Kemeny. He had a reputation that preceded him and the reputation was solidly based and it was apparent that it was based on his intelligence and his strength in his field. He was quite something.

BURNS: Were you surprised when he became President?

LONG: No.

BURNS: No.

LONG: Oh, I don't know how--if you went down the line, I don't know what kind of a grade you would give all of his accomplishments. You've got to give him credit for being willing to face up to all of the hard decisions. I mean, the Indian symbol--John believed what he believed and would try and convert you to the correctness of his thinking or give up on the issue because you convinced him that it wasn't right. Who knows?

BURNS: He has been characterized by some of the other interviews we have had as being a very persuasive person. Would you say that's fair?

LONG: I think that's fair.

BURNS: What do you think his greatest strengths and weaknesses as a President of the College were?

LONG: I think John had an ability to look forward to see what the effect of a present-day decision would have on the College's future. What is it going to be like in 2010 if we do this, in 1990? I think he was pretty good at that. I remember that, when I was out in Chicago at a meeting. I guess coeducation was the topic. I said, "Well. You may as well face it that the time's going to come when the majority of Dartmouth students are going to be women." John agreed with that future and recognized its importance to Dartmouth of its acknowledgment.

John supported coeducation, recognizing that the entire character of Dartmouth as a gung-ho men's college was changing and that he was going to change it. I don't know whether he thought he was going to make everybody like it, but...[Laughter] I think he was the kind of person that felt comfortable enough with the decisions he made that he wasn't embarrassed or shook up by people who disagreed.

BURNS: Do you think he had any significant weaknesses as the President of the College?

LONG: I don't know. The only thing I can think of--and I'm not even certain it is worth commenting--I think maybe some decisions he

made would have profited from a greater involvement of the faculty than occurred. But I don't think there were all that many of them. They're the kinds of things that a lot of people regard as important and, you know, "Why didn't you blah, blah, blah." But that's about the only thing I can think of.

BURNS: Which leads us directly sort of into the next President, David McLaughlin, who the faculty often and loudly had that exact criticism of him--that he didn't involve the faculty enough in his decision-making.

LONG: When did Dave come?

BURNS: Dave started in '81 and finished at commencement in '87.

LONG: I don't think I got along too well with Dave. I'm not certain, but that's the impression I have. I think if you asked him at point blank, "What did you think of Carl Long when you were President?", I'm not certain that I would get a rousing endorsement. What did you say, '81?

BURNS: Yes.

LONG: I think Dave had a pretty good idea of some of the things he wanted to accomplish. Maybe predictable reactions to some of the circumstances that he found himself--he had the commanding officer of CRRELL come to his office for lunch, which was, you know, a nice deal. He invited me to attend. I found out that the purpose of the luncheon was for me to get to know the director of the CRREL labs, except, when he introduced me to the C.O., the C.O. said, "Oh, we know each other." It was almost as though I took the wind out of his sails by that. I don't think he appreciated my doing some things on my own. I think he felt that the more proper way would have been to--I think it maybe was the first year of Dave's presidency as well--to check with him before going off on my own to do something.

BURNS: This was a new C.O.?

LONG: Yes. Dave was very encouraging in terms of what he wanted to do or what he wanted to see done concerning the role of technology in development of countries, as well as the contributions it makes to students in colleges like Dartmouth. So he talked about the role of technology and how combinations of activities involving the Tuck School, the Thayer School, and Arts and Sciences could contribute to a beneficial and meaningful application of technology to the world's needs. We were all enthused because, one, we thought it

was important that that be done. Second, because we thought that it is something that we had a leg up on so that we could do it well. Nothing happened. I don't know whether it was our fault. Maybe we were just involved in the Campaign for Dartmouth and didn't have time for that stuff or did we get turned off by something that we thought of but didn't really investigate? I don't know. We could see ourselves being an important part of the campus, and it just didn't show. It didn't come.

Thayer School, around '81-'82, presented--I think it was a little later than '82--in any event, Thayer School presented to the Trustees an argument that programs at Thayer School should be expanded. Facilities should be expanded. Faculty should be expanded and endowment should be expanded. We wanted to raise ten to fifteen million for a new building or an addition to the present building--another ten or fifteen million to increase the School's endowment. The Board of Overseers endorsed the plan but felt that the building could be a little larger and endowment a little bigger. The Overseers voted that they had no objection to going to the Federal Government for support of new facilities and other uses. To aid Thayer in its quest for congressional funds, we were successful in enlisting the support of Senator Warren Rudman. (Brian Thompson abstained from this vote since he believed his own faculty would soon consider this same issue).

There was a negative reaction at some schools as to the ethics associated with obtaining Federal funds by tacking the appropriation on to the end of a popular bill, such as an addenda saying, "Also to include ten, fifteen, twenty million to go to Thayer for a new building to better contribute to the defense needs of the country." The Trustees--and I don't know under whose leadership--but the Trustees said that all of the material that goes to Washington that's to develop this kind of funding should be referred as grants to Thayer School and shall not refer as grants to Dartmouth College. Dartmouth College's name is to be separate from any appeal

So the rider, when it was tacked on to some popular bill, had a listing of all this stuff that we wanted and how much it was going to cost--I think it was twenty-five or thirty million dollars--some big number. Can you imagine? It's like what we spent the first hundred years of our existence. [Laughter] In any event, we had to make our case at a meeting of the Board of Trustees. We had given written material to the Trustees so they knew what we wanted to do. This joint meeting of Trustees and Overseers was to provide an opportunity for discussion. We almost blew it. The initial presentation by one of the Overseers did not go over too well--It was less than forceful. Another comment was to provide the negative reaction of at least one Trustee (more or less),

“Appealing to Congress is like handling *The New York Times*--you get your hands dirty.” I recall Bob Field [’43 TU ’47] telling me to get up and say something before the whole thing goes down the tube. Well, I had my say as did other Overseers and the Trustees approved. We wrote up our case requesting a grant to Thayer School from Congress.

It’s about here that I ended my position as Dean. Hutch took over and did all the leg work and persuasion and Thayer got its grant. (15 million for plant from the Government and over the next few years 10 million from Overseers and alumni and friends.)

So I don't think the Trustees under Dave McLaughlin treated Thayer School as well as Thayer School deserved to be treated. If you look at what’s occurred since 1961 when Myron came in--if you look at the progress the School has made, it’s a reasonable success story and I don’t see anything that argues it’s going to stop. We really need the support of people that make the rules on campus. We are part of Dartmouth College and we are bound by many of the decisions they make. We are also subject to their identifying issues that are important not only to Thayer School, but also to the College and how they plan to respond to them. I mean, we’re not an island.

BURNS: Has that relationship with Thayer and Dartmouth College and I guess with--you were once known as the Associated Schools. Is that correct? Tuck, Thayer and the Medical School were the Associated Schools and now the Professional Schools?

LONG: They’re all regarded as the three Professional Schools.

BURNS: Right. But they once were Associated.

LONG: Yes.

BURNS: Has the relationship between those schools and Dartmouth improved over the years, would you say?

LONG: I think the relationship between Thayer School, Tuck School and the Med School is stronger now than it has ever been. Well, there may be spikes along the way; but if you compare it, say when Myron came and with where we are now, the change is unbelievable. Everything is an order of magnitude bigger. Tuck and Thayer had their financial concerns but they were dwarfed by those of the Medical School. This difference was the basis for the Trustee decision to separate the consideration of Tuck and Thayer from consideration of the Medical School. Thayer was faced with showing

that it could be a profit-making center. Not profit measured only in money but measured also in terms of reputation, involvement in the outside world, and participation in College activities.

BURNS: And that was really the critical issue while you were Dean.

LONG: I think so. At least, that's why I decided I would try to contribute to or remedy or whatever you call it.

BURNS: I think it was very early on that John Kemeny--very early on in his presidency--that he said he wanted to see Thayer go off on its own financially-wise. Is that correct?

LONG: Yes.

BURNS: So it certainly...

LONG: That was tub on its own bottom philosophy.

BURNS: That was given to you on your platter when you accepted the role of Dean, I guess.

LONG: One of the first things I did was to find out how Thayer had fared in the Third Century Fund. Not too well. Gifts had been made by Thayer alumni and were maintained in a College account until a decision was made as to their use. We wrote to every one of those Thayer donors and asked if they approved of the transfer of their gift to Thayer School for student support. Most said yes. I think that this transfer brought Thayer's endowment to about \$300,000--at least it was a start.

BURNS: One question I guess I forgot to ask was were you surprised when John Kemeny decided to resign?

LONG: Let's see. When did he resign?

BURNS: He might have announced it in 1980 and resigned in '81.

LONG: What I'm searching for is whether John's resignation was in response to policy, or was it the time to retire had arrived. I was appointed for three four-year terms. On reappointment into my third term Rieser said it was unusual. So it would seem that the norm was 8 years with possible excursion to twelve. Myron had two four-year terms, Hutch had 10 years. So somewhere around the second or third four-year term, the incumbent starts to think about retiring. John

served eleven years, so I would assume retiring would be in his near term future.

BURNS: So Kemeny decides to resign and they start a Search Committee and Dave McLaughlin comes out of that. He had been Chair of the Trustees. Were you surprised that he was the candidate that they announced?

LONG: No. I don't think so. He has a very impressive resume. He certainly was a decision-maker in industry. You should talk with Dave Lilly [39] to get another review. I am confident that I was not surprised and that I was supportive, I am not certain that I was enthusiastic.

BURNS: Did you have particular concerns?

LONG: No. I just felt that it would be better if the appointment was to someone from the outside.

BURNS: I think that's about all I have for questions. Maybe the last one I would have would be, is there any way that you would summarize your years as Dean at Thayer, your significant accomplishments?

LONG: Oh, I hate that way to end a talk.

BURNS: If you would rather take a pass, that's fine.

LONG: I guess the thing that I feel I may have made the largest contribution to was the respect in which Thayer School was held after I got through as compared with before I started.

BURNS: Respect on campus and beyond.

LONG: Both. I think beyond campus, more schools, more deans knew of us than had previously been the case.

**End of Tape 3, Side A -- End of Interview**