

H. Mead Cavert, MD, Ph.D.

Narrator

Dominique A. Tobbell, Ph.D.

Interviewer

**ACADEMIC HEALTH CENTER
ORAL HISTORY PROJECT**

UNIVERSITY OF MINNESOTA

ACADEMIC HEALTH CENTER ORAL HISTORY PROJECT

In 1970, the University of Minnesota's previously autonomous College of Pharmacy and School of Dentistry were reorganized, together with the Schools of Nursing, Medicine, and Public Health, and the University Hospitals, into a centrally organized and administered Academic Health Center (AHC). The university's College of Veterinary Medicine was also closely aligned with the AHC at this time, becoming formally incorporated into the AHC in 1985.

The development of the AHC made possible the coordination and integration of the education and training of the health care professions and was part of a national trend which saw academic health centers emerge as the dominant institution in American health care in the last third of the 20th century. AHCs became not only the primary sites of health care education, but also critical sites of health sciences research and health care delivery.

The University of Minnesota's Academic Health Center Oral History Project preserves the personal stories of key individuals who were involved with the formation of the university's Academic Health Center, served in leadership roles, or have specific insights into the institution's history. By bringing together a representative group of figures in the history of the University of Minnesota's AHC, this project provides compelling documentation of recent developments in the history of American health care education, practice, and policy.

Biographical Sketch

H. Mead Cavert was born in St. Paul, Minnesota, on March 30, 1922. He received his BS in Agricultural Biochemistry in 1942, his MD in 1951, and his Ph.D. in Physiology in 1952, all from the University of Minnesota. After he received his Ph.D., he became a faculty member at the UMN, as Assistant Professor (1953-59), Associate Professor, (1959-68), and Professor (1968-92) in the Department of Physiology. He was also Assistant Dean of Medical Student Affairs (1957-64), Associate Dean of Medical Student Affairs (1965-68), Associate Dean and Executive Officer of the Medical School (1968-72), and Associate Dean of Academic Administration of the Medical School (1972-92). Cavert's research focused on cardiovascular physiology, transport physiology, cardiac function, cardiac performance, and myocardial metabolism. He was in the Meteorological Service of the US Army Air Corps from 1943 to 1946. He is married to June Sederstrom Cavert, who worked with medical student wives and spouses for the years that her husband worked.

Interview Abstract

H. Mead Cavert begins by describing his background, including his childhood, his education, and why he chose medicine as his profession. He describes his work in the Department of Physiology and his research in the early 1950s. He discusses entering medical administration and his work as Assistant Dean, Associate Dean and Executive Officer of the Medical School, and Associate Dean for Academic Affairs. He reflects on working with Maurice Visscher, Nathan Lifson, Jack Johnson, Neal Gault, Harold Diehl, Robert Howard, and Lyle French. He discusses the appointment of Robert Howard to replace Diehl as the Dean of the College of Medical Sciences, and the creation of the Vice President of the Health Sciences and the hiring of Lyle French.

He discusses the faculty practice issue; the financing of medical education in the late 1950s and 1960s; the dean's office relationship with the state legislature and its role in securing state funds; the revision of the Medical School curriculum in the 1960s and responses to the revision, including the Comprehensive Clinical Program and the Rural Physician Associate Program. He also discusses the development of the Academic Health Center; transfer students from the Universities of North and South Dakota in the late 1950s and 1960s; the attempt to establish a medical school in St. Paul; the establishment of the Medical Scientist Training Program, the history of the MD-Ph.D. program and Ph.D.s in clinical medicine at UMN; the relationship between the University of Minnesota and the Medical School and the Mayo Clinic; the issue of the status of residents as students or employees; team teaching in the health sciences; and the establishment of a program for minority students in the late 1960s. Cavert's wife, June Cavert, sits through most of the interview, interjecting a few comments. At one point, she discusses the organizations for the wives of undergraduate medical students and residents, and the Caverts also discuss the contribution of spouses (generally wives) to the successful development of medical students and residents.

Interview with H. Mead Cavert

Interviewed by Dominique Tobbell, Oral Historian

**Interviewed for the Academic Health Center, University of Minnesota
Oral History Project**

Interviewed on April 28, 2009

H. Mead Cavert - HMC
June Cavert - JC
Dominique Tobbell - DT

DT: I'm Dominique Tobbell, and I'm here with Doctor Mead Cavert on April 28, 2009. I'm interviewing Doctor Mead Cavert at his apartment, which is 2250 Luther Place, Saint Paul [Minnesota]. Thank you, Doctor Cavert.

HMC: Number 106.

DT: Apartment 106. Thank you. [chuckles]

Let's get started. Why don't we begin with you telling me a little bit about your background, where you were born and raised, for example?

HMC: Actually, my first home was about two blocks from here, less than two blocks, on 1443 Grantham Street, where my parents, William Lane Cavert and Mary Mead Cavert came to Minnesota in 1914. He was a specialist in farm management and agricultural economics. So he was associated with the [University of Minnesota's] Saint Paul Campus. I lived in that house in that neighborhood for the first five years of my life. In my sixth year, we moved for one year to Ithaca, New York, the site of Cornell University where my father completed a Ph.D. After one year in Ithaca, when we came back to his work in Minnesota on the Saint Paul Campus, in those days, usually called the "Farm Campus," my father and mother exchanged homes with a friend in Anoka, Minnesota. So we moved, at that time, to the small town, Anoka, Minnesota, and it was there in Anoka that, for the next ten years, I received my elementary, junior high school, and high school education, graduating from Anoka High School in 1939. In the fall of 1939, I came to the University of Minnesota.

DT: What led you to enter medicine as a profession?

HMC: I entered in 1939, graduated from the university with a major in agricultural biochemistry, which is a basic science for the medical fields, and that was a Bachelor of Science [degree] in December 1942.

Immediately thereafter, I went into training and then active service in the Meteorological Service, the weather service, of the U.S. Army Air Corps. The Air Force was called the Army Air Corps at the time. Then, I had a military service career that took me around the world, courtesy of Uncle Sam, including eighteen months in China in the China/Burma/India Theater of Operations.

When I left for that training program in service, my father on taking me to the railroad station said, "I hope that when you come back from service, you will do graduate work." That recommendation stuck with me. So when I returned, I consulted a friend of the family and a prominent professor on the Saint Paul Campus named Doctor William E. Peterson, who had been one of my informal advisors for my undergraduate years and in the professional agricultural fraternity where I was a member. Doctor Bill Peterson had a son, also William Peterson, who has since become a prominent alumnus of the Medical School and a leader in medical science and medical education at Abbott Northwestern [Hospital in Minneapolis]. At that time—this would have been in January 1946—Doctor Bill Peterson said, "Why don't you look at the field of physiology, medical physiology, a basic science, for your graduate study?" He called up Doctor Maurice [B.] Visscher who was head of the Department of Physiology and a prominent basic science leader in the Medical School of the university. Doctor Visscher, fortunately for me, accepted me for the graduate school program in physiology. So I started as a physiology graduate student, which started me in an interest in medicine and medical sciences.

About half way through my Ph.D. program, Doctor Visscher and others suggested my enrolling in the MD-Ph.D. program, which existed in the Medical School at the time. So, I applied for Medical School, and worked on the MD-Ph.D. program, the medical curriculum simultaneously with graduate study and laboratory research. I completed the MD degree in 1951 and the Ph.D. in physiology in 1952. That's how it all began for me in medicine and medical science.

DT: Did you do a residency, too?

HMC: In those years, a residency was neither required as such, and a significant portion of a medical school class on completion of a one year internship went directly into medical practice. The Board of Medical Examiners having the authority from the state had in their internship provisions, at that time, that a person could on petition take that internship as medical research or some combination with practice. I did some clinical work with patients at the University's Boynton Health Service and also at the then time, the existing Lutheran Deaconess Hospital where I served in what we called junior internships. That, combined with my year at the University of Minnesota Department of Physiology in post-graduate work, served as adequate, at that time, for my one-year internship. So, no, I didn't take a specialty residency. I stayed right at the university [in graduate study and laboratory research in the Department of Physiology].

DT: I understand you taught and worked in the Department of Physiology for a few years?

HMC: For quite a few years.

[chuckles]

HMC: In 1953, again with all of the encouragement from good advisors, including Maurice Visscher and Nathan Lifson, I obtained a research fellowship under the American Heart Association. That took care of my salary and funding for my first post-Ph.D. years. Then later, in 1954 or thereabouts, I qualified for the American Heart Association's Established Investigator Program. That was a less temporary, less graduate study [more career-oriented] kind of program that was for instructors and assistant professors, on coming junior faculty. That was also in the Department of Physiology with Professor Nathan Lifson. That continued. I had some kind of a faculty appointment in the Department of Physiology for the remainder of my University career, until retirement in 1992.

DT: What kind of research were you doing in the early 1950s?

HMC: Nathan Lifson was an investigator in a field we called transport physiology, which studies the processes by which molecules, cells (blood cells, for example), move [substances within the body and across their membranes. We used experimental animals to investigate that [area of physiology]. I primarily, with a colleague named John A. (Jack) Johnson, who was a fellow Ph.D. graduate student and, then, a faculty member of the Department of Physiology, who rose right through the ranks to professorship...Jack Johnson and I did a series of studies using an isolated blood perfuse dog heart to study the metabolism of cardiac muscle in the beating mammalian heart. We used isotopic tracers which were just becoming popular, at that time, as a research tool to study the metabolic pathways that led to carbon dioxide production by the isolated heart system, the isotopes serving as tracers of compounds such as small-chain fatty acids or the common blood sugar, glucose.

DT: So, very important work, it sounds like.

HMC: In retrospect, not nearly as important as subsequent work in the same field by others.

[chuckles]

HMC: But it served to get us excited and interested in the field of heart metabolism and served to get us published in the research world of physiology and biochemistry.

DT: What was it like working for Maurice Visscher?

HMC: Well, I actually never *directly* worked with Maurice Visscher. He was the advisor and role model of the entire department and, to some extent, in my early years, my advisor in combination with Nathan Lifson. The question more is what was it like to work with Nate Lifson and Jack Johnson? Certainly, the answer is it was fascinating. It was collegial. We enjoyed each other. We had a lot of personal interests and contacts together. It was very supportive of me and my budding career. [chuckles]

DT: What led to your decision to enter medical administration?

HMC: Again, that started with Doctor Maurice Visscher. My predecessor in the dean's office, Doctor William [F.] Maloney, Bill Maloney, who was then an assistant dean for Admissions and Medical Student Affairs, had been sought out and been appointed as the dean of a young medical school in Virginia, so there was an opening in the dean's office, where Dean Harold Diehl liked to have two assistant deans for Admissions and Student Affairs who would kind of supplement or complement each other and would be advisors to alternate years of the four-year medical student body. Knowing all that, Maurice Visscher recommended me to Harold S. Diehl (Harold S. Diehl of the annual Medical School award). This was in late 1957. I was appointed as the successor to Bill Maloney. Our colleague, N.L. [Neal] Gault, had just, in the previous year, become the other assistant dean with Bill Maloney. So when Bill Maloney left, Neal Gault and I were the two assistant deans in Harold S. Diehl's office of advisorship and leadership in the Medical School.

DT: What did your responsibilities entail as assistant dean?

HMC: As the title indicates, we had the administrative responsibility for Medical School applications, acceptances, rejections, interviews, and serving as the staff for the Faculty Admissions Committee. Then, the other half of it was that each of us took [oversight of] two years [of medical student classes], like I would have the first year and the third years; Neal would have the second and fourth year, and, then, later, we would alternate. We were responsible for the progress of scholastic standing, personal counseling, professional counseling, relationship to faculty of those classes on behalf of the Medical School administration.

DT: What was it like working with both Doctor Gault and, then, Doctor Diehl as well? What were they like to work with and for?

HMC: Well, there was always more than one thing interesting, a fascinating experience. Neal of course, we already were acquaintances because we were [medical school] classmates, but we then became close friends as well as close co-workers for a lifetime. [chuckles] I'm greatly biased, but it was a wonderful friendship and a wonderful professional association with Neal. Harold Diehl was one of the four deans with whom I worked, and they were all just great people to work with and great leaders in medical education.

DT: Can you tell me about Doctor [Robert] Howard's appointment to replace Dean Diehl?

HMC: Sure. Bob Howard, who had been a medical student, and a resident, and a fellow, a leader in the Outpatient Program of the Department of Medicine, and who was a Saint Paul native...

HMC: I'm glad to have my lifetime wife and partner join us. We may get into this later, but June was more than the wife of an assistant or associate dean in the Medical School. She was a mother-confessor, mentor, and informally an advisor to the spouses of medical students, residents, and fellows, not by appointment but by interest and her good services.

JC: We were married all through Medical School, so I knew that it wasn't easy. When they started telling me their troubles, it just kind of grew.

DT: Sure.

JC: They had a formal organization for undergraduate medical students' and for residents' wives so we had two different organizations—big and active organizations. They took care of each other, but they also would call me and pour out their troubles [and their life stories]. They used our home because we lived just down the [Mississippi] river [from the University]. We had a big, old original farm house with a big lot. The essence of it was that we were handy. They used our home [and we were happy that students enjoyed being with us in our home]. It was large enough and it was homey. Our life was very full.

DT: I actually look forward to hearing more about your experiences.

JC: That's enough of that. [chuckles]

DT: But I do definitely do want to speak to you about your experiences.

JC: Mead said you did; that's why I said that. I'll just listen now, because he wants me to know what's going on.

DT: Sure.

HMC: In those days, post World War II, the spouses of medical students that were actively interested were predominantly women by a large percentage. In those days, and for several years thereafter, the entering class in medical school was between eighty-five and ninety percent males. There were a lot of spouses either on admission or as the years of medical education went on, so June's role was a vital, uncompensated contribution to the university.

JC: I could add that because of World War II, many of the medical students were older, so they started their families sooner. Many of the women were career women, and they

still needed support because their husbands were gone so much and all. But many of them had young children, and it was a struggle financially and time-wise. So they needed a support system. I really was a support for their support system.

DT: Yes, I'm sure you had a really important role. I can't imagine...

JC: The background of that is that many of the medical students, if they're fresh out of college, they're less apt to have a spouse or significant other. These post-war veterans did.

DT: That's a really interesting point. That's why I look forward to talking to June later or another day. Your story won't have been properly recorded.

JC: You probably know all you need to know now.

DT: Oh, I'm sure there's much more.

[chuckles]

DT: You were telling me about Doctor Bob [Robert] Howard.

HMC: Bob Howard had come up through the ranks in the Department of Medicine. He obtained a Ph.D. in hematology. A Ph.D. in internal medicine with hematology as a specialty was unusual in clinical fields nationwide, at that time. The Ph.D. in clinical fields in the Graduate School at the university was almost unique to the University of Minnesota in those days, and no longer is common for a variety of reasons. Bob Howard had obtained a Ph.D. in internal medicine then and Dean Harold Diehl had appointed him as the director of Continuing Medical Education, in which office he served for four years or so. That office was also on the thirteenth floor of the Mayo Building, at the time, and Bob's office and activities were *very* close to Dean Diehl's administrative offices. So when Harold Diehl retired in 1957 and a faculty search committee had been appointed, they sought out Bob Howard to succeed him. Bob Howard, frankly, was very glad to have been offered the deanship. He regarded it very highly and regarded Harold Diehl very highly.

DT: Were the Medical School faculty, in general, happy that Doctor Howard was appointed as dean?

HMC: Yes, especially initially. You may be thinking that... Well, *any* dean of a medical school—certainly of the University of Minnesota over several decades not excepted—is not going to be popular with all faculty and cannot please, if he does his job well or hers, all faculty of the Medical School. It certainly was true that as time developed over the years of Bob Howard's twelve years as dean that some issues arose where the faculty, especially the clinical departmental faculty, were divided and where department heads of the clinical fields particularly took, you might say, one side or

another of an issue. That's a roundabout answer that Bob Howard, like *any* good dean, has his times of less than vocal popularity by the faculty.

DT: It seemed that the faculty practice issue was an interesting experience, shall we say?

HMC: Well, you've hit on the issue that was of primary importance to clinical faculty people and which was very hard for Dean Bob Howard to deal with and for the university to deal with, because, oddly enough, it involved money and compensation, so it was a burning issue.

Dean Bob Howard dealt with that, in part, by instituting in several new appointments, including that of the new Department of Surgery, at the time, by setting up what he called a full time faculty appointment with a commutation allowance, which for that faculty member put the whole compensation, including income from practice, on the university payroll, and was a major innovative step forward that, as far as I know, persists to this day and [this system] became a well-established practice of dealing with faculty compensation, but not without, initially, considerable—I was going to say grumbling; maybe that's a little harsh—dissatisfaction by a number of people in some clinical faculty departments.

DT: Do you recall any names in particular who were either supportive or unsupportive?

HMC: I do but I won't mention the names.

DT: Sure enough.

[chuckles]

DT: That's quite fine.

HMC: Except in general, as I say, it was the faculty people, including some department heads, whose departmental appointments were in clinical fields.

JC: Can I add that, at that point, I remember Bob Howard saying on one occasion, "Even my troubles have troubles."

DT: [chuckles]

JC: He was a clever and funny guy.

HMC: Oh, he was. Before he was dean in his office in Continuing Medical Education in which he did a fair amount of speaking, he was the popular MC [master of ceremonies] for almost any medical gathering, including the Medical Alumni Society. He was a good storyteller and very clever.

DT: Yes, I had the pleasure to meet him last month.

HMC: Oh, did you?

DT: I interviewed him.

HMC: Where was that?

DT: I went out to Walnut Creek [California] to visit him and Ardy [his wife]. We had a lovely interview. He was a wonderful host. And he was a very good storyteller.

HMC: Well, good.

[chuckles]

JC: He probably told you some of this stuff?

DT: Yes. Yes.

HMC: So you knew more about the private practice of medicine issue in the Medical School before today?

DT: Also, I saw a lot of the material in the archives relating to it.

HMC: Did you talk with Bob Howard on it?

DT: Oh, yes, absolutely.

HMC: You did an oral history interview with Bob?

DT: Yes.

HMC: Good.

DT: He was the first one I spoke with.

HMC: It's too bad that you couldn't do that with Harold Diehl.

DT: Yes, for sure.

HMC: That would have been a great interview.

DT: Certainly.

Can you tell me a little bit about how medical education was financed from the late 1950s and through the 1960s and 1970s?

HMC: Yes; although, the dean, of course, is the one primarily responsible for all of that. I was sort of an understudy and helper, assistant to the dean with respect to that particular portion of medical education, the funding and financing of departments and so on. We had, under Deans Bob Howard, Neal Gault, and David Brown, a person who had various titles, but, eventually, associate dean for Administration or for Financial Affairs, or whatever he was called, who was the right hand person to Bob Howard, Neal Gault, and David Brown on the whole spectrum of financial management, including grants management of the Medical School. My job with relation to that was to sit in on department budget meetings with that manager, Wayne Drehmel, for example, and Bob Howard and, then, Neal and David and so on as, partly, the bridge between the faculty, their student responsibilities and the dean with respect to the correlation and collaboration between their roles as financial managers of departments, on the one hand, but also, as chiefs of their specialty education in their field and for medical students. I guess that's some of it.

DT: Do you recall the name of the assistant dean who was...?

HMC: For financial administration?

DT: Yes.

HMC: [Under Dean Howard] it was Gerald (Jerry) Gilman. That's close. I always called him by his first name.

DT: Sure.

HMC: Jerry Gilman...I think, for close to all or all of Bob Howard's administration, which was twelve years; Neal Gault's was twelve years; and David Brown's was eight years. And of course, Harold Diehl before them for twenty years or so. It was Jerry Gilman with Bob Howard primarily. Then, Wayne Drehmel, initial something [E.] Wayne Drehmel, D-r-e-h-m-e-l, who was the very experienced, knowledgeable, and even-tempered associate dean for Financial Affairs under all of Neal Gault, I think, and I think all of David Brown, for a long time.

You asked about what the funding system of the Medical School was. Well, it was then, as now and in between for decades, a combination primarily of private practice funding for clinical faculty and grants increasingly over the decades, increasingly grants primarily from the National Institutes of Health [NIH] of the [federal Public Health Service]—I was going to say myriad; maybe not quite that large—a great spectrum of investigators, both basic and clinical that earned those grants over the years. The State of Minnesota then, and I think probably subsequently just with slightly varying percentages, provided no more than thirty percent at the maximum of the total millions of dollars of the total Medical School budget. At times, it was as low as close to twenty percent. Vital money but not sufficient at all for running a medical school; although, almost all of the basic science faculty, not having clinical practice money, had the major component of their

compensation from state funds, from the State of Minnesota, what were designated O-100 account numbers.

DT: Do you know whether the dean's office was engaged with speaking to the state legislature about trying to get more money from the state?

HMC: Of course, the primary role on that was assigned to the dean. On an occasional issue, other people, usually a department head, would enter in, or on a particular medical field or specialty, say leukemia for example, a faculty member who was an expert in that field might well be speaking with the legislature, not so much as a member of the faculty as a consultant and expert in that particular field. But that was certainly a major portion of the dean's responsibility as one of the chief administrative officers of the university. Until 1970, there was no vice president for Health Sciences, and the deans, in Dean Diehl's and Dean Howard's case, were deans of the Medical School but, also, dean of the College of Medical Sciences, which included not only the Medical School but the School of Nursing, the School of Public Health, and the University of Minnesota Hospitals. In those earlier years, the dean of the Medical School was doing much of what, later on in an expanded way, the vice president for Health Sciences did. Of course, the volume and complexity and public relationships and so on were growing, enlarging, all those years.

DT: With your responsibilities in the dean's office during the 1960s for the medical students, what are some of the big challenges or issues that you recall most about the 1960s?

HMC: [pause] Well, both Neal Gault and I together and, then, when Neal left the University of Minnesota for a period, another person as my co-assistant dean, as I mentioned, worked directly with Medical School classes and with individual medical students and the scholastic standing of medical students, which involved serving as the staff for the Faculty Scholastic Standing Committee... Always after a meeting on a quarterly basis, or sometimes oftener, of the Faculty Scholastic Standing Committee, it was our job to call in the students one by one who had been line-item subjects for consideration by the Scholastic Standing Committee and to counsel with them and give them some advice, listen to them and the personal problems which were almost always involved, offer this, that, or the other faculty member as a good source of information and inspiration and advice for them, and just to try to uphold the medical student as long and as well as we could. In those days, it was—I shouldn't say successful—productive, because the failure and discharge from Medical School was a relatively small percentage of a class. In the period from 1960 and probably up to the present time, but certainly up to the time of my retirement in 1992, an admission and acceptance to Medical School was a fairly strong likelihood, almost a guarantee of completing the curriculum and graduating [with the M.D. degree]. In other words, the emphasis was on achievement and doing it and succeeding rather than any sort of weeding out or elimination. It was assumed that anyone who was accepted for admission to Medical School was capable and personally qualified to finish the program and become an M.D. and to serve patients. That's the principle on which we tried to operate.

DT: A good principle.

It seemed that there was a big revision of the medical curriculum by the end of the 1960s, a change in the way medical students went through Medical School?

HMC: Yes, there were some changes. For example, in maybe 1959, 1960 through 1970 or so, somewhere in that decade, the Medical School instituted what, at that time, was a quite different and unique program for the fourth year of Medical School called the Comprehensive Clinical Program. The chief architect of that program was another assistant dean—at least he was for a while—and director of the outpatient teaching program, whose name was Richard Magraw, Dick Magraw, M-a-g-r-a-w. He was a very innovative, creative, astute—is but also was then—medical educator who devised a fourth year curriculum in which the student who, by this time, was fairly well trained in the beginning elements of clinical medicine. The [4th year medical] student was the primary care doctor in the Out Patient Clinics of the University Hospital and the University Out Patient Program and served, in effect, as is now common and as for a long time, primary care, family practice, general internists have done in being the focal point for the care, including by specialties, of a given new patient. That was a six month program. It took half then of the fourth year, half or more. That was one of the major changes in medical education.

Then, of course, a second one in which the University of Minnesota Medical School was, I think it's fair to say, *the* innovative leader was the Rural Physician Associate Program founded and directed by Doctor Jack Verby, the late Doctor Jack Verby, which took about forty—I think now even more—medical students, including later more students, from the University of Minnesota-Duluth, for the entire third year which they spent primarily with a rural primary care family practice or general internist mentor in communities all over the State of Minnesota. As I say, Minnesota was the founder and leader of that kind of program, which still persists and is larger, actually, and was part of the basis of the founding of the University of Minnesota-Duluth with its emphasis on admitting future primary care physicians. That occurred in the late 1960s, 1967, 1968, 1969. It was in the context of an entire national debate and focus on the need for more and better trained practitioners, what used to be general practitioners and now are family physicians, or, in some cases, general internists, when the whole national picture was one of concern for the shortage of primary care physicians, especially in the rural parts of the state. Minnesota was not unique in that. It was part of the entire national ferment.

Incidentally, Dick Magraw in 1962 or 1963 or 1964 [correctly, 1966], somewhere in there, wrote, authored, and published a book which was seminal in this whole movement entitled, *Ferment in Medicine. [A Study of the Essence of Medical Practice and its New Dilemmas* (Philadelphia: W.B. Saunders Company, 1966)]. I suppose most people have forgotten that book now, but, in those days, it was one of the major contributions to the changes in medicine toward emphasis on primary care, family practice and rural health care.

DT: I'll definitely look that up. That's fascinating.

HMC: ...just as the Rural Physician Associate Program was another and, in a sense, the Comprehensive Clinic Program was geared toward primary care. As I say, all in the context of the national picture and the ferment in medical education in the country.

DT: It seemed to me from looking in the archives that some of the local physician organizations in the Twin Cities and in Minnesota also worked quite hard to get the rural physicians program with more of an emphasis on primary care at the university.

HMC: You may or may not have talked with Bob Howard... Bob Howard was dean [of the College of Medical Sciences] from 1958 to 1970, so all of this occurred during his administration as dean, and he was at the center of the ferment among the national medical practice organizations, especially the, I think it was called, American Academy of General Practitioners, or something close to that, which had the Minnesota Academy, as, yes, a very vocal and very effective arm of that whole movement toward recognizing family physicians, general medicine, and family practice as the legitimate specialty to take its place with general internal medicine, pediatrics, general surgery, and so on. That all became formalized in the national scene about 1967, 1968, 1969, 1970.

At the same time, the Federal Government was funding, and urging, and pushing universities and medical schools to expand or universities to start new medical schools because part of that general national concern was an anticipated shortage of something like 50,000 or more physicians who were needed for practice, especially in the non-metropolitan areas...all part of a general movement and national debate and conversation and discussion, including in Congress, about the changing role of physicians and medical education and the need for enlargement, expanding and, therefore, funding of medical schools, including development of their buildings and research laboratories, which are evident in the Moos Tower and Phillips-Wangensteen Building and Unit F, as we used to call it, all of that complex.

That was all part of Bob Howard's administration; there was no vice president for Health Sciences, so he was the key person. You asked earlier about some of the major issues in Bob Howard's period. That whole development, all of which we just talked about for a few minutes, was with Bob Howard as a leader and key figure in the expansion of the Medical School, the federal funding of it, and the development of the necessary medical buildings, Medical School and Health Sciences buildings...all during Bob Howard's period of deanship from 1958 to 1970. Yes, Bob Howard had his problems with some of the faculty on some of the money issues, but he had a tremendous responsibility, and I think it's fair to say, in retrospect, that he was exceedingly productive and successful in dealing with that whole period of the 1960s, in all of which Minnesota, the University [of Minnesota] and state involvement constituted part of a much larger national picture.

Incidentally, it certainly could be said that he [Bob Howard] was an influential figure in the national Association of American Medical Colleges, the AAMC, which was involved as a potent and necessary leading national organization of medical schools evolving, from

what used to be called a Dean's Club, into *the* major national organization that deals with all aspects of medical education and research and medical school administration.

DT: If I could follow up on a few things based on that great information you just gave me... The Rural Physician Associate Program, do you think that was effective at producing a number of graduates who would then stay in rural Minnesota?

HMC: Well, you can look up the statistics on that. They're very confirmatory and obvious that, yes, especially the University of Minnesota-Duluth two-year graduates who, then, come to Minneapolis/Saint Paul for their clinical training. I won't try to give you numbers because you can get more accurate numbers just looking at the data. The Rural Physician Associate Program has, I think, more than justified itself several times over. We have to look back and thank people like Jack Verby and people in the Academy of Family Practice, Family Medicine [the former Minnesota Academy of General Practice], who were primary pushers and advocates of that program and the whole primary care family practice movement.

DT: It seems like that within the Department of Family Practice, which I think was set up in 1967 or 1968...

HMC: You're right on.

DT: Okay, excellent. It seemed that even though the Minnesota Academy of General Practice was happy that the department existed, they still seemed somewhat unhappy with the way it was being run in its early years.

HMC: [chuckles] As we said, it's impossible to get a group of well trained, bright, alert, and frequently experienced medical doctors in any field or any combination of fields together and not have some controversy with more than one aspect of a topic being advocated. Sure, but that's part of the role of a university, for one thing, and it was part of the role of the Academy people and their strong leadership, yes, to get those things going.

Again, in retrospect, I'm sure, at the time, 1965 to 1970 or so, Bob Howard more than once felt that some of the folks were a thorn in his flesh and as June quoted him, he had problems with his problems. The whole family practice era was one of those problems. He certainly, at the time, might even have felt sorry for himself occasionally. But I think Bob, in retrospect, would say he came out of it and the whole movement strengthened and improved medical practice, the education of physicians, and, therefore, the care of patients.

DT: It seems, also, going back to the question about the curriculum and how it changed near the end of the 1960s, that in addition to the comprehensive clinic and the rural program that medical students were given a lot more flexibility in how they went through medical school.

HMC: Yes. That was another innovation in the 1960s. That's right. One of the names that you need to think of in connection with that is Robert McCollister, Bob McCollister. Bob Howard, and maybe Neal Gault in his role as assistant and then associate dean, persuaded Bob McCollister to join the dean's office as the director of Medical Student Curriculum. Although Bob was not the only person, or maybe even the first, to think about flexibility and what were, at the time, called tracks of clinical curriculum, he was, certainly, early on in the development of that curriculum primarily in the clinical years but even dealing with the notion that became popular that medical students should have some kind of patient experience, patient contact from almost day one when they entered medical school. Basic science curriculum is still necessary, still fundamental, and still all pervasive in the first two years, but, in addition, gradually more exposure to clinical medicine and patient care culminating in the third year toward complete immersion in patient care, both in-patient and out-patient. In the fourth year...well, the way it was working was in some of both years, the opportunity for elective quarters of study in any of the wide variety of fields, including a lot of emphasis on study abroad either at another medical school, in Britain for example, or combined with a free period, an elective period of three months and then an elective-free three-month period, when a student might be serving in a mission hospital program in Asia or Africa. That's been expanded a lot since. So, yes, there was a lot of innovation there. Bob McCollister, as director of [the medical student] curriculum, was heavily involved, including up till recent times when he retired.

Over that period, in the early part of it, certainly, Dean Bob Howard was a significant figure in not only these programs and issues we've mentioned before, but as the chief pilot for the medical student revised curriculum.

DT: How did the students feel about the revisions?

HMC: Well, of course, each student had only one experience.

[chuckles]

DT: Sure.

HMC: But I think medical students were very appreciative. It certainly gave them a broader experience and more of an early insight into what the practice of medicine was like, including its numerous specialties and subspecialties, and including academic medicine and research that enabled them to start their choices on where their career was going to go, just as the Rural Physician Associate Program did in family practice and primary care.

DT: I read a few letters from 1964, 1965 written by medical students who were actually asking for these kinds of changes.

HMC: Interesting.

DT: So, I suspect they were really happy. They were saying they wanted more flexibility, more patient contact.

HMC: The Medical Student Council as spokespeople for the four classes of medical students with their class officers were very active and in and out of Bob McCollister's office and Bob's staff... Very often, yes, medical students were heavily involved.

DT: How did the different faculty respond to the changes? Particularly, were there any differences of opinion among the basic scientists versus the clinical physicians [faculty]?

HMC: I think it would be hard to give an accurate generalization on those. As we've talked about before, Medical School faculty is a wonderful body of human beings. On the average, they're not only very bright, talented, well-educated people, but some of them are committed to their field or their own ideas of how medical education should be done. And some of them were occasionally very vocal.

The dean leaned heavily on, and had to, his Administrative Board, as it was called, which included the heads of all departments, plus ex-officio, the associate and assistant deans and administrative officers. Within the Administrative Board, there developed two councils: a Council of Basic Sciences, which was smaller and incorporated the heads of departments of the traditionally six basic medical sciences, plus a few new fields later, like neuroscience, cell biology, molecular biology; and then a much larger Council of Clinical Sciences of fifteen or sixteen clinical departments. A number of subspecialties were, and I think still are, full departments having evolved from division status under, say, the Department of Surgery to an independent department with its own department head...neurosurgery, orthopedic surgery, and so on. So that council of clinical sciences was a large, I think it's fair to say, vocal and persistent group of people, each with their own strong bias toward their own specialty and their bias toward clinical medicine.

So the dean had to deal with those two strong bodies, especially the Council of Clinical Sciences, which included, also, the heads of departments of University Hospitals. That is, the head of the Department of Surgery, Owen H. Wangenstein, was also one of the clinical chiefs, as we called them, of all of the surgical specialties of University Hospital and practice. So you can well imagine that this was a powerful and persuasive group of people and fairly frequently did not agree with each other...

[laughter]

HMC: ...or with the dean. But fairly frequently, they *did* agree with each other and with the dean.

DT: They do sound like a powerful bunch.

HMC: Yes.

DT: It seemed—this is going forward a little bit—in the mid 1970s that in the Basic Science Departments, some of them were a little frustrated about not having enough teaching time in the curriculum.

HMC: I think probably you could expand that to every department and what were there, twenty-five or so in the Medical School. A department head or some faculty member who felt his or her specialty was not adequately represented in [instructional] time in the curriculum...

[chuckles]

HMC: Of course, the basic scientists had some legitimate reason for saying so as this exposure to patients and patient care evolving from the beginning of the first year of medical school until full time in the junior, third, year was partly at the expense of some of the time of basic sciences. Yes.

Of course, in the same period of time, the relevant research background and fundamental knowledge base for clinical medicine, which were those six basic medical sciences, was expanding under the profound influence of funding by grants from the National Institutes of Health. James Watson and Francis Crick were developing the molecular basis of DNA [Deoxyribonucleic Acid] and RNA [Ribonucleic Acid] later, which Neal Gault and I, as medical students, sort of knew there must be something existing there, but knew very little about. That just could be multiplied by ten to the fourth power probably as you move through the decades from 1960, 1970 and on to the present time.

So, yes, the basic sciences had some reason to be a little antsy.

DT: I understand that the Medical School took a lot of transfer students from the Universities of North and South Dakota. How did those students fit in?

HMC: In those days—we're talking about, again, the late 1950s and 1960s—both North Dakota and South Dakota and some other medical schools in the country, not many, were able to offer to their students a full curriculum of basic medical sciences [for the first two years of medical school] but, by the nature of their states, and populations, and geography, they were not able to mount a good strong clinical program, including a medical specialty program for teaching after the first two years of medical school. So all of those two-year medical schools established over I suppose a couple or three decade period had to have some kind of arrangement for those students once having been admitted to medical school and, in effect, assured that they were going to move on to the MD degree. They had to have some kind of arrangement with a four-year medical school, and that was the nature of the program in South Dakota and North Dakota. I suppose they had, oh, I'm not sure of the number, I would guess somewhere between fifty and seventy-five students, so they had to make arrangements with four-year schools like Minnesota. Annually we would take, by contract, graduates from their medical school who applied for that transfer, six from North Dakota, six from South Dakota. Then, frequently, there would be transfers between four-year medical schools, of which

Neal and Sarah Gault are prime examples. Neal and Sarah didn't take their first two years of medical school at Minnesota. They were at Baylor University in Texas and transferred to Minnesota after a summer of an elective externship they took here and liked Minnesota so much that they asked for a transfer and got it. The two-year schools *had* to have contracts for transfers, so, yes, we graduated former North Dakota and South Dakota students routinely [during the 1950s and 1960s].

I suppose we stopped that arrangement at the beginning or soon after the University of Minnesota-Duluth began. The development of the University of Minnesota-Duluth was one of several new programs in Minnesota in that whole area of ferment in medical education that we've talked about and in response to the need for family physicians. That all involved legislative and state government and state leadership involvement that percolated far beyond the Medical School at the University of Minnesota.

DT: Were there ever any concerns that the Dakota students wouldn't be up to standard with the Minnesota students, especially after the curriculum changes?

HMC: We pretty much had to go on the recommendation of the medical schools at North Dakota and South Dakota. Both from those transfer students and our own four-year medical students, [there were] very few failures in a course in a clinical clerkship, not unknown but relatively few, which could be made up by repeating [that segment of the clinical curriculum]. Once a person completed the first and second years of medical school, whether at Minnesota, North Dakota, or South Dakota, or probably elsewhere, the chances of graduating with the MD degree two years later, or occasionally three years later, were far greater than ninety-five percent or so.

DT: That's a great record.

HMC: The basic sciences and course work was, in a sense, a filter for the clinical years; although, as I've mentioned, the percentage of graduation overall from day one was very high, and I think still is...

DT: That's great.

HMC: ...in contrast to, I suppose—I wasn't there—say, thirty or forty years earlier when failure was not uncommon.

DT: You mentioned about these other state medical schools toward the end of the 1960s. You talked about the University of Minnesota-Duluth, but there was also discussion, which you've kind of indicated, about maybe a possibility of another medical school in Saint Paul and there was also discussion about Rochester. Can you say anything about those?

HMC: One of Bob Howard's problems that became problems.

[laughter]

HMC: Sure. Well, that was all part of this whole national roiling up with regard to the need for more physicians, the desperate need as it was felt for more primary care and less emphasis on specialties for rural practice. All of that was part of the same national picture, I dare say, to some extent international, and probably in some aspects internationally have persisted *far* more than in the U.S., but all part of the national turmoil. Part of that turmoil in which the family physicians, the general practitioners, and their academy [Minnesota Academy of General Practice] were a prominent part, was the need for another medical school or, maybe, more than one more in Minnesota, a school that would do a better job, in the view of many people, of training general physicians, family physicians, and rural physicians. Better than it was perceived the University of Minnesota was doing with its internationally-known Department of Surgery, C.J. Watson's Department of Internal Medicine, and its emphasis on research in the faculty as compared with emphasis on training practicing physicians for the state.

So there developed in Saint Paul, as you've mentioned, a group of people led, in part at least, by a group of physicians [Northern Association for Medical Education], some of which were not family physicians but specialists and who were in practice, who felt that the University of Minnesota wasn't doing adequately in these areas of primary care training of family physicians. Saint Paul, for a number of years, developed leadership that was active not only in the medical, organized medicine community, the State Medical Association and the Family Practice Academy, but, also, in lobbying the legislature and, therefore, the state administration. Of course, in the same period, Mayo began to develop *its* interest in response to this outcry for better medical education suited for the times and the populace. So both of those were factors all tied up with legislative lobbying and petitions to the university to change its habits and so on.

DT: Did that have a lot of influence on how things were run at the Medical School?

HMC: Of course, since specialty training and research emphases in the departments and faculty of the Medical School were all under the dean of the Medical School and the administration of the university, yes, sure. Bob Howard took his share of negative feelings, yes.

DT: Do you know why a Saint Paul medical school was never created?

HMC: The timing on all this is very important. Timing and the political climate were all very important. At the same time that Saint Paul's group of physicians and leadership were developing popular support for a medical school in Saint Paul was the same time that leadership and people at the University in Duluth [University of Minnesota-Duluth], responding to their lobbyists and people, were considering a medical school and, then, to some extent, the same thing at Mayo in Rochester. So Saint Paul was just a fourth component to a total picture of ferment, to use Dick Magraw's term, and turmoil in the State of Minnesota reflecting what was the same picture in almost every state in the contiguous forty-eight.

DT: It sounds like a really interesting time.

HMC: There are always interesting times. There's never a dull moment.

[laughter]

DT: I have several more questions, but I want to check in and make sure that you're still okay to keep going.

HMC: Sure.

DT: You mentioned in talking about your own medical education the MD-Ph.D. program. Something that I've been a little unclear about is what was the difference between the medical degree at the University of Minnesota through the 1950s and 1960s and, then, the establishment of the Medical Scientist Training Program and the more explicit MD-Ph.D. program. Was there some difference or were they just the same thing?

HMC: Let me give you a little rundown on that. That's probably one I'm more qualified to talk about than most of these issues.

[chuckles]

HMC: We'll start with when I came into Dean Diehl's office in late 1957 and early 1958. The first sort of administrative project that was handed to me by Dean Diehl was to write the application and supporting documents and data for a new National Institutes of Health program. The NIH is organized into numerous institutes and programs. One which developed early in that time was the Division of General Medical Sciences. Someone—I can't recall who—at NIH about that time—well, it was probably from basic science people throughout the country—proposed that there ought to be NIH support for training special research scientists who were, also, medical school trained people. The emphasis was on a training program that would lead students into clinical scientist investigative research careers, not practice. Therefore, it would be small, because there could be only a small portion of a medical school class.

The funding program that they developed was under an NIH rubric of, they called it, an Experimental Training Grant. It was one of the first basic science training grant programs developed by NIH. They selected...I don't recall the exact number of medical schools throughout the country, but probably not more than fifteen or so. The total number of medical schools in the country, in the 1960s, expanded to about 125, 126, and I think that's still a fairly close number. At the time the Experimental Training Grant developed, there probably were, maybe, 90 medical schools in the country, of which certain ones, including the University of Minnesota and some other public medical schools like Michigan and several prominent private schools, well known, Harvard, Stanford, Yale, Johns Hopkins, some of those prominent schools, I would guess maybe fifteen or so, were selected by an NIH advisory group. NIH always used professional

advisory groups, never entirely from the staff at NIH, always working with the university faculty people. So they offered this Experimental Training Grant to a number of research-prominent university medical schools of which Minnesota was one. Harold Diehl said to me, "Cavert, do the application for this," which meant getting the background, dealing with basic medical scientists and clinical departments heads, to some extent, which had to be carried through the Administrative Board, the two councils that I mentioned, the department heads of the Medical School. So that was my first go at medical education administration, so it's a program that I know well and am fond of. But it didn't begin there.

Minnesota, well, from early on, the early 1900s certainly or before, had developed a Graduate School of the University of Minnesota (not of the Medical School). The Graduate School encompassing essentially all disciplines and departments of the University, developed post-baccalaureate programs (Masters and Ph.D. degrees). These graduate degree programs included, as years developed, the basic medical sciences of the Medical School, which had as one of their primary purposes for existence Ph.D. degrees in their specialties. In the meantime, there were on the faculty a couple of heads of the basic medical science departments, namely Maurice Visscher in Physiology and Wallace D. Armstrong in Biochemistry. Both of them, partly under the leadership, I think of Dean Diehl and sort of in case-by-case individual cases, having had their Ph.D., degrees through a special one-by-one program developed, as I say under Dean Diehl's leadership, were taking MD degrees at Minnesota while they were half-time or so on appointments and simultaneously registered as Ph.D. students in the Graduate School. So there was a sort of genesis of an MD-Ph.D. program long before, quite a bit before, 1957 when I got involved with it.

In the meantime, I mentioned earlier that Minnesota was uniquely known nationally for its *clinical* Ph.D. and master's degree programs. I think there were no more than two or three other institutions in the country that awarded Ph.D. programs through a university graduate school with a major in a clinical subject, and, in our case, always required a minor in a basic science. So, parenthetically, research and teaching and graduate education, including residency and fellowship education, developed close liaison between the Department of Physiology, Maurice Visscher, and the Department of Surgery, Owen H. Wangenstein. So there was this program existing of clinical Ph.D.s with a minor always in a basic medical science like physiology, biochemistry, anatomy at the time, histology. So there was a basis, a precedent at Minnesota for a more formalized, more directed kind of program, which was what NIH wanted to develop under the Experimental Training Grant [later the Medical Scientist Training Program].

So we got one of those first NIH Experimental Training Grants to set up an MD-Ph.D. program. It turned out to be very successful and has persisted through the years, I suppose with minor ups and downs. But, as far as I know, it has developed very strongly and has developed a lot of leaders in medical and academic medicine, including members of the University of Minnesota Medical School faculty. A number of the full professors of the faculty of the period from 1980 through the present have been MD-Ph.D.

graduates, and probably more important, a number of MD-Ph.D. graduates have gone on to faculty positions, department headships, and leadership elsewhere in the country.

Sort of an aside from that but related is the Department of Surgery and its Ph.D. program, all of which people were also MDs with a minor in a basic science. That program under Owen Wangenstein's leadership produced more heads of departments of surgery in the United States in the period, I would guess, from, say, 1985 to 1995 than any other surgery department in the country.

DT: Wow.

HMC: All top-notch people, well known and strongly influenced by the leadership of Owen H. Wangenstein. As I say, people like Maurice Visscher, Wallace D. Armstrong, Arnold Lazarow in Anatomy, E.T. Bell and Jim [James] Dawson in Pathology, and so on, these being basic science department heads, were very heavily involved in those programs.

DT: If I have it correctly, the NIH Experimental Training Program, that supported MD-Ph.D.s in the basic sciences, but there was also a different MD-Ph.D. program at the university that was awarding Ph.D.s in the clinical sciences?

HMC: Well, I think you could put it a little differently. I would say the MD-Ph.D. program with an NIH training grant as a more formalized program was an important development and part of a much larger general emphasis on the MD-Ph.D. combination.

DT: Okay. When did the university stop awarding Ph.D.s in clinical medicine?

HMC: In clinical fields the most active, persistent proponent was Owen H. Wangenstein in Surgery, but he was not alone. Neurosurgery did the same thing, and, of course, Surgery was a very *large* department, so there were a lot of people involved, especially in Surgery. Owen Wangenstein became the department head here when? [1930] Dean Diehl started in 1937 in the deanship. I think Owen Wangenstein preceded him as head of the Department of Surgery, but I haven't memorized all those dates for posterity.

DT: I think it was the early 1930s.

HMC: That Owen Wangenstein became head of the department? It sounds reasonable. Well, it wasn't long after that, possibly even a little before but I don't know, Owen Wangenstein and other department heads—a few others; I shouldn't say a lot—developed the relationship with the Graduate School for their Ph.D. students. In the Department of Medicine, of course, probably the largest department in the Medical School by number of people, the internists never took on to the Ph.D. There were a few who did, like Bob Howard. In Surgery, it was if you're going to go for a residency in Surgery with Owen Wangenstein, you, like it or not, are committed to work on a Ph.D. in Surgery. That was not true in many departments. It was true in Surgery. It was true in Neurosurgery, Otolaryngology, not Pediatrics, although, there were Ph.D.s in Pediatrics,

and not Medicine. It sort of gives you a picture of the dominance of Owen H. Wangensteen in the Medical School, administration and faculty...well, from the time that you mentioned he started until his retirement, which was, I'm guessing, 1985 or thereabouts.

DT: He was no longer a department chair in 1967.

HMC: You're right, because John Najarian [from California] was recruited by Bob Howard in the middle of a snowstorm in January 1967.

[chuckles]

DT: That's a great memory.

HMC: Incidentally, John Najarian picked up the Owen Wangensteen's Ph.D. Graduate School model in Surgery with as much enthusiasm as Owen Wangensteen—or almost as much.

I was going to mention as sort of an offshoot on that... The Mayo Clinic with its reputation and power and prestige had an association with the Graduate School of the University of Minnesota, but never had a formal administrative relationship with the Medical School. The relationship was always with the Graduate School. I was involved at the time that Mayo Medical School, (in the meantime having developed about the same time as the University of Minnesota-Duluth two year medical school), initiated transactions which culminated and stopped the relationship of Mayo with the Graduate School and, therefore, the formal relationship with medical people at the University. I say formal because always over the years, including during the time of the formal Graduate School relationship with Mayo, there were individual faculty people and individual departments of the Medical School that had strong relations with Mayo medical scientists. For example, for a Ph.D. in a basic medical science here, on the oral prelim examination committee, which is the *sine qua non* for going on, and/or the final thesis committee for a Ph.D., both of those, in Biochemistry, Physiology, probably Pathology, maybe some others of the basic sciences, always had at least one Mayo faculty member on those Ph.D. examining committees, and, likewise, a Ph.D. examining committee or frequently a master's at Mayo, under the Graduate School of the University of Minnesota, not the Medical School, had a faculty member from *this* basic science department on the student's graduate degree committee at Mayo. That all dissolved when Mayo decided to award its own degrees, be its own university in effect, in about 1975, I'm guessing [correctly, 1972]. I represented the Medical School in that negotiation, even though the formal relationship with Mayo was through the Graduate School, not the Medical School.

DT: How did the Medical School feel about Mayo's connection with the Graduate School? Did that evoke some tension?

HMC: Well, it's like so many things. It depends whom you ask. The Basic Science Department people sort of *treasured* that Ph.D. Graduate School relationship with Mayo, and, as I say, always had a Mayo faculty person who was a faculty member under the Graduate School, not the Medical School, of the university. Basic sciences, in general, liked that relationship, because they had a strong feeling for the Graduate School, and most basic medical science faculty persons, at least the associate professors or professors, had a dual appointment, and was appointed a professor in the Graduate School in the graduate program. For the clinical departments, you know, it was sort of a love/hate relationship. Individually significant collaborations back and forth, but in struggling for prominence and patient care, it was often a competitive relationship. So it was both kinds.

DT: Continuing on with this Ph.D. element, I've seen some material that looks as though the dean of the Graduate School in the late 1960s—I think Bryce Crawford—was actually trying to abolish the requirement for graduate medical students in clinical fields to register with the Graduate School. Do you recall that at all?

HMC: [pause] I really don't recall any details on that. I probably have to pass. Of course, it probably was tied up in part with the cost of tuition and the income to the Graduate School or Medical School. Medical School tuition for a medical student, when registered in the Medical School, was much higher than that for graduate students. Assistantships, research assistants or teaching assistants, in a Basic Medical Science Department was for graduate students who were registered students in the Graduate School. So that was one of the complications that we had to deal with in the MD-Ph.D. program was how much they were registered in the Graduate School with their lower tuition and how much in the Medical School to complete the medical student curriculum. I guess I probably was involved in that a little bit, but it's beyond my financial head now.

[laughter]

HMC: Probably [Associate Dean for Administration] Wayne Drehmel dealt with some of that.

DT: My understanding is that the residents were required to register with the Graduate School, also.

HMC: Yes.

DT: Did that continue throughout the 1970s and 1980s?

HMC: I think anyone who was pursuing a Ph.D. program anywhere in the university was under the aegis of the Graduate School, yes, had to have a required number of quarters, terms, of registration as a graduate student in that Ph.D. program. I couldn't speak to the details of that...whether it was in clinical surgery or whether it was biochemistry or whether it was horticulture on the Saint Paul Campus... I pass on accurate details on that.

DT: Sure.

HMC: But a related program, I certainly *did* get involved in. Let me see if I can think on this a little bit. A related issue, both here and nationally but more so here, was the question of what is a resident in a clinical department? I recall there was an article in one of the journals, maybe *The Journal of Medical Education* or *The New England Journal [of Medicine]*, that tried to tackle that question and listed the following several titles or responsibilities that a resident had. A resident was a student, a teacher, a clinician, a physician of course, a research investigator, much of which was under the province of the Graduate School—what else—counselor, I guess you'd say, and administrator, at least all of those five, or six, or seven roles. So, the question to what organization he owed his primary allegiance or paid his tuition or received his stipend from was complicated. That was especially true of fellows who had fulfilled a fair share of their residency training, but were now, by implication of the title, involved heavily in research, which was considered the province of the Graduate School as well as the Medical School. These were entangled relationships.

DT: I don't know if you'll be able to speak to this specifically, but related to that, it seems there was a lot of discussion from the residents, and I think there was some activism in Congress and, also, at the National Labor Relations Board as to whether they should be classified as students or employees.

HMC: Yes, that was a question, including a legal question, throughout the country, but it was far more acute and fought about here in Minnesota than almost any other place in the country, because Minnesota had these clinical Ph.D. programs. So the administration's position at the University of Minnesota emanating from the Medical School was that a resident, or certainly a fellow, was primarily a student, which means that his stipend is as a *student*, certainly not as a faculty member. That led to the question: Are resident stipends subject to income tax withholding, FICA [Federal Income Contributions Act], and related questions legally with the IRS [Internal Revenue Service]? The IRS maintained that they were primarily employees and, therefore, that stipend is income tax liable; and the university maintained that a resident was primarily a student, at least at the University of Minnesota, and, therefore, *not* liable to withholding or to FICA or to income tax liability. Of course, that was of great interest to residents receiving that stipend, of which there were—what did we have?—a thousand or more, not only stationed at the university but also the Hennepin County [Medical Center (formerly Minneapolis General Hospital)], the VA [Veterans Administration Hospital], Saint Paul Ramsey [Hospital], now Regions [Hospital].

That all wound up with the university attorney's office. I'm blocking on the name of the attorney who was primarily assigned to it. The dean, Wayne Drehmel, department heads worked with that attorney on legal suits over a period of years. In the meantime, somewhat similar was going on elsewhere in the country, but other institutions didn't have quite as strong a case as we did for the student aspect. My recollection is that the university finally won the most crucial case on it. The cases were primarily developed by

a suit of a former resident against, I suppose, the IRS, but carried through the university attorney's office. Yes, that was another area of turmoil, very much. I testified in court at least twice on that issue, and some of the rest of my colleagues more, including students who were selected by the attorney as good cases for a suit in the court, who, by that time of course, were through with their residency or fellowship or in the last stages of it.

One of the solutions in the cases that the university tried to make and backup with documentation was that we registered all residents, I think, in all four major teaching hospitals as they rotated back and forth one to another hospital. We registered them, and we developed a new category of student classification. There had already been a classification as—quote—a Medical Fellow, which was stated on the University appointment document and that was clear enough, the person was registered in the Graduate School, pursuing a Ph.D. during that quarter. But we developed a new category, Medical Fellow *Specialist*, which defined every other resident during any other quarter that he or she was a resident, and the university charged tuition for those people. I think that tuition was funneled through the Medical School for Medical Fellow Specialists, *not* the Graduate School. The appointment documents and tuition for a Medical Fellow, on the other hand, were administered through the Graduate School. It was over that category of Medical Fellow *Specialists* that the legal questions arose. The government maintained that it was a camouflage, which, in part, could be justly argued for calling it a student. But, on the other hand, tuition was paid and that's a criterion for a student.

[laughter]

HMC: Of course, the tuition was just part of the whole residency package. The department paid that tuition, I think, almost entirely from its income from private practice funds.

DT: Yes. It seemed like a very complicated issue, so I'm glad that you could explain it.

HMC: There's no question about that.

DT: I wonder then if the residents had been classified as employees if they would have had a case for having higher salaries rather than the stipend that they received? What that a concern? Was that an argument?

HMC: No, I don't think so. I don't know that that was a primary part of the issue. The fundamental issue was is a resident a student or is he or she an employee? If he or she is an employee, there is a liability for income tax withholding, FICA, and for income tax payment. [But if he or she is primarily an advanced student, there must be tuition charged by the institution—and there was, albeit tuition paid from departmental earnings.]

DT: Okay. Very complicated. [chuckles]

HMC: A lot of residents or fellows, or quite a few anyway, got involved. You understand the general medical educational term for a post residency is a fellowship in the clinical fields?

DT: Yes.

HMC: Just as a research fellow is in the basic science fields.

DT: I understand it. It's good that it's clarified for the record.

[chuckles]

HMC: Yes.

DT: If we can go backwards a little bit...

HMC: How are we doing on time?

DT: It is 5:25.

HMC: Okay. That's fine. I've got till 6:15 or so.

DT: We'll make sure we stop in time.

You mentioned a little while ago about the expansion of the Health Sciences during the 1960s. I'm curious...

HMC: But there was no Health Sciences as such. It was still the College of Medical Sciences with the dean of the Medical School as the dean of the College of Medical Sciences, including University Hospitals, until 1970 when Dean Bob Howard retired on July 1, 1970.

DT: Yes, that's part of the question I have, actually. When the College of Medical Sciences dissolved and it was reorganized into the Health Sciences Center... I know that you said this was a national movement, but what was the attitude among the faculty like both within the Medical School and, perhaps, in the Nursing School and things like that? Do you remember some of those discussions that were taking place?

HMC: One thing I haven't mentioned on that whole national picture, which was very important, including involving of the Association of American Medical Colleges and the Council on Medical Education of the AMA [American Medical Association] was that there were national commissions and national studies and national reports which affected the universities and medical schools in every state in the country. Those had an influence on this whole picture of turmoil that I mentioned and were very well known among the faculty. I guess a short statement on the faculty is that a lot of the faculty were concerned, involved, and some of them quite vocal on the whole thing.

DT: What were they concerned about in particular? What were they worried about?

HMC: Well, there certainly were people in the major clinical fields, general internal medicine, maybe to a lesser extent pediatrics, and very much in surgery and OB-GYN [obstetrics and gynecology] [who thought] that family practice and primary care would cut into their authorities and movements as specialties of medicine, and, of course, inevitably, thinking of their income as surgeons or internists. That's one thought on it. It's hard to separate out individual aspects of it, because it was a total picture.

DT: Do you have any sense of how the other units within the College of Medical Sciences reacted to the reorganization?

HMC: I can't speak for them. They have to speak for themselves. But I think the establishment of nursing as an independent School of Nursing was a goal and appreciated by nursing educators, sure, and the same thing for the College of Pharmacy. Dentistry was already independent. I think public health people were, over the years, always struggling to try to have their own recognition of their own institution and curricula and faculty, not be subservient to the Medical School.

Of course, the School of Public Health, in the period 1970s and earlier, probably the 1960s, too—although, I wasn't involved until late the 1960s—and its administration and its stature were all tied up with its dean. At that time, what was he called? Director or was he a dean? It was Gaylord Anderson who was a dominant international figure in public health and, especially, in public health education of a graduate nature. So, although, Bob Howard was the dean of the College of Medical Sciences, and, therefore, in theory, or title I guess, dean of the Medical School... I'm fuzzy on the title of Gaylord Anderson, but it doesn't make much difference. Gaylord Anderson was the dominant senior figure as compared with young Bob Howard, dean of the College of Medical Sciences. They respected each other very much.

JC: Did I understand you also want to know how people in Surgery and Internal Medicine felt about the new college?

DT: Yes.

JC: You talked about the people like nursing who, of course, were thrilled to death to have their own, but you didn't really answer her question about how a surgeon or a internal medicine person, for example, felt about it. Didn't you also want that?

DT: That's something I'm interested in, also. Thank you.

HMC: I don't know that I can give a fair and generalized comment on that. [pause] Of course, the first vice president for Health Sciences, Lyle French, had been a *long* time dominant head of the Department of Neurosurgery and had been the figure who separated

Neurosurgery from being a division under Surgery to becoming a full-fledged department. He was certainly a popular figure among clinical faculty people.

JC: I wonder if she's also fishing for the feeling that some of the physicians didn't quite look on nursing as a category of the same stature, which was something that nursing had been fighting for for years.

HMC: I don't know if I can comment on that.

JC: That was a big factor for nurses to get the kind of recognition that they had not gotten.

HMC: That's certainly true.

We got started on this topic partly on the School of Public Health. I should point out that when Neal Gault and I were medical students, and for many years thereafter as well as before, a primary course in the fourth year of Medical School was *the* course in public health and preventive medicine. Public health was known as both of those. Other medical schools frequently had a Department of Preventive Medicine or a prominent division of preventive medicine and would have a department within the *medical* school of public health and preventive medicine or of preventive medicine. At Minnesota, the School of Public Health under Gaylord Anderson was so prominent that the term preventive medicine was sort of an add-on and that senior course was looked on by medical students as a major stumbling block...

[chuckles]

HMC: ...among other things, because it was one of the few courses in the clinical years that called for a fairly formal essay on which much of the grade in the course depended, but not all. So the public health role in the Medical School was through public health and preventive medicine, in sort of one breath. I don't know if that says much, but that was certainly the case as far as medical students were concerned.

DT: One of the things that seemed to get mentioned with the expansion and reorganization of the Health Sciences was this idea that there was team teaching that could happen across the different health units. Do you recall this?

HMC: I guess it was both an attitude by some people on the faculty before 1970, but it certainly was prominent *after* July 1970 when the vice presidency for Health Sciences and the Academic Health Center were developed. From that day on... Well, Lyle French had a strong feeling of what you might call team teaching and certainly of student participation.

Under Lyle, or at least during his early period, there developed a student program called CHIP, C-H-I-P., Council of Health Interdisciplinary Programs [Participation]. That group developed with strong leadership in the Medical School, but, also, in the other

college units, and under the aegis and advocacy of Vice President Lyle French and his popular [Associate] Vice President Cherie Perlmutter.

I don't know if you're doing an oral history with Cherie Perlmutter, but she would be a good one.

DT: I certainly hope to.

HMC: She's around, you know.

JC: She's very sharp.

HMC: Yes.

That student group was a force, and, simultaneously, there were people on the faculties of the various colleges who helped promote that kind of thing. I think Bob McCollister, or certainly his staff in Curriculum Affairs, was involved in that.

[pause]

HMC: I had another thought, but I can't recall what it was now.

DT: Hopefully, you'll remember it. We can come back to it.

You mentioned Lyle French being the first vice president. How did that transition between Bob Howard and Lyle French come about?

HMC: [chuckles] How did it come about? Of course, part of it was in the context as all the rest of this we've talked about, in the context of the national movements, in this case in medical education and universities. Almost every medical school in the country was becoming a part of some kind of vice presidency, academic health center, or provost... Well, I shouldn't say all, because there are not and were not at that time, not every medical school in the country by any means had all of those units on one campus. Minnesota was fairly unique, including the fact that we had a Veterinary School at a major university. The transition then was in that context.

For example, there developed within, or an offshoot from, the Association of American Medical Colleges, the former "Dean's Club," a new somewhat comparable organization called the Association of Academic Health Centers of which Lyle French was a part. I think a lot of the answer on this sort of thing revolves around Lyle French, who was a very popular individual, not only at the University of Minnesota but very effective with the legislature as a university lobbyist and with the clinicians throughout the state. Lyle French had the reputation among family physicians, general surgeons, and physicians in the communities of the state as their friend and consultant. He probably had more physicians throughout the state referring patients to him and, therefore, to Neurosurgery, than many of the other specialties of Surgery, or Medicine for that matter. He was good

to collaborate with the physicians in the state, so he was an *excellent* choice for those times as the first Vice President for Health Sciences. I think the success of the vice presidency and the Academic Health Center revolves around the early vice presidency of Lyle French.

DT: How did he get to be so popular?

JC: He was Lyle.

HMC: [chuckles] Well, he was a Minnesota boy.

JC: He was very skillful, and he was very likeable.

HMC: All of that, and a leader nationally in his profession, neurosurgery, was well known as one of the prominent trainers of academic neurosurgeons in the country. He had always been—I say always—in the Medical School a leader in the Council of Clinical Chiefs. He had been chief of staff of the University Hospitals medical staff, which, in those days, was sort of the equivalent but more so than the current University of Minnesota Physicians, which is a common billing relationship. The Council of Clinical Sciences or Chief of Clinical Staffs in University Hospital was much more than I think it is now, but certainly Lyle was a leader in all of that. He had come through both Surgery and Neurosurgery under Doctor William Peyton, who, although he was not a vice president, became a department head as Neurosurgery broke off from Surgery. He was sort of a father figure to a lot of surgeons, especially neurosurgeons in the community. Lyle, just as June says, was a born leader. A lot of that leadership was related to his personal and professional relationships with physicians throughout the state.

DT: It sounds like a lot of the constituents who were, perhaps, upset with Bob Howard, were then warm to Lyle French.

HMC: That's true. I wasn't involved directly in that issue of private practice. Bob Howard, unfortunately, had to, more or less, stand alone on it. Lyle certainly was no strong supporter of Bob Howard on that issue.

Bob Howard was one of those people, I think, where his stature and accomplishments and vision as the dean preceded the reality yet to come. So I think it's probably fair to say that Lyle French took over as vice president, the new and first Vice President for Health Sciences at a time when he [meaning Bob Howard] was, perhaps, less appreciated than he should have been by some of the people in clinical departments. That's sort of my observation. Whether that fits everybody, who knows?

DT: During this transition, you were promoted to associate dean.

HMC: In 1967.

DT: Yes, as executive officer of the Medical School.

HMC: Yes.

DT: How did your responsibilities change?

HMC: I wasn't executive officer in 1967. That was an idea that Bob Howard had. Well, I don't know; it may have been 1967. When Bob was the primary advocate both through organized medicine throughout the state and with the legislature and the university for expanding the Medical School and developing new buildings under the national funding program of NIH and its division of the National Institute of General Medical Sciences, NIGMS, Bob felt it his responsibility and I think was strongly encouraged or urged by the university administration... Who would that have been at the time? [C. Peter] Magrath? Maybe Malcolm Moos or both. Bob had the responsibility to sell that enlargement of the Medical School and development of those extensively improved teaching and research buildings. He had to sell the legislature, too. The Federal Government didn't provide all the money. So it got into the legislative bonding bills, of course. Bob traveled throughout the state, especially meeting with county medical societies, which were branches of the Minnesota Medical Association, urging the physicians in the medical county societies to lobby with the legislature and with the populace of the state for the necessity and importance of getting those federal grants and state bonding monies to build Moos Tower, Phillips-Wangenstein, Pharmacy and Nursing Building, and so on. It was all a total program. In fact, Moos was known, in those days, as Building A. Phillips-Wangenstein was known as Building B. I forget exactly where C and D fit in, but F became Pharmacy and Nursing. That was a major job of Bob's.

Associate Dean Neal Gault, in the meantime, was off in Hawaii and Okinawa during that time, from 1966 to 1972, so I was the principal holdover. My companion assistant deans were more temporary, filling in for Neal, in effect, who was expected back sooner or later. Bob Howard said to me, "Well, you're essentially running the Medical School whether you know it or not. I'm out on the circuit. Let's give you a title now that is commensurate with what you're doing or supposed to do." He proposed the title "associate dean and executive officer". Then he also proposed "senior associate dean". Well, I was leery of those kinds of titles. [laughter] I think associate dean and executive officer may have gotten into the appointment documents for a year or two or so, but I was never comfortable with them

In the meantime, then, the building work was pretty well accomplished. The grants were made.

In the meantime, there had been this study—I'm fuzzy on the details of that—on how the university should organize as an academic health center, just as there were similar reports all over the country [*Report of the External Committee on the Structure and Governance of the Health Sciences Center at the University of Minnesota*]. So, with the picture as it was, Bob Howard resigned in 1970, and Lyle French became on July 1, 1970, the first vice president, but no new dean of the Medical School was appointed at that time. So I was, in effect for better or worse, acting dean. I recall Bob Howard taking me to the

office of Vice President [William G.] Jerry Shepherd, then vice president for Academic Affairs, and saying to Jerry Shepherd, "I think Cavert should be appointed acting dean." No. Sorry. It wasn't that way. Jerry Shepherd and Bob had talked about it. My recollection is that in a private conversation Bob Howard said to me, "I'll give you a piece of advice: don't ever become *acting* anything."

[chuckles]

HMC: That was one of his many quotable quotes, something like his quote on problems with problems.

So the term acting dean never got into it, but I was, in effect, in that role from July 1, 1970 to September 1972 when Neal Gault had been, through a very good search committee, brought back as dean [of the Medical School]. It was well understood by the faculty, especially the clinical faculty, that during that interim period Lyle French, who probably was the chief of the Council of Clinical Sciences at the time and, maybe, the head of the Administrative Board, was really the power behind the Medical School administration. Of course, his role soon evolved into the vice presidency.

DT: What was it like working for Lyle French?

HMC: I would have to add with Cherie Perlmutter, because Cherie Perlmutter was to Lyle French what I was or tried to be to Bob Howard and, later, David Brown.

Well, I was grateful for that development because it strengthened my hand. Lyle French, early on, July 1970 or soon thereafter, developed what he called the Council of Academic Health Officers, or something close to that. Council of Deans, I think it was. Since there was no other dean in the Medical School, I sat from the beginning with that council and continued to do that... I'm fuzzy on when that council first began. It certainly was a development of Lyle French. Cherie Perlmutter always sat with him with that council. So, yes, it was good.

DT: Then when Neal Gault came back, you then became associate dean for Academic Administration. Is that right?

HMC: Certainly when Neal came back, I was associate dean for Academic Affairs, which covered quite a multitude of portions of the dean's office. I may have had that title when he was gone, too; I don't recall. But it was understood that I was, at least by longevity, the associate dean of the Medical School, crossing over all faculty lines, dealing with graduate medical education, which means residencies, legal matters like tuition versus income tax. Grants, not so much management because that was within either the department or the central university, I usually signed off for the dean's office on grant applications, progress reports, correspondence, and so on. So I, with Wayne Drehmel, had a lot to do with keeping track of research administration in the Medical School.

JC: Relationships with everybody from students to hospitals to various department heads to Central Administration to everything. People used to call Mead “Neal” and Neal “Mead.”

[laughter]

JC: And they did almost to the day Neal died. They were interchangeable. Isn't that right? You won't say it, but I will.

[laughter]

HMC: Well, more or less perhaps.

DT: See, that's why it's great to have you here to throw that part in.

HMC: She has a somewhat biased viewpoint on most of these things.

[chuckles]

DT: Another achievement, it seems, that happened in the late 1960s was the establishment of a program for minority students. Were you involved with that at all?

HMC: [chuckles] As June says, I was...

JC: He was involved with everything.

HMC: Yes, in an administrative manner, to some extent. But I think I was less directly involved with that [program for minority students] than Bob McCollister. Bob McCollister had a superb staff with him dealing with medical students and curriculum and so on, including a relationship with Minority Affairs. Then, in 1970 or soon thereafter, when the Academic Health Center developed, the minority student emphasis shifted for us from the Medical School to pan-Health Sciences, because that was an issue in Pharmacy and Nursing and Veterinary Medicine, too.

Vet Medicine, although on the Saint Paul Campus, wanted very much to have its foot in both camps. The Saint Paul Campus Administration, yes, but equally as a health science. That was accomplished. The dean of Veterinary Medicine always was a member of the Council of Deans under Lyle French.

DT: Do you recall what the impetus was for the minority student program? What caused the attention to be placed on increasing the number of minority students?

HMC: We certainly got involved in Medical School admissions. The Admissions Committee of the Medical School had an important role in that.

JC: Recruitment.

HMC: Recruitment of medical students fell, of course, under the assistant deans and Office of Admissions and Medical Student Affairs, which by the mid 1960s was dominated by W. Albert Sullivan, even earlier, and Pearl Rosenberg and then, later, Helene Horowitz, the late Helene Horowitz and the late Pearl Rosenberg, unfortunately. A lot of the emphasis and leadership in Minority Affairs and minority recruitment, as June says, in the Medical School fell to that group, including the Admissions Committee. We had, I think, a grant program. NIH had to develop minority emphasis programs throughout the country.

An important branch of that was actually at the University of Minnesota-Duluth with its special program on recruitment of and training of doctors from the Native American community, American Indians. That program at Duluth was one of, maybe three or four, at the most, in the country in medical schools that had that emphasis. I think that it was either Kansas or Oklahoma who had another one and, maybe, a couple of the western medical schools. But Duluth had a special emphasis on it, and they had a Native American graduate physician...

[pause as the Cavert's clock chimes 6:00 p.m.]

HMC: Okay, time is...

JC: We have to be there at 6:30.

DT: We'll wrap up.

HMC: There was a Native American physician, and I'm blocking on his name [Robert E. Powless]. I didn't know him well or work with him very much. He became, I think still under Lyle French...in the vice president's office.

A lot of the emphasis for minority student recruitment moved from the individual colleges to supervision and emphasis by the Academic Health Center, not just the Medical School.

HMC: Cass Ellis [Dr. Cassius Ellis]. Cassius Ellis was a graduate of Meharry [Medical College, Nashville, Tennessee], at that time one of the two black-dominated medical schools in the country, and who was a general surgeon and trained under Owen Wangenstein. He was a wonderful minority physician for that time and that purpose. He became an assistant dean with Pearl Rosenberg in the Medical Student Affairs office. His primary job, at least by emphasis and importance, was to carry forward that whole program of recruitment, admission, counseling of and advocacy for minority medical students, who, of course, were primarily black students, but occasionally others. There were several Spanish-speaking, Latinos. Yes, Cassius Ellis should certainly be mentioned from the Medical School standpoint, from the medical student standpoint, as *the* focus for minority student advocacy.

DT: Were there special measures incorporated into the medical curriculum for these students?

HMC: Meaning what?

DT: Was there any concern that the students that came, some of the early disadvantaged students that didn't have the same opportunities at the undergraduate level, was there any concern that they weren't going to be up to scratch with the other medical students? I saw some documents that listed some students had special student status because they needed to take extra classes.

HMC: [pause] Well, I don't know what to say on that.

JC: I think Cass did a lot of that.

HMC: Well, sure. Cass was *the* focus and the leader for the Medical School in whatever had to do with minority students.

JC: He'd get them a mentor.

HMC: I wish he were around for you to interview. That would be wonderful. I don't know what to say further.

JC: I think they started things as early as high school, didn't they, honey?

HMC: Well, that was part of the...

JC: Recruitment.

HMC: Yes. That's true. If you talk with Bob McCollister, I think Bob probably has a better focus and knowledge for that; although, I knew and worked with and admired Cass Ellis. We would sit together and chat about such things after hours in the offices often, yes.

JC: His wife worked on it full time, too. They had wonderful kids of their own, but their home was home to many of these prospective people.

DT: Sounds wonderful.

HMC: He was involved in the residency, I suppose, recruitment but, certainly, appointment and daily work of residents, especially in the large surgery program.

JC: When he died, we went to not only his funeral but the reviewal the night before. We have never seen such a long line of people all the way around the block. Remember, honey?

HMC: Yes.

JC: They just came and came and came. It was at a black funeral home on the north side of Minneapolis.

HMC: Which is an indication that Cass Ellis was an important figure in the total black community, not just the Medical School or university.

DT: That is a shame. He would have been wonderful to interview.

HMC: Yes.

JC: It would have been great, including Phyllis [his wife] who isn't well at all. She's still living, but she's not well. She has MS [multiple sclerosis].

DT: In the interest of time, we should probably wrap up so that you can get to your...

HMC: I think I've certainly rambled on long enough.

DT: Oh, no rambling! You've been fantastic.

[End of the Interview]

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