

**American Meteorological Society  
University Corporation for Atmospheric Research**

**TAPE RECORDED INTERVIEW PROJECT**

**Interview of Richard Reed**

**Interviewer: Earl Droessler**

**September 25, 1990**

**[AMS-63]**

DROESSLER: It's Tuesday morning, the 25th of September, 1990, and I'm at the University of Washington, in Seattle, Washington, in the office of Professor Richard J. Reed, Professor in the Department of Atmospheric Sciences at the University of Washington. This morning Dick Reed and I are going to talk about the development and expansion of the atmospheric sciences.

We're also going to talk about the American Meteorological Society, and how it grew and the role that it played in helping our atmospheric sciences to grow to where they are today. We'll concentrate for awhile on the year or so that Dick was the president of the AMS, and ask him to recall some of the issues and problems that his administration faced during that time.

Good morning, Dick, it's nice to be here with you. I'd like to begin our interview by asking you a question about how did you first become acquainted and become involved in meteorology.

REED: Well, it's a pleasure to have you here, Earl, and to discuss these matters with you. As far as my entry into meteorology goes, it was rather a strange one. At the outbreak of World War II, I was working in a factory trying to earn enough money to return to college. I had had one year as an accounting major, of all things, at Boston College. But I ran out of money and I had to go to work in a factory. In December of that year the war broke out, Pearl Harbor occurred, and like many young patriotic Americans, I immediately signed up for the services and chose the Navy as the branch I wanted to serve in.

In January, '42, I was sent to boot camp at Newport, Rhode Island, and then at the end of the boot training, I was given a list of possible specialties I might want to work in. This was the beginning of the war; everything was wide open, they didn't tell you what to do, they gave you full choice, and I saw on that list something called aerology, which they told me was meteorology. I'd always been fascinated by the weather and loved it, and I said that's it, and they said fine.

At that time the Navy training—and I was not commissioned, I was just an apprentice seaman,

twenty-eight dollars a month at this time—but the standard training was for an aerographer was to go to Lakehurst, New Jersey. But being the beginning of the war and being flooded with recruits, they couldn't send everybody, and so they sent me across the Narragansett Bay to Quonset Point Naval Air Station, and told me I'd have to learn on the job from the young officers and the chiefs and so forth there. And I'm eternally grateful for that, I never went through some sort of rigorous, deadly program. It gave me the chance to just dig in and do it my way; I just read the books as fast as I could. I think Blair was the name of that old standard beginning text at that time; it was an excellent book for its day. The young officers were very encouraging; my chief, Al Lewis, was just wonderful to me. And so I just became absolutely imbued with meteorology, in love with it in no time at all.

DROESSLER: So you started taking observations and making entries into logs and things of that sort?

REED: Well, I mean I used to plot so fast, Lewis used to call it "chicken scratches" on the map, but I think—I always claimed I never met an aerographer that could plot a map. I could go so much faster than a teletype. I was just sitting there waiting and waiting, and yeah, so I did the plotting, I did the observations, and took the pibals. You know, the wonderful thing about that era was you were in the forecast line a month or two after you got into the service if you wanted to. If you really wanted to pitch in, they'd say okay. Nowadays in the Weather Service, you'd have to wait two or three years before they'd allow you to do these things. I just jumped right in and got on the forecast line as well.

As I said, this began in January of '42, and I rose up to the rank of, I think aerographers mate, First Class, the next thing then would be Chief, but about that time I heard that they were looking for recruits from the—from within the service to go into the officer's program in Annapolis. and this sounded like a wonderful way for advancement. In a way I didn't like it, because I didn't want to leave meteorology, but there were aerological officers, I was working with them all the time. So, I was—I think it was May of '43, about, I then was sent down to Norfolk, for a brief training to take the examinations. To get into—to get selected from the fleet, they called it fleet appointments, to get selected you had to take an examination and the top people were selected and the others were out of luck. I went down to Norfolk, and studied for the exams and took them and evidently did well enough so that I was accepted for Annapolis. Just shortly after that went up to Annapolis. To get into Annapolis you had to pass a physical, and I was in excellent physical condition and I had very good vision, easily exceeded 20/20, but in those days they used to shine a light in your eyes and look for astigmatism, something they would never dream of doing today. But they did and they found that I had astigmatism, which they said that at some time in the future I would have diminished eyesight, which of course was proved true, but not serious at all. It took years and years and years for it to appear, but anyhow, I was rejected at that stage because of astigmatism. And since I had no great desire to be a naval officer, or just a regular line type of officer, I was somewhat relieved, and then I was overjoyed when they said the rejects were going to be put into the Navy B-12 program, and sent to some university for officer training. I was doubly overjoyed when I found out that I was to be sent up to Dartmouth, at Hanover, New Hampshire. I went there for a year. During the year, you could do a year-and-a-half of academic studies, so I had a year at BC, I was two-and-a-half years along on a degree

by the time I finished up the year at Dartmouth. Then at that stage, they had a program for training aerological officers, and they did that at either MIT or at Caltech. So I applied and I was selected for that.

When I finished my training at Dartmouth, it was time to send people to Caltech rather than MIT, which was much nearer, and I got on a train and headed out for, what I always thought as the land of milk and honey, and began at Caltech, I would say in July of 1943.

DROESSLER: You were already on the way to see the world.

REED: I was on my way to see the world.

DROESSLER: What were some of the professors out there at Caltech? Irving Krick was in charge of the department; was he there at that time?

REED: Irving was in charge, but he was off winning the war, as he alleges. He was in the Air Force as a Colonel, and so he was in Europe somewhere, and the department was in the hands of his assistants, mostly very unknown people. I wouldn't even mention their names, but the actual teaching of the demanding courses, like the dynamics and physical meteorology, and like that, were done by the Caltech faculty. So I had Beno Gutenberg, a very famous geophysicist, as the professor in physical meteorology, and another brilliant man, Homer Joe Stuart, in dynamic meteorology. He wrote the section in "Dynamics" in Beers, Berry & Bollay, whatever it is. And so came in contact with outstanding professors, even though it was Krick's department. I stayed there for a year, and again you could do it in a year and a half, in a year. When I was done I had a degree in meteorology from Caltech. That was 1944.

After that, you went through a similar experience in B-12. You had to go to midshipman's school, and I was sent to midshipman's school, at—no, I'm sorry, it was 1945, '43-'44 at Dartmouth, '44-'45 at Caltech. I finished up in the spring and was sent to Notre Dame to midshipman's school. And I'll always remember while I was there in midshipman's school, the war ended. I remember the enormous celebrations, at least the war—yes, the war ended then. And there on the streets of South Bend and nearby places we had these marvelous celebrations as the war ended.

DROESSLER: But you finished up at Notre Dame in midshipman's school?

REED: Yes, I finished up and got my commission as an ensign.

DROESSLER: As an ensign?

REED: Then of course they didn't let you out of the Navy right away. They assigned you to some post and it was going to be some distant overseas post for most of us, and one of our classmates had the gall to call up Gutenberg and tell him, hey, all your old boys are getting sent overseas or some distant place, the war is over and they got to let us out pretty soon, muster us out, why are we getting sent to distant lands. So Gutenberg did something. You couldn't picture

a man like him having any influence in the halls of power, but he did something, and we were all assigned to the nearest Naval air bases. I went back to Rhode Island, to Quonset Point for awhile and some of the outlying stations, and finished off my tour there and then got up to JG by the time I got out.

DROESSLER: One of the things you may not know, and I happen to know this because I did a tour of duty at Captain Orville's office, is that Beno Gutenberg and Captain Orville were quite close.

REED: Well, now you've told me why, because—

DROESSLER: And Beno Gutenberg and Father Macelwane, in St. Louis, two of the most outstanding seismologists in our country were being supported by the Navy, with the encouragement of Captain Orville, on this microbaric detection and tracking of severe storms.

REED: So that explains—I never had any idea how Gutenberg could pull something like that off, because he was not that type of person.

DROESSLER: So he probably called Captain Orville.

REED: Oh, he called somebody, there's no question that it came out of that.

DROESSLER: So then you were mustered out of the Navy?

REED: I was mustered out of the Navy in the—I suppose then that would be the spring of '46 or something, sometime along in there. I took it easy all summer. Then I knew that meteorology was to be my career. There was absolutely no doubt about that, and so I applied to MIT and was accepted there for the fall of '46.

DROESSLER: And there you had some interesting faculty members too, I'm sure?

REED: Oh, yes, a wonderful faculty at that time: Henry Houghton was the chairman, one of the great figures in AMS history. Bernhard Haurwitz was the professor in dynamics, he did leave to go to NYU. And Victor Starr then became his replacement. Jim Austin was in charge of the synoptic program and he was a wonderful mentor to me.

DROESSLER: So, after you received your Ph.D., then of course you were looking around for a position in the universities, and where did you go?

REED: Yes, I stayed for a—let's see, I finished up in '49, and I was on the Sc.D., program, which they tried really to get you through, a Doctor of Science, they tried to get you through it in three years, which I succeeded in doing. I was afraid not to. Actually I stayed at MIT on the research staff for five years. just looking, some of the time supported by the Navy. Max Eaton used to come up and look over our work. And one reason was the wisdom of Henry Houghton. Every time I'd get an offer (and I'd get them), I'd take it to Henry and I'd say should I take this.

And for many years he'd say, no, I think you ought to just hang on, this one doesn't have enough early state support or something. You know, you got a ten percent professorship, or twenty percent professorship, you wait for something better, and I was never more astonished then when I got the offer from the University of Washington, and took it into Henry, and he said, now this sounds like something worth considering. I thought, well, it must be if Henry says so, so then I began negotiations. I flew out here and looked over the department and—I'd met Phil Church. It started because Phil had come to a meeting that I had attended—I think it was in St. Louis or someplace, and he had contacted me then and we had talked a bit and then it picked up from there. So, Henry said this is—he was a wise man, he said this is the department that really may take off. it was a hundred percent supported from the state, your salary was secure—

DROESSLER: So you were here quite near the beginning?

REED: 1954—no, see, when the department started, what, '47, '48 or something, Bob Fleagle was here ahead of me, Frank Bagley, Conrad Butener---

DROESSLER: I see.

REED: And I replaced two synopticians, they had two, because synoptic programs were big then, laboratories all afternoon, every afternoon, so you had to—and teaching the courses, you had to have a couple of people, and both these people lacked PhD's. They wanted them to go back to school to get them, so they had to replace two men and I was innocent, I didn't know what was going on, I took the job. But it wasn't too burdensome. It was not something that a young man would accept nowadays; they'd feel that they were being taken advantage of.

DROESSLER: Dick, we'll leave you at the University of Washington now for awhile where you had a long and distinguished career, and we'll just move back for a little while to your student days at MIT, and your very early associations with Ken Spengler and the American Meteorological Society. This was about in the middle of the 1940's, I presume?

REED: Actually the late 1940's. I remember as a student there being introduced to this young man, Ken Spengler, who was the—maybe they just called him a secretary at AMS then. He became executive director, but he was visiting MIT at times and as I found out, it was because the Society was being rejuvenated then under Rossby and Houghton's leadership. Ken had been selected as being the secretary—really the executive officer of the Society. In some place in that process in the late forties, he invited me and I'm sure some of my fellow students, over to be ballot tellers. Every year the ballots had to be counted by people that both knew how to count, and could be considered reasonably honest. We were always glad to do this because Ken would take you for a nice dinner down at—a lunch, not a dinner, a nice lunch down to Tatton's [sp.] restaurant; they had the greatest Boston clam chowder you could land. So that's where I first got to know Ken, over at 3 Joy Street, counting ballots, and that was the beginning of our long friendship.

DROESSLER: And then later on of course you became active in the Society through, probably through some of its technical committees or other assignments?

REED: Yes, the first one I served on amazingly was the Ad Hoc committee on Radio and Television Weathercasting. This was when AMS was setting up the committee on the rules.

DROESSLER: That is interesting.

REED: That was because while I was at MIT I was doing an early morning broadcast from my home on a Quincy, Massachusetts, station.

DROESSLER: A radio station?

REED: I was forecasting six days a week, in the morning, before I went to work. I must have been young and energetic then. You had to get up at the crack of dawn, assemble the reports, and then—

DROESSLER: You were one of our early radio casting stars then?

REED: Well, I don't know if I was a star, but I was in it, and so amazingly, the first thing I was asked to serve on was this ad hoc committee, which I believe Francis Davis from Philadelphia was Chair of. He was an older and more experienced man, but we sort of set up that structure back there in that period.

DROESSLER: Did you consider the examinations that had to be taken by the radio and TV casters—

REED: Well, nothing was done at that time as far as examinations went. I think we had set up certain standards. But during my presidency I actually became involved in the exams because there were some changes made there: where to get the Seal of Approval of the Society, I imagine—we'd have to check that out. I don't remember if the Seals of Approval were set up way back then in the early fifties, I'm talking about, or not. But anyhow, by the time I was president in the early seventies, or president-elect, there was this program to get the Seal of Approval. The rules were made more stringent, so people without a proper academic background could not get it.

And some of these people came to me, particularly at a meeting in Salt Lake City, and they said they thought this was unfair, that they had been doing a responsible job for years, and learned a lot of meteorology in the process. I inquired, you know, about some of these people and found out indeed they were very well regarded by the meteorologists in the area. So I was responsible for writing the rules which allow an experienced telecaster, who doesn't have the proper academic background, to take an examination. If he passes that examination, which shows a reasonably good knowledge of meteorology. Then even though he doesn't have the academic credentials he or she can have the Seal of Approval and display it. I've known a number of meteorologists that have done that, including one here in Seattle, who was trained in the Ministry. He had a degree in divinity, and—which gave him a special connection to the

heavens—but he became the weathercaster at the station and got very interested in meteorology, and came over here and was tutored by some of the advanced students. He took the examination and passed it and he now displays the Seal of Approval here on the Seattle TV station that he broadcasts from. So I did have a connection again at that late time, but I don't think we set up anything in the way of examinations back at that early time.

DROESSLER: What you're talking about of course, is the growth of industrial meteorology within our profession. Certainly there the American Meteorological Society played the key role, I think, in promoting and sponsoring and nurturing industrial meteorology in all of its aspects. today we see this as perhaps the most robust part of our profession now, with many of our young graduates moving right into the industrial community and being hired by firms and appearing on television and radio and so forth, and commanding some of the best salaries that are available in meteorology. so it's interesting to know that you had a very early connection with that development within AMS, that others like Houghton and Orville and Spengler, to name just a few, encouraged so much.

REED: Yes, I think that was very farsighted. I can't say that I could have begun to envisage where industrial or private meteorology would go. I certainly couldn't, but I did at that early stage meet people like John Wallace, who was a very outstanding private meteorologist, and Haller and Crow at times had connections with him. There was that group that believed in promoting private, or industrial, meteorology in a responsible way, and I think that's been wonderful for the profession. But I can't claim any great wisdom there. I just never would have dreamed that we would be where we are today.

DROESSLER: Many of our activities in life are kind of coincidences, you see, and they are tied together in some ways and sometimes they are almost hidden from our eyes. But the fact that you were an early morning radio broadcaster; it brought you to the AMS to serve on that committee. Now, there are many other committees and boards and so forth, that you served on within the AMS. Would you mention some of them?

REED: Yes, I was on the committee in forecasting at a fairly early time. I've served on that, in fact many times, including fairly recently—I don't believe I'm on it, no, I'm not on it at the moment, but I have been within the last few years. and I've been on the publication commission, been the chairman of the publication commission. been associate editor of many of the journals. And for one spell was the head editor of the –of course now it's renamed, it was then The Journal of Applied Meteorology, but I did a stint as editor there. After all these jobs, I went on to become a councilor and then eventually was elected to the presidency. of course I've served on awards committees and many ad hoc committees of different sorts.

DROESSLER: Now, before we discuss your years as president-elect, president, and immediate past-president, you mentioned that you were at an early date on the AMS weather forecasting committee. then there you were very well aware of I'm sure of the dichotomy between the practicing weather forecasters and the U.S. Weather Bureau and the research and scientific efforts which was mainly a vested in the universities. would you speak a little about this trouble spot within the AMS, which has been there for many, many years, and how we were able to

handle it with AMS, to sort of keep it all together, and to—I think to the profit of the entire field?

REED: Well, that's a major issue to speak to, perhaps the major issue within the Society. And you could describe it as a trouble spot. I don't think it was a trouble spot when I first came into meteorology, but it became increasingly a trouble spot and I think it remains one today. I don't think we're in the worst phase at the moment, but it's been a long festering sore, and I wish I could have some real wisdom in this. I've had to rethink it lately because there is this, what do you call it, Strategy 2000 or something program, that Jim Mahoney, the coming president, has set up, where we're looking at the AMS and where it's going and what the issues are.

And he wrote to some of the old timers like me, asking us to comment on the issues. I certainly singled that out as a major concern. Actually at the beginning of course I came out of forecasting and I was very closely allied to the forecasting side of the Society. Here in Seattle, or wherever I was, I knew the Weather Service people intimately, and the like. So I considered myself very much a representative of that community. It was the dominant community within the Society. Remember, back in those days, forecasting was the dominant activity of the society and even of many academic curricula in the forties and coming through inertia into the fifties.

DROESSLER: It was a dominant activity of our profession. you see, it was the place where we served the society generally.

REED: But of course theoreticians are sort of quiet and polite, and they never complained too much about this back in those days. In your academic training you had to take dynamics courses from people like Haurwitz, but you didn't consider that had much to do with day-to-day meteorology; you valued the scientific knowledge. But that was in the background, and furthermore, research hadn't become very big. Remember, it was only during the war that money started to get pumped into atmospheric sciences research—

DROESSLER: And after the war?

REED: After the war, in fact, through the ONR, the AFCRL, and what did they call it, the GFD or something, that was the Air Force, and then the National Science Foundation, as you're well aware, was founded. Then the research money started to commence. So you must realize that still in the Fifties, meteorology was forecasting, there wasn't this tension, it hadn't had a chance to develop yet. But then as meteorology became more scientific, and research began to play a larger role, then you began to have two camps: the forecasters and the academic research community. Now, for a long time there wasn't any real tension there. I can give you an example: Chicago, where Petterssen worked closely with the forecast group there, Means and some of those other people—

DROESSLER: He actually brought on the campus there, at the University of Chicago, Joe Folks and the Chicago forecast office?

REED: Sure. So you know in those days there was a working relationship and I—that changed a lot. But I don't blame any human being for this—that's because of the way that the



science progressed. In those days theory was sort of something apart. You could very rarely apply it in any really good, direct way, you'd like to know it, but you just—it wasn't very useful to you. So somebody with the stature of Petterssen could work with Weather Service people in a very profitable way. But then two things happened: the science advanced tremendously rapidly, there was enormous progress made as a result of this research support. And furthermore, technology intruded to an enormous degree. Suddenly computers came in and started taking away all the jobs that the forecasters didn't love. You know, I didn't mind plotting a map, and you didn't mind dreaming up a forecast—it may not have been any good, but you sure were convinced it was good when you gave it out.

So what happened? In the sixties, and particularly the seventies, the Weather Service more and more put its bets on technology. They had to, they were right. But what did this do to the morale of the forecaster? He had been king before, and now he was playing a subsidiary role. This was psychologically very damaging. And I do think people in positions of authority, certainly Bob White, but later Dick Hallgren, and people like that were well aware of this, and tried to take it into account, tried to do things to make these people content with their lot. But it wasn't possible, and so some stage in there—was it in the seventies or early eighties that the National Weather Association was set up by essentially disgruntled Weather Service employees? They just didn't feel the attachment to the Society that the people like Joe Folks and these—Dardon [sp.] and all these old timers felt. These Weather Service leaders were devoted to the Society. This new crop didn't even feel part of this, and so they set up their own activities. Not all of them, there are still very important Weather Service people that are in the Society and active in Society affairs. And there are forecasters who take part in meetings, there are forecasters that get our awards. We do things to show our concern, and lately we've done some wonderful things, like I think starting Weather In Forecasting, was a—

DROESSLER: A new journal?

REED: Yes, and Lou Uccellini has done a super job—

DROESSLER: Because that was one of their particular gripes, was the fact that the journals of the American Meteorological Society were not pertinent to them?

REED: That's right, because their profession had gotten too advanced and specialized. It wasn't the fault of the researchers, this is the way that it had advanced. So a person without a Master's degree couldn't even hope to tackle the average article. And a lot of them you needed a Ph.D., and even then unless you were a specialist in the area you couldn't fathom the article. So, for a number of reasons the forecasters felt left out, and not part of the society.

DROESSLER: Were you, during this period of time, were you ever associated with the National Weather Service, ESSA, NOAA, in advising them on how best to retrain the forecasters and put them into the mainstream of the Service and work with the new technology? I wondered if you were ever called upon to do that?

REED: Strange as it may seem I never became involved in any of the educational activities,

I understand that people like John Cair, for instance, were consulted at times. I did get invited to meetings, for instance, by Dick Hallgren, where these issues were discussed, and got up, and they just served on panels and gave little talks about where the profession is heading, and the problem with the forecasters. Dick had me in charge of an ad hoc committee that looked into what could be done by the AMS in the publications area, to better serve the forecasters. I chaired such a committee. The other members were Weather Service people. I met some real fine guys there, we got on great, we wrote a report. Len Snellman was on there. Of course Len has been a major figure in trying to bring the forecast community and the academic communities together. So we did this at Dick's behest and he was president of the AMS, and he promptly ignored our recommendations, and rightly so, and set up Weather Forecasting, which is a very daring thing.

Snellman was on the committee. We thought that was too much to recommend, a new journal, we were leery about that, we recommended many measures to be taken within the publications we had. But we felt that was going too far, and when Dick got it he just ignored it all and asked Len, who had been a major figure in the committee in deciding our strategy. he asked Len then to be the new editor, I think with Bob Burpee, and Len accepted, and I think this has been a very valuable thing.

DROESSLER: I do too. I think it's been a real healing effort on the part of the AMS and the forecasters now and those who are working out there serving the public field to have a publication which they can correspond with, and they can read and that's really a part of their everyday life.

REED: Yes, I don't know where this is all going. I think it would be a mistake to think we licked the problem.

DROESSLER: I do too.

REED: Because there are two very definite camps. There's one, including some of my academic colleagues here, who feel that we should be a scientific society, and you can't have a scientific and a professional operational society under one banner. We should recognize that, and just say goodbye to the forecasters. This view I first heard espoused by Phil Abelson, when he was on the council, another one of the wise men of science. But Phil, who was more attached to the AGU, felt this strongly. He said, what do you people waste your time with all these forecasters for, just get rid of them. Maybe I'm talking out of turn here about some of these things, but this happened when I was on the Council or was president. I think it was probably when I was on the Council, but there were people like myself—I really, and certainly in those days, fought back strongly. I felt that if you really wanted the knowledge to go to good use, you had to keep the two groups together. And most people on the Council certainly felt that way, and so we tried to keep the two together. But that was before this sort of super-technological computer era that was just coming in, and then this was exacerbated tremendously by these changes.

DROESSLER: It's interesting that we have been able to keep another of a very broad

spectrum of the practicing meteorologists--the radio and TV broadcasters-- very close to the American Meteorological Society. they feel very much at home--

REED: Yes, never any problem with them, it's quite amazing.

DROESSLER: Part of that I think was due to the fact that the way that that situation was handled, and I give a good deal of credit to Ken Spengler—

REED: I give him credit for everything—

DROESSLER: —the way that he worked with and always had uppermost in his mind, you know, consideration for this growing group of practitioners out there.

REED: Ken was a marvel, of course. I think he's the greatest executive director a scientific society ever had, in many, many ways. But one thing about him was just what you described: he was equally at home with all the different groups in the society, whether it was radio, TV, the industrial people, the forecasters or the researchers. He had the respect of all of them, and the confidence. And he was a marvelous influence in the Society. So you could never blame Ken for this division developing. I think he was upset by it, but was unable to prevent it.

It's still with us today, of course. I have some very strong ideas on this now, and I guess many people agree, but they say it can't be done. I really believe that forecasting in this day and age should be a Master's level profession. You know, it's satellites, radar, all the new technology, the computers, the sound mathematical and physical basis of the science today, why do we just want a guy that can—that's a weather buff, that wants to come in and guess at the weather? He should be a really top trained professional. Now, if they could do that, raise this level, the problem would, I think, go away.

DROESSLER: That's right.

REED: The people would feel comfortable back in the society.

DROESSLER: That's right. It certainly would go a long ways---

REED: ---go a long way, nothing could completely cure it---

DROESSLER: ---bridging the gap, you see, between the scientific and the forecast community and if—as you say, if the Master's degree became a journeyman's degree for becoming a forecaster—I think this is what Bill Bonner and his group at—in Boulder—are trying to do, under the aegis of UCAR?

REED: The COMET thing, everybody agrees about this, but the real problem I think is Civil Service, and like that. it's not that the leaders in the Weather Service wouldn't want to do it, it's the opposition they meet through the Civil Service, at least that's my understanding of the problem. and it think it's very regrettable. I just think there should be a strong statement by a

group of leaders that the time has come for this.

DROESSLER: What does COMET mean, do you know?

REED: Oh, yes. I, as a UCAR trustee have been involved—or been present at its foundation and it's—the “MET” is Meteorological Education and Training, it's a committee or program or something---

DROESSLER: Center? Center for Operational Meteorological Education and Training?

REED: ---Center, probably Center for Operational Meteorological---

DROESSLER: Is the idea to bring the forecasters back into the educational stream and update them?

REED: Yes, in limited degree, because the new technology that's coming on now, the Doppler radars, and the NEXRAD system, the profilers and other things that are just new and unfamiliar tools. even the experts don't know too well all the operational implications, although there are a few people that have gained a lot of experience with them. but certainly the forecasters now have to be trained in the use of technology that's unfamiliar to them, and they have to deal with, more and more with mesoscale and convective type systems, which they perhaps only had limited contact with during their education.

DROESSLER: Following your logic then, it would be appropriate, if it could be worked out, for the COMET trainees, you know, to also be offered the opportunity of earning a Master's degree at some university?

REED: I rather think that most of the people that first take part in the program will be at that level, because they cannot send the whole body of forecasters, that's out of the question. they have to select sort of a lead man from each office that then goes through the program and comes back with materials and the knowledge and so forth to work with the other forecasters locally.

And maybe eventually more and more would go through the program, but certainly in the initial stages it will just be selected forecasters. there has always been forecasters that have held Master's. some of our very good Master's students have gone into the Weather Service and become meteorologists-in-charge and things of that sort.

DROESSLER: The fact that UCAR, the University Corporation for Atmospheric Research, is the umbrella institution for carrying on this common program, I think, is another clear signal to the forecasters that the research community is willing to extend itself to help them to accommodate to the new scientific research findings and the new technology.

REED: Oh, yes, it's that. It certainly represented a departure from earlier UCAR goals, because that's the University Corporation for Atmospheric Research, not the training of operational forecasters. And I would be less than frank to say there was a lot of debate within the

trustees over this issue. There are many, well, not many, but some trustees felt that if the Weather Service had handled its educational programs properly over that preceding decade that there wouldn't be a need to come to a research group to take over.

But we were told by the Weather Service that there was no way of giving proper training without this help, for various reasons, that they just couldn't—that the situation had gotten out of hand. So then UCAR did step in and they were exceedingly fortunate in getting someone of Bill Bonner's caliber to take on the program. They've got some good things, we've got a little—Cliff Mast—Professor Mast here has a little grant under COMET. and the thing that I like about it most of all is his contact at the local office is a Ph.D. who is in Boulder, at the research labs, and was sent here to be sort of the intellectual leader of the local forecast office. So we have a man that we can talk to, and quite frankly, I was worried that this might not happen. I'll be frank in saying that the average forecaster is not sufficiently trained to be on the same wavelength with the typical academic person that's interested in forecasting on the practical end. But here now in Seattle this situation doesn't exist; we have the proper type of man.

DROESSLER: I'm happy to hear that you have a bright outlook when it comes to solving this question, and your bright outlook I think is measured by the need for improved education.

REED: Well, I don't know if I have a bright outlook. I've been horribly frustrated at times, but then when Jim Mahoney wrote and said discuss issues and things, and I had to think this again, I felt that I was back to my old position of years ago that it would be a terrible mistake to break the society in two, and that we should work at bringing the two elements closer together. But education was the key to that. People have to be on the same wavelength, right?

(Break in tape.)

We're concluding this sort of discussion of the dichotomy within our society between the forecasters and the researchers and what must be done to heal and improve this situation and my own view. I think I stated this already, is that the single most important thing is to upgrade the professional level of the forecaster: a Master's degree—maybe not a true, sort of three year's research Master's degree, but some sort of a Master's degree that introduces the forecaster to advanced concepts. And particularly that reDroessler:uires that they have the capabilities to be accepted into a graduate program, I think that's very important. I think this is the thing that we need most of all. Because then we can talk together and work together more comfortably and easily.

DROESSLER: So you're suggesting that we have an educational program which would restore their self-esteem and their self-confidence, which they've lost a great deal of during these last decade or two?

REED: Yes, but of course we've got to continually reinforce our concern and interest in forecasting and the practical problems. Of course I think weather and forecasting went a long way there. And of course our recognition awards every year, but I don't think we ought to just sit back and do nothing. We've got to continually be aware of the fact these people have a need, and

we've got an obligation to fill it.

So I think if we have an educational upgrade and are continually sensitive to their needs, that the situation will improve. I think people are used to the technology. I really think that it was technology shock, particularly computers, that really caused the problem. And the new generation of forecasters--

### **End of Tape 1**

### **Interview of Richard Reed**

### **Tape 2 of 2**

DROESSLER: Now, Dick, you mentioned the initiative of the present AMS president, Jim Mahoney, the strategy for the year—for the Century 2000, and you have a role that you played therein, and you have a response to that initiative, and if you would just talk about your reaction and your response to this initiative where the AMS is trying to reach out and grasp the future?

REED: I wrote the letter awhile ago, so I can't be sure I remember exactly what I said, but I certainly highlighted the importance of, in my view, maintaining the forecasters and the researchers within the Society, to not let the Society split, but we've covered that. The next point I'm sure I made was that the Society in the past and now, and I think even in the future, exists primarily for scientific or scientific-related communication, so the journals and the meetings are always have been and I think will be the primary activities of the society.

Perhaps I did remark then having looked over my overloaded shelves that the journals are becoming a problem, because there's so many. And they're becoming thicker and thicker that one couldn't continue indefinitely this old way of subscribing to a journal and collecting them, and that I thought that modern technology somehow had to intrude here. I'm sure many other people have said this and said it better, but we do have this modern, wonderful electronic world and I think we've got to face up to the fact we cannot continue handling publications in the old way.

The other thing I'm sure I noted was that forecasting, although it will remain a major activity of the Society, and will continue to grow because of the interest in mesoscale meteorology, and because of the new technology we have coming on to forecast convective and mesoscale type of events, it will remain a major activity of the society, indefinitely. But increasingly the part of the Society that is concerned with environmental concerns, global change and the like, will play a bigger and bigger role. We've seen atmospheric chemistry suddenly become a new major branch of meteorology because of this.

But more importantly we see that we cannot tackle these problems just solely as meteorologists or atmospheric scientists. We have to work with oceanographers, ecologists, biologists of

different sorts, hydrologists; there are other communities out there that we have to work with closely. So we see that coming, and I don't know exactly what that means, because I've always felt that if the Society loses its identity, it suffers. If we just rushed into becoming part of global change society or an ecology society or something like that we'd pay a penalty. As long as we can maintain a separate important identity we should. But at the same time we should welcome the meetings, or other types of arrangements or shared journals, other ways we should welcome working with these people. It's the future direction of our Society. And that's without saying we're going to abandon forecasting. That will remain as important for decades, but this other area will grow and grow and we'd better be ready for it.

DROESSLER: Well, thank you very much for these succinct comments on where we are as a Society and where we may be moving and the importance of keeping our horizons open so that we can collaborate with the necessary scientific and technological communities that are out there in the future for the benefit of the opportunities that we have to work with the global problems in meteorology.

Let's just be reflective a little bit now and take ourselves back in the American Meteorological Society to the days of your leadership, your special leadership, when you were elected by your colleague members to be the president-elect and then the next year would be the president and then the following year the immediate past-president. What was it like at that time, and what years are we talking about, it was something in the seventies, isn't it?

REED: I was president-elect in 1971, president in 1972, and at that time that I became president the society was in a healthy state I feel, I served on the council in the late Sixties. We were running along smoothly then under the leadership of my predecessors and Ken Spengler's wonderful background, leadership. I remember to a large degree it was a very routine job, it was a lot of busy housekeeping, journals and awards and many things like that that came up. So that when I started reflecting on what were the really special events of my presidency, I came up with three issues and only one of which I can claim any innovative role in, and that first one was the visit to China in 1974, which started with a letter I wrote on behalf of the Society in February of 1972, so the whole China visit established a relationship with China, with Chinese scientists coming here and eventually of course, students coming.

DROESSLER: That was a marvelous breakthrough for the AMS to pioneer!

REED: Yes, we were really pioneers.

DROESSLER: We were one of the first scientific professional societies to be represented in the new opening up of China?

REED: We might have been the truly first scientific society, I'm not sure but what the American Federation of Scientists sent a delegation shortly before us. But in terms of societies like a physical society, mathematical, chemical or anything like that, I think we were the first to go in.

DROESSLER: Well, thank you for writing that letter.

REED: That was in February of 1972. We didn't receive the invitation until September, 1973, and we didn't go until April, 1974, which made for a lot of fun, because by the time we had went, we had gone to China, we had had the president that wrote the letter, then his successor, who had maintained the contacts, the correspondence, and that was in '73, but then by '74 when we went, we had still a new president and then we had a president-elect, so I think the Chinese started out expecting one president to come, but then they reconciled themselves to having two, but by the time we went we had four and Ken Spengler, who of course you couldn't leave out, he was---

DROESSLER: Why the four, there was yourself and---

REED: Will Kellogg was my successor, then Dave Johnson was his successor, and Dave then was the leader of the delegation because he was president then. And then Dave Atlas was president-elect, and so Dave then went too, and Ken, and our wives.

DROESSLER: Yes, it was a marvelous event in the history of the AMS.

REED: Yes, it was a marvelous event and then I did—I didn't have much to show you, but I---

DROESSLER: And in the history of our country too really, it proved to be a very important opening wedge in our relationships with the—with our colleagues in China.

REED: So important I never forget the joy of receiving the letter. I remember my secretary coming in, in a state of extreme excitement, she says it's happened, it's happened. You can't visualize in 1973 what it was like to get a letter from China, with a Chinese stamp on it and so forth. This was a world that was apart, they didn't have any contacts except for the Nixon/Kissinger visit there in '72, so it was very, very exciting when that official letter of invitation finally came.

DROESSLER: Of course, in part, meteorology deserves such a position, because we had always been a profession that needed the resources of all the nations of the world and indeed our country was the training ground, the graduate training ground for a considerable number of Chinese for their sciences and their weather services.

REED: And very distinguished ones, yes.

DROESSLER: Yes, we had a rationale to this. Nixon and Kissinger were going to China in February of 1972, and contacts with China at the WMO had begun before that time. I don't know that China was into the WMO, but was in the process of coming in, and we knew that Kissinger and Nixon were going to open up some sort of relationship to begin to establish contacts. And because of the reasons you said, the international character of meteorology and the long history of fruitful international contacts we thought we should offer our services to Nixon. Our letter to him was written in February. I should have said right, it was written to



Nixon, it wasn't until August that we wrote to China, but we wrote to Nixon before he left and said that there was an historic record of contact between the atmospheric sciences in the different countries, and that he could mention if he wished to, to the Chinese he met, our desire to re-establish contact. In fact, we'd be glad to send the delegation there if this were feasible. And by that we meant we had looked into possible financing and we were prepared to pay the bill.

But then Nixon went, but before the month was over, we got the letter from the State Department saying that there were no official contacts. They were now encouraging private or unofficial contacts; they were very much in favor of that and they suggested that we contact the Chinese directly--for instance, Komojo, the head of the Academy of Sciences in China. They in fact gave us his name and address and they gave us the address of the Central Meteorological Bureau and said they weren't aware of who was in charge at the moment, we later got a name, and also wrote there.

But it was quite a delay, after we had considered and reconsidered and everything. It was probably—I think it was August of '72 before we finally sent the letter to the Academy of Sciences and their Central Meteorological Bureau. So the State Department in a way was negative, but in another way they were very encouraging, you got the tone of it. And they also said that we could write to the Chinese Embassy in Ottawa, which was their only contact. Of course there were no diplomatic relations between our two nations, and there were no Chinese in the US proper. But we decided against that. But then we did after we sent the letter, within a month we did get a letter from the embassy in Ottawa acknowledging our letter and saying it'd be considered.

But there was a long, long wait, punctuated only by efforts on our behalf by C.C. Chang, a professor at Catholic University, a native Chinese, who early was invited to return there and visit. And used the visit to talk about the Society and our desire to make contacts. He obviously was a powerful influence behind the scenes.

Did you ever know C.C.?

DROESSLER: Yes.

REED: We have to give him a lot of credit.

(Break in tape.)

To continue on with the story: Actually Ken Spengler and Will Kellogg went to the WMO Congress in September of 1973, and by that time the Chinese had become part of WMO, and they met with their representatives and were told that something was brewing. Then, just shortly after they returned and I got the official letter of invitation from Chi Nac Chow, called the vice president of the Chinese Meteorological Society inviting us, but there were no presidents of anything, everybody was a vice president because of their sort of egalitarian attitudes. He turned out to be a wonderful elderly man, wonderful. So he officially had extended the invitation and even added that the wives could come. And it turned out that they picked up the bill. Once we

left Hong Kong they paid for everything, for the five delegates and the four wives, and all we had to pay for was the transportation to Hong Kong and back.

In China we first visited Canton, and we started and ended there and then we went to Beijing, Shanghai, those were the three cities we visited. We were there for two weeks and were treated wonderfully, and our host was the current—called the president of the WMO—the WMO Council has a director or president, and the current one is So Ching Min, who in a sense—I think he's truly the head of the Central Meteorological Bureau. They now describe themselves as having a head of organizations. He's been very active in the WMO, and while we were there he was our host and he in turn led a delegation a year later, a reciprocal one, to the United States.

DROESSLER: At the invitation of the American Meteorological Society?

REED: Yes, at our invitation, and they accepted and so that again was a delightful experience. They came first to Boston---

DROESSLER: How many of them came?

REED: I think there were about five of them. I remember Professor Tao, who was a leading synoptician there that we had met.

DROESSLER: So they came first to Boston and then did they go to---

REED: Then they visited Washington, D.C. And I think they went down to Florida, maybe Miami. They went to a number of places, but I only was able to join them in Boston. But that opened up the relationship which then didn't go—that was '75, it didn't change much there for awhile until Mao died and then the Gang of Four were deposed. That completely changed the picture, and very quickly cooperative programs sprang up, students started coming. First some of the more senior professors came for short visits. We had that here very soon after the Gang of Four were deposed. So, it was a very satisfying experience.

DROESSLER: Thank you for recalling that and putting it back on the record. This is a very significant historical note.

REED: Did you realize there's a whole issue of the Bulletin that's devoted to this, with many pictures? Will Kellogg actually wrote the official account of the visit, a wonderfully written account.

(Break in tape.)

DROESSLER: All right, go ahead.

REED: The second issue I recall is rather an odd one. Maybe a lot of people want to forget it, but during my presidency we received a letter from some of our members in California. They

were in the Weather Service, protesting the broadcasts, radio and TV, of a gentleman named Harry Geise. He was a member of the Society, it turned out, and they said he was making exorbitant, extravagant claims, particularly in the long-range prediction fields, and they thought it was a black eye against the Society, and the Society ought to expel him. Thus began a lot of fun. We looked into it and indeed he was saying that he had forecast some rare snowstorm in California on a certain day and on his broadcasts he was making these forecasts for certain days, extraordinary weather events weeks and weeks ahead of time, or months, and so we went at this, at least I did, sort of zealously because I had never had liked that sort of thing. I think it's a black eye for the profession to have these people making these claims. We've always had this though...and of course if somebody is not a member of the Society there's absolutely nothing you can do about it, you just say nothing and do nothing. But Geise was a member and it didn't seem unreasonable for these people to request that he be told to cease and desist or be dismissed from the Society.

We looked into it, we actually sent our ethics committee chairman, I think it was Ray Booker, or somebody, I just forget for sure, to meet with Geise, and told him our position. But he had an interesting response. It would have been almost predictable if you'd come up against these things enough. He went on the air and started telling his audience about the persecution by the elitists and the other people that were jealous of his abilities and all this sort of thing, and this was astonishing to us. We were being very polite and just asking him to stop and instead he attacked.

So the question was well, what to do, and a number of us just thought let's just get rid of this fellow, but I suppose Dave Lander said, let's let wiser heads prevail and let's first get some legal opinion on this. Because, you know, before the sixties, before that, there was such a thing as professional standards and societies upholding them and even getting legal assistance on this. But then in that era of the sixties and seventies the picture changed a lot and there was this anti-establishment trend and then the accusation was always these people have the field sewed up and they don't want the other fellow to have his opportunity. If you did have these ethics rules, which were established in good faith, they were then turned against you, they would say this is the way the Society sort of perpetuates itself and advances itself for its own private purposes.

DROESSLER: And restricts commerce.

REED: And restricts commerce. Of course. I won't go into the torturous case we got in there. One of the disgraceful episodes in the Society's history, not the way the Society behaved, but that's it, they would get you on restraint of trade and things like that.

We did hire New York lawyers then to look into the issue. And they said, look, this fellow like all people of his ilk can make a lot of money out of this. He's a man with financial resources; if you take him on he's going to hire good lawyers, he's going to go after you and when he sues you, as he will for restraint of trade, or whatever it'll be, he will sue you not only as a Society, but individually. And I'll never forget when that verdict came back. Probably I was no longer president. By the time all this was worked out, I might have been past-president or something, but we went to vote the second time on this issue, the original vote of course was to go after him,

and I may remember this wrong because I wouldn't want to state this incorrectly, but my recollection was that when we voted after hearing this, there were only two of us who were diehards enough to risk our fortune, and that was Jerry Namias and me. We still stuck with our original vote, but none of the other counselors or officers wanted to run the risk. They were right, of course.

DROESSLER: In hindsight?

REED: In hindsight, yes. But I was so fired up at the time that—and Jerry always detested these fellows of course. He had a lifetime of having to fight them. And so we stuck by our vote.

I could tell you, do you want absolutely crazy, meaningless incidents that are sort of fun? I can tell you what happened after that. And it's one of the most amazing experiences in my life.

The next year, in '74, we held a joint meeting in Nairobi, Kenya, between the American Meteorological Society and the meteorological society there. We were becoming more international, and Ken said (and I was working in tropical meteorology then and had some paper I could give), he said, why don't you go as the official representative of the AMS. During your term as president. He said it was very unusual, there were none of these trips abroad, like to the WMO or things that happened during your tenure, and so you sort of got left out, here's a chance to go over as the official Society representative.

So I said fine, I think it was in February, it was before we went to China, we went to China in April of '74, so this would have been February of '74, and I headed off a few days earlier because my route took me through London, I don't think it stopped there, but then down through Athens, and on to Nairobi.

And I did have the chance to spend a short stayover at Athens, and I just had time to take a standard bus tour. I signed up for this bus tour that visited the famous sights of Athens, and one of our stops was the Acropolis. Have you ever been to Athens and gone up there, that mighty old crumbling structure, with the columns and the roof that looks like it may fall in at any moment? But one of the members of our group did what you're not supposed to do on these tour groups. He went to the far end of this large structure, he walked to the far end for some reason, to look at the view, and I thought well, gee, if he can get away with it I think I'll do it too. So I left the group and I dashed down to the far end, and this fellow was a very gregarious, friendly sort of fellow and we got talking, he was obviously a professional man of some sort, and he asked me what I did out and about, and I said, oh, I'm a meteorologist.

He said to me, do you know Harry Geise? I almost fell over in a faint. I was a little cautious, I didn't know what I should say in reply, and I said hmm, hum, yes, I happen to. And this was right after all this long deliberation and this stuff.

DROESSLER: And this was Harry Geise?

REED: No, no. It wasn't Harry Geise, this was a guy that says do you know Harry Geise---

DROESSLER: Oh, I see.

REED: ---and I had to be very, very careful about what I said. I tried to sound him out to see what—and he was sounding me out, so finally I couldn't contain myself and I said yeah, I said, you know, he's a—I probably said he's a charlatan or something like that. He breathed a sigh of relief, I'm glad you said so, I'm on the board of directors or something of the radio station, or the television station that he broadcasts from in Sacramento, and the other people want to promote him and build him up, and I'm really suspicious of this guy. He kept going on, he says I'm delighted in what you're saying, so I unloaded on him. And that was just by coincidence. Right after the AMS had made a decision, you know, shortly after, and there in Athens on the Acropolis.

DROESSLER: And that took care of the problem?

REED: Well, I don't know what he did when he got back to Sacramento, what came of it all, but that's what it was, it's a fellow from Sacramento that was tied in to the station that Geise was working for. That's trivia that you can get rid of if you want, but I always—well, we know the world is full of coincidences.

DROESSLER: Sure.

Well, let's move on to your---

REED: The other one was during my term as president and I was called on to testify before a Senate committee on the military use of weather modification. This was during the Vietnam War, and there was talk that the military was using weather modification to enhance the monsoon rains and to impede the enemy operations. The question was whether the American Meteorological Society had any position on this.

And we did, but perhaps not a properly taken position. We were asked on short notice, and so I was able to contact the executive committee. We were able to formulate a position, but we didn't have a chance to run this through council. Everything else we did, in the China business, all this, the proper procedures were followed, the council always voted, we always told them exactly what we were doing, but this was sort of a rush thing. It was such a rush thing that my wife reminded me that I left my bag at home. It's the first time I had headed out to the airport and forgot my bag, and got to Washington, D.C., and I didn't have anything with me.

But I did testify and the gist of my remarks as I recall, representing the Society at least through the executive committee, was that we had viewed weather modification as a beneficial activity, and that we regretted seeing it being thought of as a sort of weaponry or something. And that we didn't feel that it was necessary to expand the arsenal of warfare into this area and we hoped that they would desist.

But I had a very strong personal view, which I couldn't express, but certainly motivated me to testify, and it was simply that I was, like many meteorologists, academic types, skeptical about

some of the weather modification claims that were going around. I saw this as making the situation worse. If the military engaged in these activities they would do with--people like that in these situations always do, if they would put the effort and money into it they would claim success. We were having a terrible job verifying claims in this country even with sort of controlled experiments, and here dropping—seeding clouds in Viet Nam, how were we ever going to know the effectiveness?

DROESSLER: Now---

REED: But we could tell that-- the military would claim it was effective, and so I thought this was bad for weather modification, which I think by then we realized it was going to be very difficult to get useful applications out. It was becoming increasingly essential to really understand the physical basis of what you could do, what you couldn't do. I just thought this would muddy the waters. But I couldn't say that there, but that certainly was a prime motivation for me.

As I recall, the council was a little irked. I think maybe there were some military people on the council—well, even some of them were non-military had strong feelings; they didn't like the Society to be getting into such issues and they made it plain that they wished I hadn't done it, but the deed was done. There was no real hard feeling, no lasting bitterness, but---

DROESSLER: Do you remember whether or not the military carried out some seeding operations in—during the Vietnam war?

REED: It just sort of died after that. I don't know whether this has any effect. Of course I was only one of quite a number of people testifying. And there were not only meteorologists there, there were lawyers and others of different crowds testifying against this. A number of groups had thought this was an unwise thing to do and I won't say they stopped, I just never heard anymore about it.

DROESSLER: Your period of leadership in the AMS was certainly not without its excitement?

REED: No, well, I enjoyed it immensely, particularly the executive committee. We met regularly, in Boston of course, and there was a lot of camaraderie, we got on great together and so those managing the affairs of the Society over the—what is it, it was probably four years; in a way, you're president-elect, then you're president, then you're immediate past-president, but I think you're—I can't remember whether you serve on the executive committee when you're second past-president or whether you're—I've lost track—but there's at least three years there that you quite regularly go to Boston and you look after the Society affairs, and that definitely was a satisfying experience.

DROESSLER: Several times today as we were remembering the activities of the American Meteorological Society, we've mentioned the name of Ken Spengler, and the work that he did for some forty years. You were fortunate I think in meeting him very early on in the late forties, which is when he was selected by Rossby to begin the renovation and the rejuvenation of the

society; and then some forty years later he retired and had I think and had a marvelous record to his credit.

I wonder that since you've known him so well and worked with him for so many years, that you might just make a few remarks about Ken and the work that he did and the esteem that you have for him?

REED: Yes, I think Rossby made the selection of the century. I can't imagine a man more gifted in this area than Ken was. And he's still helping the Society. He goes on for many more years. I first met Ken as I said, when I was a ballot teller for him when were on Joy Street, and already at that time or just afterwards I remember where he looked into getting the Bulfinch house down there on Beacon Street, 45 Beacon Street. I'm sure this came largely out of Ken's initiative; he was very, very good that way.

He was financially very, very astute. I always remember that there was a period in the seventies; perhaps it was with the oil crisis then, where many societies went into the red and had problems, but the AMS stayed in the black all the time. Ken was an amazing financial manager.

To me, the single most amazing thing, because the sort of character for me is his ability to carry in mind all the affairs of an organization. He didn't have to go to files to look up anything, it was all filed away in his head. He knew all the people, all that had happened, he was conversant with all issues, just an extraordinary memory, and was great for the Society. It meant there was a tremendous corporate memory there, it was in his head for many, many years, for which I'm sure he's passed on now, because he stayed there so that it wasn't suddenly lost.

But Ken did that. We've already mentioned how wonderful he was at establishing relationships with diverse groups, whether—he was with the military—in fact he was—he has—he was a general really, in the Reserves, and so he was very comfortable with the military. He was very comfortable with forecasters, with the research community, and internationally, he was a marvelous international representative, that made a point of going to different countries in connection with meetings and getting to know the leading people.

So he did all those things.

The other thing I admired is just that—another extraordinary ability in a person in his position, with his knowledge, has a great deal of power, and it's easy to misuse it. You can really dominate the Society, and you can just order people around. It's easy when you know the ins and outs and these other people are unfamiliar, you can just maneuver them if you want. But Ken, he was wonderful for consulting and suggesting, but he never pushed, he always—I hate to say knew his place, because he had an exorbitant place in my estimation, but he always just knew where his job ended and the job of the elected officers and council began.

Well, you, the past president, should have some sense of this. I can only talk about the period in the late sixties on the council and in the seventies, but he was just an amazing executive director and it's no wonder the society prospered.

DROESSLER: I always thought too that one of his greatest strengths was that it didn't matter who came along as a president, what sort of a character he was, it was what his strengths and weaknesses was. Ken would turn his entire efforts to making that president's administration the most successful administration that was possible.

REED: Yes.

DROESSLER: And he just moved from one president to the other and he created a family of satisfied and cheerful past presidents.

REED: Absolutely.

DROESSLER: And I think it is glorious.

REED: You could say it's impossible he could have liked all presidents equally, but he was like a good parent of a big family, he never shows favoritism and encourages all, that's just what he did, right?

DROESSLER: Yes.

(Break in tape.)

DROESSLER: The final footnote: I should say what a wonderful person Ken was to know just for his personality. I think that—to be human it must have been people that irritated him he had—deep down he must have had his own strong opinions, but he never—he was a gentle person, he just never became openly agitated, he never raised his voice, he maintained his composure and his nice manner at all times without exception. And so he was just a fine person to be around. You enjoyed his company always.

And in that way I think he maintained and nurtured the dignity of the Society and of its management of the council and the executive committee and the elected officers.

REED: Absolutely. The way he comported himself and his appearance and everything, he was just a marvelous representative for the society.

(Break in tape.)

DROESSLER: Well, Dick, let's move from the American Meteorological Society now to reflect on your association and activities with our National Center for Atmospheric Research and its governing board, the University Corporation For Atmospheric Research, NCAR and UCAR, as we refer to them. When was the first time that you became associated or directly involved in some way with our national center?

REED: First of all, of course, I was well aware of its foundation and I certainly must have



talked to Bob Fleagle and Phil Church and other people that were involved in that. But I never was directly involved in those early days, so my first close association I remember came when I was on the National Science Foundation advisory committee, Meteorological Advisory Committee, who went to NCAR--this was, I think, would be the late sixties, along in that period, to sort of look over the organization. I don't remember clearly what was being sought, but I sensed a real dissatisfaction in parts of it, and people and particularly our chairman of the committee, Bill Gordon, a man I admire greatly, Leonard Myer, when I was on that committee, but there seemed to be the view that NCAR wasn't performing satisfactorily in certain ways and we went to there for a visit and interviewed the director, who was John Firor at that time, and the scientists. Out of that came some sort of investigative committee later, I think; perhaps Werner Baum was the chair of that, but that was my first association and I was quite frankly puzzled by it all. I didn't know what their sins were, it never was clear to me, but it ended in a great deal of disruption of NCAR, I know that, and sort of set them back for awhile.

Maybe I wasn't enough of a manager, maybe I should say that, you know, administration, management and organization really isn't my game, and my kicks come out of the science itself. And if I do get involved in these activities, which I have increasingly over the years, it's I guess out of a sense of duty, which you sort of owe it to the profession, but I'm not a skilled person in this area the way a Bob White or a Tom Malone, or Bob Fleagle--this isn't my game. So perhaps I just wasn't pressing enough; I just didn't understand why we were hammering at NCAR, but they certainly felt the blows.

DROESSLER: And I think you're right, I think the investigation by the Panel on Atmospheric Sciences, of NSF, which would be staff supported by Fred White and under the chairmanship of Bill---

REED: Bill Gordon.

DROESSLER: ---Bill Gordon, perhaps opened up the way for the establishment of what was to be called the Joint Committee on Evaluation and Goals---

REED: Yes.

DROESSLER: ---which was chaired by George Benton, and which contained memberships from NSF nominated and UCAR nominated, and its study and report resulted in a rather complete restructuring of the NCAR and resulted in the resignation of Walter Roberts as the president of UCAR.

REED: Well, I didn't know that. Good for Walter.

But I don't say that organizations shouldn't be looked at periodically, this is absolutely necessary. And I don't want to—two of my favorite people are Bill Gordon and Fred White, so I don't want it to appear that I ever felt any animosity towards them or questioned their judgment. I just wasn't organizationally or managerially sufficiently astute at that time to understand really what was going on.

So after that I maybe got involved more and more at NCAR affairs as, you know, serving on inspection review committees or search committees—oh, and I was also during Francis Bretherton's tenure on their scientific advisory committee. They may not have one now, they may be reinstating it, but the many, many years they have not had this advisory committee, but back there, this would be in the seventies when Francis was the president, or the director of NCAR. I think he was president of UCAR simultaneously. I was on the committee then and I forget the issues, some of them had to do with tenure, the scientists there and things like that.

DROESSLER: Well, Francis was called upon to take over NCAR and UCAR, and to restructure it with a much more rigorous attention to a scientific---

**End of Interview**