RODMAN W. PAUL
(1912-1987)

INTERVIEWED BY
CAROL BUGÉ

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Abstract

Interview in 1982 with Rodman W. Paul, Edward S. Harkness Professor of History, emeritus. A historian specializing in the American West, particularly western mining, Paul joined Caltech's Humanities Division in 1947 and was instrumental in building up its history department. He comments in this interview on the state of the Humanities Division under its longtime chairman Hallett Smith in the 1950s and 1960s; on his efforts to build the history department; on the division's evolution in the 1970s under Robert Huttenback (see addendum) into the Division of Humanities and Social Sciences; on the eclipse of the behavioral sciences and the weakness of the division's literature department; on his relationship with the Huntington Library and the unsuccessful attempt by the Bancroft Library to recruit him; on the upheavals of the 1960s in the academic world; and on his service on various faculty committees, particularly the institute's Aims and Goals Committee. The interview includes recollections of Robert A. and Greta Millikan, Lee DuBridge, Alan Sweezy, Earnest Watson, Richard Chace Tolman, and the political controversies of the 1950s (Linus

Pauling, H. S. Tsien, J. Robert Oppenheimer), as well as his analysis of later campus and divisional trends.

Administrative information

Access

The interview is unrestricted.

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It’s not all science: Rodman Paul teaches a course in American Foreign Policy to Caltech upperclassmen, 1966.

CALIFORNIA INSTITUTE OF TECHNOLOGY

ORAL HISTORY PROJECT

INTERVIEW WITH RODMAN W. PAUL

BY CAROL BUGÉ

PASADENA, CALIFORNIA

TABLE OF CONTENTS

INTERVIEW WITH RODMAN W. PAUL

CALIFORNIA INSTITUTE OF TECHNOLOGY

ORAL HISTORY PROJECT

Interview with Rodman W. Paul by Carol Bugé

Pasadena, California

Session 1	February 5, 1982
Session 2	February 9, 1982
Session 3	February 17, 1982

Begin Tape 1, Side 1

BUGÉ: Let's start with your developing interest in history as a young man.

PAUL: My real interest in western history, as distinct from American history generally, began during a boyhood experience in Arizona. I was sick and was sent out to Arizona just before I was due to start at Harvard. I spent a year there. And in an emotional sense, I suppose I've never fully left the West since then—well, Pasadena's a very peculiar kind of West. After this very memorable year at Arizona, which is described in a presidential speech in the *Western Historical Quarterly*, I went to Harvard, where I had admirable teachers in American history, particularly my tutor, the late Paul Buck. And in western history, we had one of the best teachers in the country, the late Frederick Merk—whose obituary article I've written up. That too, will have some of my autobiography in it, as well as a tribute to the man who directed my doctoral dissertation and also taught me when I was an undergraduate and graduate student. Harvard had a superb group of American historians in Arthur M. Schlesinger Sr., Frederick Merk, Paul Buck, and James Phinney Baxter. Baxter, who was in diplomatic history, was the one who supervised my undergraduate thesis. It won the Phi Beta Kappa Prize and was published at that time, soon after the end of my senior year.

A lot of things led into western history. That undergraduate thesis was done on the

Japanese immigration issue, which, of course, was primarily a West Coast issue. The next thing I wrote, which was in my first term as a graduate student, was for Arthur Schlesinger. It was an article on Chinese immigration. Then, I shifted over to Frederick Merk for my thesis, which was later published as a book called *California Gold*. That's still in print; you would find copies of that in the library. And I'm proud that after thirty-five or so years, it still has mild sales each year. So that's the background.

While doing this work in American history, I had thought a lot about coming out to teach here, and had thought particularly of the Claremont group of colleges, which seemed a very attractive group of small colleges. I liked that. I'd gone to Harvard, which is a medium-size place. I didn't find the large state university notion a very appealing idea. But curiously, when the war was ending and I was seeking my first permanent job, as distinct from a multitude of smaller jobs at Harvard before the war, Scripps and Caltech both offered me jobs simultaneously. I was obligated to go and teach at Yale for one year after the war, because I'd already accepted an appointment before I knew about the two California jobs. My acquaintance with Caltech really began in the summer of 1946, just as I got out of the navy and was doing the final details about getting *California Gold* into print as a book. So a lot of things came together. The people at the Huntington recommended to Wally [J. E. Wallace] Sterling, who was then at Caltech, that they employ me. And both Caltech and Fred Hard, the president of Scripps, talked with me about a job, and specifically offered a job at a much better salary than Yale was going to pay me, but it was too late to come that year. The Caltech offer was interesting because it revealed something that I did not understand at the time but came to appreciate after I had arrived here. Wally Sterling—who, of course, later became president of Stanford and a very successful president there, too—did all the interviewing and all of the negotiating with me over a period of months. I didn't even understand at first that there was a man named Clinton Judy who was the chairman of the Division of Humanities. That, I found out after I got here, was characteristic—and I stress this somewhat. William Bennet Munro had tended to operate rather independently of Clinton Judy and to do things for the division without consulting him. Wally Sterling urged, "Always consult Mr. Judy." And yet Wally himself made the decisions and intended to go ahead. So the situation I found was a curious one. First, William Bennet Munro, who was then retired, and later Wally Sterling seemed actually to be directing affairs at that time and yet the chairman of the division officially was Clinton Judy, who was one of the most remarkable people

I've ever known—a most attractive, superbly educated, cultivated, old-fashioned gentleman. You couldn't help but become extremely fond of him. He was a unique individual, who had successively taken a master's degree in literature at Berkeley, Harvard, and Oxford. He read everything. His library, over on Shenandoah Road in San Marino, covered the walls of his great big living room, which was most of his house. You stepped into a world of books when you went into his home, and what's more, he had read those books. He had a very good mind—a very attractive personality. I came to think the world of him.

At the time when I came here, Clinton Judy had been chairman for many years; you could look it up, but I would guess it was probably thirty years, and maybe even forty years. But he had really been here since before the First World War. And at the time that Caltech was reorganized into its present structure, he became chairman of the Division of Humanities. If you talk to almost any of the older graduates, you'll find that they have strong recollections of Clinton Judy as a teacher and as a personality. He was a greatly loved person here.

BUGÉ: He regularly interacted with the students, did he not? He had seminars at his home.

PAUL: He did. He had seminars at his home. He read poems to the students; he read beautifully. He was the old-fashioned kind of teacher, well educated, very much of a gentleman—the old-fashioned kind that I regret has disappeared from the universities. He was not an aggressive person, not a quarrelsome person, altogether attractive. Being entertained in his home was an experience. His martinis were lethal; you had to learn that right away. I well recall when a distinguished student of American literature came to have cocktails with Clinton Judy. Clinton had asked me to bring the man there and then be sure that I got him to the Athenaeum in time to have dinner with Dr. and Mrs. Millikan, who, of course, were nondrinkers. This man didn't know about those martinis. In the end, I was helping him up those long, dangerous, open stairs of Mr. Judy's, and as we got to the stairs, there was something that Mr. Judy wanted to say to me. All I could say is, "Mr. Judy, I'll telephone you later." I had one problem on my hands—how to deliver this poor guy to a thoroughly dry president. This is characteristic. Many a person came out of Clinton's cocktail parties somewhat the worse for wear, but very mellow. Interesting people showed up there.

Now, I'm stressing this because Clinton Judy, with some aid from William Bennet

Munro, had assembled over the years a staff that he acquired in a rather absent-minded fashion. But it was effective for the Caltech of before the Second World War and immediately afterward. The core of it was a group of notable people that you should get into any reminiscences about this period of Caltech's history. Harvey Eagleson, who had been master of the student houses before the war, and a teacher of English for many years, had come here fresh from Princeton. I think William Bennet Munro had interviewed him at Princeton for the job. And then Roger Stanton, who went to Princeton for his graduate work but had been in banking before that, came here, too. And Bill Huse, who went through a master's degree at Princeton. There was this little colony of them. Winch Jones was a Princeton undergraduate who was adrift, came in as a teacher here and went on to become a most effective chairman of admissions and an entirely adequate registrar at the same time. When I got here, this little group, plus George McMinn, was the core of the Humanities Division.

BUGÉ: When you made the decision to come here, did you feel you were making a sacrifice, not knowing the caliber of the people in the Humanities Division but knowing that you were going to be at a technical institute?

PAUL: This bothered me at the time, and it did for some years after I came here—whether a humanist would survive in a scientific environment. The problem was the more difficult for me in deciding whether to come here or go to Scripps or stay at Yale with a very handsome raise in pay which they offered. The problem at Yale was that they had no real vacancy. It would be a year to year thing. It would have been, as they said, six or seven years before an assistant professorship would have opened up. And having lost four years in the war, I didn't want to stall around that long. Though the teaching experience at Yale was excellent. It did a lot for me. But the other two possibilities—Caltech and Scripps—were quite different. I wasn't overwhelmed, if you'll pardon my saying so, at the idea of going to a girls' college, though that was exactly the Claremont group where I'd thought of seeking a job during my graduate student days at Harvard. Most people on the East Coast didn't know anything about Caltech. The few that did thought it was like MIT—and it's never been like MIT. So yes, that was a real concern.

One of the great attractions, and one reason I came here and a reason why Hallett Smith came here a couple of years later, was that the Huntington Library offered a place for research,

and in those days it offered a small and very appealing group of people in one's own field—people you could have lunch with and talk with. So that in coming to Caltech, I felt sure that I wouldn't be cut off from my own profession and my own special field within that profession.

BUGÉ: You had spent the year of 1946 at the Huntington?

PAUL: I had spent the summer of 1946 on a demobilization fellowship the Huntington got to bring me out here. That was so I could tidy up the last revisions of the book called *California Gold* and then push ahead with the next project that I had. I came out here in the summer of 1946 and it was like paradise. It was lovely. The first day here I met two very attractive blondes who were working as staff members at the Huntington, and made a date with one, and went swimming in the Huntington Hotel pool with her, and I thought, Well, Lord, this is really paradise—the navy was never like this! So that I went away at the end of the summer with very pleasant feelings about the Huntington and a desire to come back to this area, and so took very seriously the Caltech offer. In the end, I couldn't accept either the Caltech or Scripps offer that year. Caltech filled in with a man who proved to be awful, for a year, and then repeated their offer in the autumn just after I'd gotten started at Yale. The chairman at Yale shook his head. He said, "Why, I never heard of anybody who went to California." Then he thought and said, "No, there was one person once who went from here; we never heard from him again." [Laughter]. This is eastern snobbery at its most extreme. And please understand, I had grown up in the East except for this wonderful year in Arizona and an equally good summer that my brother and I spent traveling around all the way from Montana to Utah, up and down. So I knew something about the West, and I didn't feel as appalled by it as that chairman at Yale.

But coming out here, I would stress that when I reached Caltech it was a small place then, much smaller than it is now, in terms of faculty and staff, and even distinctly smaller than it is in student body today. People were awfully kind when I came. Now, the people I knew best were, of course, in the division, and this was a most attractive group. I couldn't stress too strongly that this group of Clinton Judy, Harvey Eagleson, Bill Huse, Roger Stanton, Winch Jones, and George McMinn, Paul Bowerman—these were the people who were the division at that time. They were all well on in years. They were in middle age to very late middle age. They were a pleasant, well-educated, articulate group. The only one of them that had ever published anything

of a scholarly nature was George McMinn, whose highest degree was an AB from Brown. He had put out a book on the theatre during the gold rush in California. And George was an awfully nice elderly man, a charming, gentle, likable person.

I couldn't stress too strongly the attractiveness of the group that I found here. I wrote back home that it reminded me of the faculty of a boys' boarding school. It was that kind of a thing—a tweedy group. They didn't smoke pipes the way eastern schoolteachers did, but they were a tweedy, well-read group who were always discussing the latest issue of *The New Yorker*, or a book review in the *Times Literary Supplement* or the *New York Times Book Review*. It was that sort of a group—well educated, interesting, and socially very active. There was a very active social life of parties that swirled around these people. It affected many people besides the humanities group. Good scientists, such as Clark Millikan, were almost always a part of any party given. This group did a great deal to keep us in touch with the scientists. In those days, the informal relationships carried over to a daily luncheon table. There was always at least one, and sometimes two, of those big round tables at the Athenaeum that were dominated by humanities people together with friendly scientists, of whom Clark Millikan was the most frequent. Those were awfully good luncheons; discussion was good. Through that, and through parties, I think the humanities group, not one of whom was a scholar, had a real influence on the physical science community here. That's quite aside from the impact they had on students. So that there's a whole lot to be said for this somewhat old-fashioned, pleasant, nonscholarly group that I found here. I became very fond of them, and I would not speak in any criticism of them at all. For their day and age, they were admirable. If you talk to graduates of that era, I think you will find they would say the same thing. They have lasting memories of that group. And this is worth stressing, because those people were good classroom performers. In their old age, some of them weakened and began to give excessively easy grades. But except for that, they left an impression by what they did in class upon the students they had. They had students write papers that sometimes pushed the kids into quite deep thought about some problem or other, or some book they had read. So that was a type of teaching that was effective. I strongly suspect that it was a more influential type of classroom teaching than we've had in recent years. This is part of the price of trying to achieve scholarly eminence.

Well, that's the impression I got when I first came to Caltech. Now, William Bennet Munro was retired at that time. He came in just once in a while to handle his own affairs. Wally

Sterling disappeared almost at once. So that he, who had been slated to become chairman after Clinton Judy, within a year or so, really never was here, except in the very first few weeks of my tenure here.

BUGÉ: He was gone because he had retired?

PAUL: No. At the end of the war, he had leave to go away somewhere—the National War College, I think. So he was gone in 1947. He came back. He went over to the Huntington to be director there for a few months. Then he went to Stanford to be president. So there were only brief intervals when he was here. He took very little part in the division's affairs at all, even in those brief intervals. Well, he was a wonderful storyteller, raconteur. He was a striking personality. But he disappeared, and I found myself entirely alone with the history group's problems from the day I arrived.

BUGÉ: I saw a memo, just after you arrived, in which Clinton Judy asked you to be the voice of the history group.

PAUL: Yes. Right. That was to try to pull together the work in history, which was nowhere near as well established as the work in English literature. Clinton Judy, with a lot of help from Harvey Eagleson but with a lot of volunteering from Bill Muse also, had always run the work in literature. The work in history, believe it or not, was done by English teachers just before the war, when Caltech was hard up and they would try and hire as few people as possible. So yes, I was to do something to pull history together. That proved painful, because after about a year and a half I urged them to, in effect, let go everyone that was here and start all over again. If we had continued much longer, some of them would have been up to the point where you would have to consider them for tenure, which is a very difficult thing to go through. My feeling was that the people here were never going to be first rate. They were OK, but they weren't going to be first rate by any means.

BUGÉ: At that time, people weren't hired on tenure-track positions?

PAUL: Yes, Caltech was wonderfully open in that respect. You were hired in a vague sort of way. In this division at least, you never hired a person with the idea that "You'll only be here for a little while." You hired people into jobs that could develop into permanent positions if the person worked out.

BUGÉ: But they didn't have the right to demand that hearing, either.

PAUL: No, under the AAUP [American Association of University Professors] rules which had recently been adopted by Caltech, you had to notify a person before the end of six years, otherwise you had him for keeps after the person had completed seven years. In this case, I was trying to anticipate it. One of the teachers clearly was not good at all. One was adequate but wasn't going to be first rate. The only other one here was a part-time year-to-year person. So I urged that we start all over again. It came up just as Wally Sterling was leaving for keeps to go to Stanford. But with some aid from Godfrey Davies, Wally and I and Clinton Judy met. We decided on a fresh start. But that charming old gentleman, Clinton Judy, just couldn't bring himself to say that to the people affected. And so that problem continued. As always in such cases, the longer it continued, the more of a mess it became. It was settled finally in the opening days of Hallett Smith's term as chairman, and I think it was very hard on him. He showed courage and decisiveness in the way he handled it. He agreed with the analysis reached, and said, "OK, then we have to do it." So that in history we really made a whole fresh start. English had no openings for some years. They had added Kent Clark just after the war, and Beech Langston; that pretty well completed the staff, because they had several people, you see, who had been here for many years. People in English were easily the largest group and the most influential group in the division at that time.

Now, in this period I saw a great deal of Clinton Judy, because he needed help. It began because he was asking me to do what needed to be done in history. I was very careful, as Wally Sterling had urged but as my own instincts, too, would urge, never to go ahead without having first thought out the problem, then go and talk to Clinton Judy about it before you actually did anything. And it went very well on that basis. Then I began to help him with little chores, just because he was old and tired. He went home to take a nap after lunch most days. Either Harvey Eagleson or I would drive him back to his house. It's an indication of who Clinton Judy was that

he never learned to drive a car, never learned to use a typewriter. But it was characteristic of those days that Harvey Eagleson did some of Clinton Judy's chores and I did some of his chores.

BUGÉ: When you speak of chores, you mean administrative?

PAUL: Administrative chores. For example, when a deadline had to be met and we had been so notified by the dean of the faculty or the president, I would go and see him and ask, "Do you realize that in ten days we have to have made up our mind about this?" The response was always the same; with a characteristic gesture, he'd run his hand through his hair, look frustrated, and say, "Rod, you do it. You work it out and bring it to me. You know I'll sign it. But you just take care of it." That was because he had been extended beyond what he had expected as his term, because of Wally Sterling's departure to be president of Stanford. There was no immediate successor in sight. That's the point at which Hallett Smith came into the picture. Hallett had been here as a Huntington visitor when I first came back after the war. He was a most attractive guy, a little bit like Clinton Judy in that he was a well-educated and attractive and articulate person. He had made a great impact upon people like Harvey Eagleson during this guest year that he had had at the Huntington Library. When Wally Sterling had left and Clinton Judy wanted in the worst way to get out of his job, they turned instinctively to see whether Hallett could be moved away from Williams College. It developed that he could. There was little disagreement, because everyone liked Hallett, and Lee DuBridge was persuaded to interview him. Then there was a sag for some reason; I don't know, Lee missed the cue temporarily, but that was patched up and Hallett came on.

Hallett made a great impression when he came. He was a vigorous, articulate, imaginative sort of person. And being so well read, like Clinton Judy, he maintained this tradition of having a faculty of educated people who were interested in current affairs, interested in literature, interested in a view of the world that involved some understanding of culture and what it is. And by culture I mean the whole inheritance that you have of ideas, the ways of thought, the literature, the understanding of art that you've inherited. I thought that the first ten years under Hallett's chairmanship really went very well. It was a very happy time here. Working with Hallett was easy in those years. He, like Clinton Judy, turned over the history group pretty much to me, and the early mistakes we made are my fault, not Hallett's. He would

talk to me about most of the major things that came up. My only surprise was that Hallett didn't innovate much himself. I wasn't sure why, because he has a splendidly original mind. Hallett was a fine teacher here, and he had his own scholarly work to do. He was in the late stages of finishing his book called *Elizabethan Poetry* when he came here. That was published soon afterwards, and it became very quickly one of the classic books in its field. It is to this day a book that anybody would envy him for writing. It's a book that, blessings be, has stood up superbly. Everyone in English has read that. He added to this his work with the *Norton Anthology* of *English Literature* that was used throughout the nation. Hallett was one of the editors, and he emerged as one of the principal editors of that. Everybody I've met has been raised on the *Norton Anthology* and on Hallett's book *Elizabethan Poetry*. I meet a lot of English teachers at the Huntington, and this comes up again and again. Hallett really became, and still is, one of the most distinguished scholars of Elizabethan literature—particularly Elizabethan poetry and Shakespeare—of his generation, widely known and widely liked and respected. He's a fine person.

He introduced some things that were helpful—the AUFS [American Universities Field Staff] that you find in your records. This brought in an interesting group of people who had a special knowledge of remote parts of the world. Since we had no real teaching in foreign affairs and had no political scientists at that time, had no real contact with work in foreign relations, these men were splendid for a time. After a period of years, we outgrew them as we began to add people to our own faculty. But in the beginning it was an excellent innovation. They would meet with a few classes, they would perform as discussants at cocktail parties and buffet dinners, and they would give a formal talk. Each one had a pretty heavy routine while here at Caltech for a visit of a couple of weeks, but I think we all got a lot out of it. Hallett also thought up the Public Affairs Room, because he had seen something like that at Dartmouth on a visit there. That was an excellent idea. As you know, it's still downstairs today. So that by the end of Hallett's first ten years, we had advanced quite a bit. This was a more interesting place than it had been before.

The impending retirement of some of the older people in English was raising a problem that I've never fully understood. As they gradually reached retirement and as the people in philosophy reached retirement, nothing particular was done to recruit successors. I hate to raise it, but the difficulties we've had for the last fifteen years in English really date back to the failure

to make a substantial effort as each English person retired, to recruit a first-rate successor. It's much easier to do it one at a time and build up a good group than to be left in the position we are now, where we need four or five or six.

BUGÉ: So these people actually weren't replaced at all, or they were replaced with temporary positions?

PAUL: Well, they were replaced in a haphazard fashion. Hallett once called it his "mail order system." It really meant hiring people who wrote in and applied for the job or stopped in for an interview to ask, "Do you have any jobs?" You don't get the best people that way. In the meantime, I was recruiting whenever we had a history vacancy. And my own experience had been that if you worked very hard on it, you could get first-rate people. It was a new experience to most job applicants to think of teaching at a science university. But I would put in six weeks to two months of correspondence and telephone calls in advance of the annual historical convention, which is in the Christmas season each year. I would try to have lined up three or four or five first-rate young candidates before I ever went to the convention, and I would have definite interviews planned with them. I would already have written to the people training them and knew a good deal about them. Then at the convention I'd pick up two or three or four more. So that by the time we came to choose someone for a vacancy, I would always have on hand at least half a dozen good nominees, each with a dossier of letters about him, a transcript of his record, and I would have had an interview with each one of them—sometimes at the convention, sometimes at their home universities. Frankly, I exploited all of the rather numerous friendships I had within the profession. Having grown up in the East, I knew a lot of people at the Ivy League colleges—Harvard, Yale, and Princeton. I had taught, after all, at both Harvard and Yale, and I had friends at Princeton. I tried also to get people from the great Middle Western universities, especially the University of Wisconsin—to some extent Chicago. And I always got in touch with Berkeley and UCLA [University of California at Los Angeles]. Stanford was in a slump at that period. But by this means we would always have some good applications from East Coast people, a couple of good ones from West Coast people. I had much more trouble in the middle. The Middle Western area somehow wasn't as easy to cultivate, though there would always be at least one good candidate. It was not a strong period at Wisconsin or Chicago, but I

would try places like Michigan and Minnesota as well as Wisconsin, Chicago, and Northwestern. So that really very careful thinking and a great deal of effort went into each replacement that we made in history, or each net addition. And we got, in the end, good people.

The biggest single drawback in the early years was the lockstep of compulsory courses. Everyone that we brought here had to teach several sections of the freshman or sophomore course each year. In addition, they would teach whatever they wanted at a more advanced level. All of us performed in the once-a-week senior course on current public problems called History 5. That was quite popular with the students after we got it reorganized. But you see, this means that most of a person's time was taken up with required courses. It took an awful lot of energy, and people didn't always like that. It made it harder to recruit, because you had to get people who were willing to work heavily with freshman and sophomores plus giving a little of their time to seniors in the current affairs course. It's been much easier to find first-rate people since we got out of that. I'll come presently to the scheme I thought up to get out of it. But in those years, even with this handicap of required courses and the fact that many young graduate students were scared off by a scientific university, I nevertheless found we could get good people. We could get just about the top of the list of graduating PhD people from first-rate universities. And the better we got, the easier it was to hire the next person. Sometimes we could get the more advanced people. I've always remembered when we had just adopted the idea that it would be possible to major in history and that meant we would have to strengthen our staff. I went to see Hallett Smith, who said, "Well, you go to Bob Bacher, the provost, yourself, and you can do the job of selling him. If you think we need more people, you'll have to sell it." So I went to see Bob Bacher. Typically of that man, who was a good friend and a fine provost, "Well, Rod Paul, what do you want this time?" I said, "I want two people. I want a French historian and a medieval historian." He waved his finger at me and said, "You can have one French medieval historian." And that is how we got John Benton [laughter].

BUGÉ: Nobody, in the meantime, was trying to urge Hallett Smith to do more creative recruiting or more aggressive recruiting, or taking that job over from him?

PAUL: I'd have to give you a yes and no answer. I think we all felt hesitant to push it. Because Hallett by then was so well recognized as a genuinely distinguished scholar, a first-rate scholar,

and an awfully attractive, likable personality, and he was the chairman. I raised it, yes, particularly about philosophy, because I knew that neither Hallett nor I knew anything about philosophy, so that was neutral ground. And when Hunter Mead died unexpectedly from cancer, for example, I urged that, and Hallett's reply always was, "Oh, well, the slot will always be there; we'll find someone by and by."

BUGÉ: And no pressure came from above? From DuBridge?

PAUL: I can't tell you that. I don't know whether Lee DuBridge or Bob Bacher put pressure on. But there was a real neglect that was total in the case of philosophy. We at one time had three tenured senior philosophers—Hunter Mead, Chuck Bures, and Alfred Stern. One of these, Alfred Stern, was a distinguished scholar, very European. One, Chuck Bures, was a notable campus personality and no scholar at all, but a striking teacher. And the third, Hunter Mead, made a great impact on graduate students. You know, there's a concert series in his memory today because so many graduate students appreciated his teaching and his work in music, which was a hobby with him. As the three philosophers died off, we didn't fill any of those vacancies. As the English people retired, their successors were hired in a careless fashion or in a convenient fashion. For example, with all due respect to the Claremont Colleges, I never understood why we hired two people in a row from out there. Hallett himself taught there, and I asked him, "Well, is that really a first rate graduate school?" And he said, "No, it's not." It was easier to take people from there. But I felt convinced that we could get people from first-rate Ivy League or the big Middle Western universities or Berkeley or maybe UCLA in these years, just as I was doing in history. In the few discussions that we had, Hallett said, "Well, who would come to teach English here?" And my answer was, "But look here, I've proven in history that you can get good people, although it's an awful lot of work."

BUGÉ: Plus he was there.

PAUL: Well, he was there, but that's different, because Hallett came in as chairman. And he came in because the Huntington Library fitted his field beautifully. And Hallett had been at Williams a long time. So that's a little different; you're hiring a senior person of distinction in

Hallett's case. No, Hallett did make an attempt to hire Bob Allen, his friend from Williams days, and that would have been a fine addition, because Allen was in literature but with a related interest in art. But that just never went through. Most of the people in English that were hired were simply people who applied or were nearby. I mention this because the biggest single problem we've faced in the humanities half of this division for the last fifteen years has been how to rebuild English. We lost a group of old-fashioned good classroom teachers who were a splendid influence on the campus and good classroom performers. In place of it, we got people who were no better as teachers, if as good, and they didn't turn out to be scholars either, and everybody became unhappy with them.

Begin Tape 1, Side 2

PAUL: This is worth mentioning because, as you know, Jerry [Jerome J.] McGann, who gave the Watson Lecture on Wednesday night, has only just come this September. He's the first major appointment in literature that we've been able to make since Hallett retired. With Hallett's retirement, we lost the only distinguished person we had. It's harder to recruit if the young person applying doesn't see that there's at least one notable person there in that field. If you have two or three people who are well known, it's infinitely easier. Then the young man or woman feels, "Well, I'm going to a place that has strength and that has a future." I explain this with some diffidence, and I don't want this spread around for quite a number of years.

BUGÉ: That's understood.

PAUL: But it's been one of the big problems we've faced. Now, this is the characteristic of Hallett's second ten years as chairman, as distinct from his first. In the second ten years—not right away but toward the latter part—Hallett tired visibly. My friend David Riesman, who was brought out here as a consultant several times over to give us advice, once summed it up to me when he said, in puzzlement, that he didn't understand really, any more than I did, why so bright a person and so able a person as Hallett wasn't putting more thought and effort into the future of the division. David described Hallett's administration as listless. I think that adjective, listless,

is a pretty accurate one for certainly the last six or eight years, maybe most of the last ten. There were very anxious times in those years. I talked many times with Bob Bacher and Lee DuBridge—sometimes with one of them, often with both of them—about this. They were as aware as I of how serious it was, that we were doing nothing to build up the humanities outside of history, which was going very well. Please understand also that in these years social science didn't amount to much. Hallett brought in his friend Alan Sweezy, whom I had known way back in Harvard days. He was, and is, a really great teacher of economics, and economics is not rich in great teachers. There are lots of scholars in economics but very few good teachers. Alan is unique, and bringing him to Caltech was one of the most constructive things Hallett ever did. Alan is a superb teacher. He got students aroused and excited. At the same time, we had here a fellow named Mel Brockie, who's dead now. Mel was a funny guy. He was a bundle of insecurities. He went through a period of alcoholism and had to be suspended for a while. You could never get a decisive answer out of him, because if you asked about this or that phase of the economy, he would quote two or three famous economists in rapid succession, telling you what each of them said, and leave you to make your own judgment. But the fact is that students appreciated Mel. And between Alan, who was first-rate as a teacher, and Mel, who was strangely better than his own psychological problems, we really were producing some bright economists, such as Roger Noll, who went on into graduate school somewhere else—usually good places like Harvard—and have emerged and have gone on into the economics profession. Now, this was done almost on the side, you see, on the basis of only two good undergraduate economics teacher.

BUGÉ: They were almost accidental appointments, too.

PAUL: It was almost accidental. But Alan was so good as a teacher, and he helped Mel along. And poor Mel Brockie went through his psychological ups and downs, but I would say rather firmly that many more students were laudatory of Mel's teaching than critical. And I say this because Mel got into so much difficulty—it's one of those problems that goes back to his relations with his father, his insecurities, release in alcohol, getting dried out, coming back; it was a complicated problem. There were times when Alan was the only full-time teacher who was on a regular appointment. We had to fill in for periods. But we had some good fill-in

people, young people that Alan found us for a year or two.

BUGÉ: Alan was from Williams also, wasn't he?

PAUL: He was from Williams. He had been the most popular undergraduate teacher of economics at Harvard when I was an undergraduate. Alan was the Sweezy of the famous Walsh-Sweezy tenure case at Harvard. That's the case which has set the present nationwide pattern of tenure practices. The whole AAUP criterion of deciding on tenure is really an outgrowth of the Walsh-Sweezy case. There's a famous report on that that Harvard published years ago; it affected the whole country. But Alan was a person who didn't want to be a research scholar and he did want to be a teacher. He'll be a teacher until the moment he deceases. And Alan, like Hallett, was a very attractive, articulate and well-read person. He fitted in beautifully into the environment here. Beyond that, we, for a long time, did nothing in the behavioral sciences and nothing further in economics. I did dream up the idea of going into political science to the depth of one person, who was Jim Davies. Since I didn't know anything about political science, I approached an old friend of Harvard days, Pendleton Herring. Pen Herring had gone to Washington to be the executive secretary of the Political Science Association or something like that; he had a major job there after his Harvard days. He recommended to us a young man named Jim Davies in political science, who was very good as a teacher here for a number of years. In the end, his scholarship bogged down utterly and things didn't go too well, so he went to the University of Oregon. But for a time, Jim was here on the double assignment of teaching his own field, political science, and helping us in American history. So to that extent, we broadened out and the AUFS program brought us a number of people who were trained in political science or economics or anthropology.

BUGÉ: Did the scientists participate in the AUFS program?

PAUL: The scientists did participate, yes. Some of them liked the program very much. And I think in its early years it went very well. I don't think the depth of science participation was as great as one would have liked to see. If you put on a party, as all of us did, an informal buffet supper, and then towards the end of the party the AUFS man would talk informally and then

answer questions, that's when the scientists met them most frequently. We would arrange a few luncheons for them at the Athenaeum, too, because scientists didn't very often come to the classes or the forums that we'd organized between the AUFS and the student body.

BUGÉ: Either the students or their professors in the sciences?

PAUL: No, the students did; they would usually come. But as the years passed, student interest dwindled, because they were getting so much else. But at the end of Hallett's term, which was about twenty-one years, this was about as far as we had gone. Now, in the meantime, as you'll see in those various memoranda you've got there, I was stressing in those days several things. One was that the student body had changed. We were selecting them more carefully against nationwide competition, nationwide norms. The faculty was a broader one, more widely interested. And the world around us had changed. In other words, my point was that the students, the faculty, and the world had all changed. Our teaching pattern, which went back to days before the Second World War, if not almost to 1920, really wasn't adequate any longer. I thought the humanities and this very thin associated body of work in social science was not adequate for the world into which the students were graduating. It wasn't enough of a challenge for the degree of brightness that our students then had. All the admission exams showed that the kids were not only up in the ninety-eighth and ninety-ninth percentile in mathematics and physics, as you'd expect, but that they would be up in the ninety-fourth percentile in English, which was the only humane subject that they ever were examined in. So that I thought students, faculty, and the surrounding community all had changed, and that we had to meet the challenge presented by those changes. Really, the difference of opinion between me and Hallett was over just that point. I thought we were overdue for changes. And I was profoundly disturbed by our failure to recruit at all, to replace the philosophers, and by our absent-minded, careless recruiting in literature.

At this point, the physical scientists got into the act, with the notion that we should get into the social sciences. Some of the people within our own division thought that, but quite a bit of the push came from interested scientists, who thought that it was incredible that we did nothing, at a time when MIT was becoming a great school of economics and to a lesser extent of political science. As they looked at MIT, they said, "Why is it that we do almost

nothing except for Alan Sweezy." There was a good deal of point to that criticism. We had a long tumultuous and divisive dispute over the social sciences. When it came right down to the issue, the physical scientists split. There were those who had urged us to do something, and there were others who panicked when we began to come forward with plans. They panicked because they saw this as a great engulfer of money, which would be drained out of physics or chemistry or something like that. Furthermore, the physical sciences, and particularly the engineers, were skeptical. On the whole, the engineers tended to object on the grounds that it would divert money away from them. The physical scientists on the whole tended to be skeptical of whether any respectable work was being done in social science. They had in mind the kind of so-called "soft social science," where a person with no particular research writes a book that explains all of mankind's evils in 300 pages. This is, of course, a totally erroneous understanding. But you'll find there are five or six years there of terribly time-wasting arguments over what we could or should do in social science. The situation was made worse because Hallett was quite set against introducing the social sciences here. At a cocktail party one night, he made a most unfortunate remark that I kept hearing quoted around the campus. He said, "Well, I'm glad I'm still here to block things." This was most unhappy. It created a negative impression that didn't do full justice to Hallett himself. After all, it was said at a cocktail party. But Hallett did drag his feet. He didn't so much stubbornly oppose as drag his feet and present obstacles to the introduction of social science on a significant scale.

BUGÉ: He must have been ambivalent about it.

PAUL: At least ambivalent, if not opposed.

BUGÉ: In the memorandum that I have here, his comments to Lee DuBridge are added on the end. And Dr. DuBridge wrote back that he seemed to be defensive and not constructive.

PAUL: Well, I haven't seen that. Hallett wouldn't have shared that with me. No, Hallett was most unenthusiastic. I always felt that he was really more opposed than he wished to state publicly. So that it was an awful struggle. This came at the same time that we were debating whether we would permit undergraduates to major in some field other than science and

engineering. I had the notion then that the quality of the students we lost was so high that any other university was glad to receive them. We saw that again and again. They would transfer to first-rate places and often do well there. So that I thought, Well, they're worth doing, and they're so responsive as I saw them in history classes that I wanted us to be able to grant degrees—undergraduate degrees only—in history or economics or English literature. And that was finally voted through. In the case of economics, all this did was make an honest woman out of an arrangement that had existed for years. With Alan and Mel Brockie teaching so successfully, students had found that they could major in mathematics at Caltech, take an awful lot of economics, and go straight into graduate work in economics, and in fact, be ahead of most of their colleagues. They would have more math than any other economist. Mathematics was so flexible at that time that the student had plenty of time left over to take all of our not-too-numerous offerings in economics. That's really how people like Roger, and a list of, I suppose, seven or eight other first-rate economists—that's how they went through Caltech. So that, permitting a major by a legal vote of the faculty—and boy, was that a fight—really was simply recognizing something that in fact existed in economics, and I hoped that it would exist on a small scale in history and in literature once it was legally possible. In practice, it hasn't gone as well in either history or literature as I had hoped. And in recent years, it's sagged in economics.

BUGÉ: What would you attribute that to?

PAUL: Part of it has been that there's a funny paradox. Once they began to recruit heavily in social science, the social scientists were diverted from what had been an excellent undergraduate program into looking after the twenty or thirty graduate students that they acquired. Every year they've argued that if they could just have one more economist or political scientist, they'd have enough manpower to do the job properly. But I really think there's been a falling off in effectiveness of purely undergraduate teaching. I don't think that's true in political science, because that came up from zero and acquired a really brilliant group of people. But the economists have had trouble. They've had trouble getting theoretical economists; they've had trouble hiring really good young people. And they've correctly refused to hire second-rate people. The result is that in recent years there's been a curious reversal. The undergraduates have been much more critical of undergraduate economics than they were in the days before

there was a major. And that is, I'm afraid, a reflection of the diversion into graduate work and into grant and contract work. Remember that, in their defense, the social scientists have done an awful lot for EQL [Environmental Quality Laboratory] and JPL [Jet Propulsion Laboratory]. They've taken on an awful lot of responsibilities. Does that help to explain your question?

BUGÉ: Yes.

PAUL: A lot of things happened at once. Towards the end of Hallett Smith's term, Lee DuBridge was retiring. We were legally establishing undergraduate majors in those three nonscientific fields. We were about to introduce graduate work in social science. And a then rather obscure young member of the faculty, Carver Mead, had introduced a resolution before the faculty that a committee should be appointed to study the aims and goals of Caltech. Carver wasn't then the very well known and successful scientist he is now. Carver's resolution was approved by the faculty, and Jesse Greenstein, then the chairman, appointed a committee of twenty of us. And I can assure you, that was three years out of my life; it took an awful lot of time. But this reappraisal of what we were doing at Caltech, how we were doing it, what we should be doing, coincided with the end of Lee DuBridge's presidency, with the search for a new one and the appointment of Harold Brown. It also coincided with the end of Hallett's term as chairman and of Fred Lindvall's chairmanship of engineering. So an awful lot happened at once. Those were terribly busy years. Other things intruded, too. I speak with feeling because I ended up on all of those committees. The faculty, as they saw the end of Lee's familiar regime approaching, quietly dug their heels in and decided to protect themselves against an uncertain future. There was a faculty committee on by-laws, which is a kind of continuing constitutional revision committee; at least, in those days it was. I was on that, too. But you could just see what the faculty was doing. They were taking back the chairmanship of all committees, many of which had been chaired by administrators up to this time. The last one to go was Admissions, and that was because Winch Jones was so respected that they left that alone while he was here. When he retired, they took that, too. In other words, the faculty was quietly protecting itself by taking over the chairmanship of all committees and by setting up arrangements that would give them a voice in what was happening. That's a period of tremendous change, tremendous stir and controversy at Caltech. And right in the middle of it was the question of whether or not the

social sciences should be introduced. The trouble about the social sciences was that none of us really understood modern social science. We didn't have anybody. Then, through a curious chain of remote association, we ended up with Lance Davis, who was and is an excellent economic historian who is very much in the center of this very modern mathematical type of social science. The big push forward to do something after five or six years of talk and no results came when Lance Davis appeared on this campus. Lance pushed hard for the quantitative, that is, the mathematical type of social science, which is also a very theoretical type of social science. You set up a hypothesis and then you go and find the quantitative data to prove it. To a historian, this is a backward way of doing things; you find your evidence first, and then you try to build a theory. But never mind, that's the way Lance always explained it. And the present highly quantitative character of social science at Caltech really dates back to the fact that Lance was the first well-trained, well-informed person in social science that we'd had. He was an enormous help in getting that started. But he pushed us decisively in one direction.

BUGÉ: Do you think this also had something to do with the political timing; society was ready to see that application of social science and to pay for it?

PAUL: Yes, I think you're right. I think that is true. There was also an enormous number of big public problems for which answers were sought, and this looked like a possible avenue to answers. So that I think you're quite right. In Washington, for example, quantities of projects were being started with government grants that aimed in this direction.

BUGÉ: I think it was the cornerstone of Lee DuBridge's drive for financial support for the institute.

PAUL: Yes, it probably is. Now, the social scientists that have come in under that program have been awfully good people. That's done very well. Except that in recent years they haven't been able to hire economists. But the tragedy of it is that as originally conceived—and I was on all those committees to draft it—all those endless, weary reports that we put out, which I suppose are now thrown away, though you may find them in the files, draft after draft. I kept insisting that we needed the behavioral sciences just as much as we needed this new, quantitative, so-

called “hard” social science. And that got lost in a wilderness. Part of the trouble was with Ted [Thayer] Scudder, the only anthropologist. He was, and is, a first-rate anthropologist and a very good friend. But Ted was funny; he never came forward with candidates, as Lance Davis did. Lance was aggressive and always had a list of people we should hire, that we had to hire; he’d be very insistent about it. Whereas Ted Scudder only seemed to have one candidate and that was his friend Elizabeth Colson, who was his partner in this notable study of the development of an African tribe before and after the flooding of the Aswan Dam. The rest of us didn’t know any behavioral scientists. We went out searching for them. Some of the ones we brought in were really pretty drab; they seemed superficial. And that’s an awful pity.

The Beckman Behavioral Biology building across there was supposed to be the twin to this building—the linkage between the work that Roger Sperry and the late Jim Coleman were doing in psychobiology over there and our building would be the behavioral social scientists. We would get people whose work would relate to the work in the neurological systems, and the connection of that with the psychological processes, with Roger’s work in splitting the brain over there—all that famous work. I thought of that as a way to prop us up when we were young and weak in this field; in a sense, we could lean on biology. You’ll find a memorandum that Bob Bacher asked me to write once. I urged that anthropology and psychology were the fields that we should cultivate and that I was even quite ready to have the research in them done jointly under Ray Owen’s chairmanship, but jointly by the two divisions as a starter, because Ray knew how to run a research program and knew how to handle grants and how to get grants. He’s a fine guy that you can trust completely. So that the tragedy of the social sciences here, in a sense, is that a good beginning was made in a highly quantitative, highly mathematical type of economics and we never got started in behavioral science. It never got anywhere, and hasn’t to this day. Ted Scudder is still pretty much alone. Bob Bates came in and he found he almost had to take some courses in quantitative methods in order to be accepted at all by the hard social scientists. Indeed, I had trouble getting him appointed. Lance said, “You can’t accept him as a social scientist; he doesn’t know any mathematics.” So I said, “OK, we will hire him as a behavioral social scientist.” “Well, that’s fine.” So by a change of terminology, we hired him. Bob has done distinguished work on Africa. We had thought that with Munger already here and Scudder already here, we would focus on Africa as an overseas area, because we couldn’t afford to scatter our very limited strength over the whole world. It was better to hire a political scientist who

would work in Africa with Scudder, an anthropologist already working there, and Ned Munger, who had for many years been a political geographer working in Africa. But aside from that, we just didn't get behavioral social scientists. It just seemed a shame that we weren't doing anything for the types of psychology, the types of anthropology, that would have linked up with the more scientifically oriented research going on a few feet away in the new Beckman biology building. So we were neglecting that.

One thing that has helped the situation in social science is that unexpectedly we got two first-rate young social scientists—John Ferejohn and Mo [Morris P.] Fiorina together. We went after one and got two. On that basis, social science has built up in the political science area—though it's political science as related to economics. That's become an extremely good group. Lately they've acquired people like Bruce Cain, who are much more humane than some of the earlier economists. John Ferejohn is deeply read in philosophy, has a brother in the field. So that the unexpected, unplanned growth of a very significant political science group here has done something to dilute the excessively economic and quantitative character of our early work in social science. But don't underestimate these social scientists. They've done awfully well as a small group. And I think it's a real heartbreak that they've had so much trouble recruiting in recent years. They've built up as a place where you can do graduate study; they've placed their products in good institutions. I think there's every sign that they're doing significant work and pioneering work. It's work that goes across the lines of economics and political science and some other fields, too—even into psychology now.

BUGÉ: Do you think that small group is resented by the institute at large?

PAUL: Well, it's a funny situation. They themselves are a very aggressive, noisy, intensely articulate crowd. They have not made the effort to go out and meet physical scientists as much as I could have wished. They no longer meet with most of the humanists. Two of the humanists—[J.] Morgan Kousser and Dan [Daniel J.] Kevles—are very close to the social scientists and that's no problem; they are an excellent bridge to it. But, no, in answering your question, I think the social scientists have become defensive here because they think people don't like them—and in some cases that's true. There's been a great deal of opposition to them repeatedly from physical scientists who make fun of the mathematics that is used in this building

and say it's kid stuff. I don't believe that's quite fair. But a part of the trouble is that we've only had the money to build up this one type of social science. We haven't got the balancing element of behavioral science, which would have related, as I wanted it to, to history and literature and psychology, and to behavioral biology, psychobiology, neurobiology. A very important link, in other words, dropped through the cracks.

BUGÉ: Has there been a corresponding decline in the importance of the old humanities?

PAUL: Well, the old humanities is certainly not doing as well as it used to or as it should. But that's a mixture of forces. One is the decay of English, which Jerry McGann is now starting to try to repair. History is, in fact, strong. History is dangerously close to being almost distinguished; if they could get one or two other first-rate people, it would really be quite distinguished. Part of the problem is the decay within the division itself. Part of it has been the commanding position taken by this very aggressive, vigorous, and very able group of quantitative social scientists, who are not at all sympathetic to humane fields. Actually, Lance Davis, who's gotten a bad reputation, is in fact a well-read and warm human being. Lance's tendency to dogmatic statement has given people a wrong impression about him. Lance is an awfully good person. He reads all kinds of things.

And understand, too, that money for a long time under Harold Brown was scarce. Naturally a chemist or a mathematician began to see that if another economist was hired, this might mean one less chemist. They said, "Which is more important to Caltech," and the answer seemed to them very obvious. So it was a very difficult time. The year I spent as acting chairman, I was right in the middle of that awful struggle for money, because Harold Brown and Bob Christy really tightened up the screws very hard financially. Does that answer your question somewhat?

BUGÉ: Yes.

PAUL: So, we've changed from Lee DuBridge to Harold Brown, from prosperity to hard times, and now back to much better conditions financially. Look at the way the historians have been allowed to expand in the last several years, simply in order to acquire good people. It's made an

interesting and very good group in history.

BUGÉ: How many historians are there now?

PAUL: I suppose there are about a dozen; I'd have to count it up. We used to be stuck at nine. But Eleanor Searle and Phil Hoffman represent net additions and very able additions. And the Mellon postdoctoral fellows add something; there's usually one in history and some in literature. So a lot is being accomplished. But at the moment, I would say that while we're doing a lot, it's lopsided. Above all, literature has to be strengthened; everyone agrees to that. Philosophy really needs to get restarted or else be given up forever. I would hate to see that happen. I still think we need some behavioral scientists—anthropologists, probably cultural anthropologists. Maybe you could find a good sociologist, though they're harder to come by.

RODMAN W. PAUL

SESSION 2

February 9, 1982

Begin Tape 2, Side 1

PAUL: I'd like to back up for just a moment. You asked about how I ever came from an eastern background to come out here. Was that answered adequately last time?

BUGÉ: You could elaborate. You explained the geography and the Huntington Library, but not what you thought it would be like teaching scientists rather than being in a liberal arts environment.

PAUL: Well, that was an unknown. And in retrospect, I think I was very naive about it. If I'd known what a struggle it would be in some respects, I'm not sure that I would have come. But at the end of the war, I was eager to get ahead. I'd always wanted to come to California, and I'd wanted to come to this part of the state as it was at that time. So this fitted in quite well. And I can't stress too strongly the importance of the Huntington Library next door. I'm sure that neither Hallett Smith nor I would have come without that wonderful research outlet. As I said to you last time, this also was a means of meeting people in your profession. One of the weaknesses of teaching in a scientific university is that you don't have as many professional contacts within your own discipline or related disciplines. The Huntington Library through the years has done an enormous amount to reduce that isolation for me. It's done a great deal to keep pushing me in writing, too. When you come to a scientific university, you lose the push of having to prepare for bright undergraduate honors students in your field and graduate students in your field. When you have to keep up with your best students, it's a very good thing; it makes you work. So that, yes, I was naive about that. And as I look back on it, the descriptions given me, by Wally Sterling primarily, didn't really give me the sense of the place that I got once I arrived here. Caltech was in a transition then. Lee DuBridge had just taken over as president. He'd taken over in between the time they offered me the job in 1946 and the time I arrived in

1947.

BUGÉ: Did you know this change would take place?

PAUL: Yes. An executive committee was running the university temporarily while they tried to persuade Lee to come. Of course Lee was a wonderful person to serve under—a kindly, understanding person who was an admirable listener. I never had anything but the warmest feelings, and still have, for Lee. He was the kind of president you couldn't possibly dislike. And the fact that he ran the place with so little friction is a real tribute to his diplomacy, his decency, and his understanding of a wide variety of people. Caltech had, at the end of the war, some unusual people whose wartime experience had greatly broadened their outlook. It had brought them into touch with other disciplines, with people from other types of life who weren't in a discipline at all but were in government or business. Caltech, when I came to it in 1947, had a fascinating faculty. Richard Chace Tolman, for example, would stand out in my mind as one of the most interesting and attractive, one of the brightest minds on the campus. He was just back, of course, from work that included advice on the atom bomb. He had been a principal science advisor during the war. And it's an evidence of his kindness—I'd only met him briefly, enough to shake hands with him—when he saw me come into the dining hall one day, to help me. He looked up from one of those round tables and said, "Ah, here comes culture. Have a seat in that empty chair." And he then introduced me around and deliberately drew me into the conversation. It was a typical kind of Richard Chace Tolman kindness done unostentatiously, and done in a way that made you feel good. Richard did many things. I was told he was the one who had quietly subsidized George McMinn's book on the theatre of the gold rush era. That, as I told you, was the only scholarly book anyone in the division had ever published, so far as I could find out when I came here. And that was something I had not anticipated. I had assumed there would be some scholarly work.

But there were people like Richard in the early years. Bob [H. P.] Robertson, who became a good friend, was another. Bob was then well started on what was a lifelong career as a major advisor to the armed forces on the role of basic science. Bob and Angela, who is still here, of course—Bob and Angela lived in the Athenaeum when I did, as they sought to find a house. So I came to know them. There were many others. The two Lauritsens, Charles and Tommy,

father and son, wonderful people. And then there was Earnest Watson, the dean of the faculty, who was a most understanding and helpful person to have in charge of a faculty such as this. Paul Epstein should be mentioned too, a brilliant person, widely read, quite dogmatic and quite charming. So that when I came here, they elected me to this group known as the *Stammtisch*, a German word. Really it was a discussion group that met once a month to have dinner somewhere, sometimes in a private house, sometimes the Athenaeum. And the discussion would roll over all types of things. Richard Tolman and Paul Epstein had founded it before the war, and now they were reviving it. Through that I met such intriguing people as J. Robert Oppenheimer when he came back on visits to Caltech, because he really wasn't here permanently after the war but he came back frequently on visits, and Richard's altogether attractive wife, Ruth Tolman, who again was a splendid person. So that to me, looking back, Caltech had an extraordinary group of people who were not only brilliant scientists but their wartime experience had made them sharply aware of the human role that a scientist must play in a complex modern society. From the time I got here and began to know these men, I found them pushing me on the subject of why didn't the Humanities Division do more to help educate scientists. That's an old theme here. The reason [Arthur Amos] Noyes, the distinguished chemist who left MIT to be chairman of chemistry here—the reason Noyes came here was that he thought MIT was not doing enough to educate scientists, as distinct from training them. So that these men, with their wartime experience, felt very strongly about this old but fundamental Caltech problem. It's the problem that any scientific university, or technological university even more so, must face. I used to say that I could see lots of reasons why scientists or engineers should know a great deal about people who are not scientists. In the first place, most people are not scientists. Most scientists don't marry scientists. The jobs that our young graduates got into often involved an unusually high responsibility. At a relatively early age, these men would have to be making decisions that in business or law might not come for quite a few years. So that both the science community and I, at least, felt very strongly that we had to do more to educate them and not just train them in the admittedly very difficult demands of physics or chemistry or math. And the wonderful thing was that these senior scientists who were veterans of major wartime responsibilities were pushing for that all the time. This was one of the things I hoped we would do when Hallett Smith came in.

Hallett gave us something we hadn't had before, which was real intellectual brilliance in

this division—proven scholarship. These were great assets. For the first dozen years under Hallett's chairmanship, things really went very happily. They were very hardworking, because we were understaffed and, above all, we had too much teaching of elementary courses—or of upper-class courses that really were disguised elementary courses. But even with that qualification, these were happy years, socially very active. Harvey Eagleson deserves a great deal of credit for holding this together, with these parties he gave so often in his apartment. He was a good cook, a good host.

BUGÉ: Was he a bachelor?

PAUL: He was a lifelong bachelor. Oh, my soul! Yes. You don't realize, but the whole English staff, except for Winch Jones and George McMinn, were bachelors. It was a peculiar group I came into. But Harvey was the social center in many ways. He had an apartment down in South Pasadena, where all of us came to know our way around easily. Harvey would cook something, some of the wives might help, and I would end up with the dish detail—that's my specialty. Cooking is beyond me.

Those were really happy years. I don't mind hard work; I've worked hard all my life. My only complaint would be that sometimes there was too constant a pressure for little things to keep up with one's own work. But Hallett was helpful on that. He backed me for a Ford Fellowship to go to England one winter, and again for a Huntington Fellowship and a Guggenheim. So that I got away at times and got some books written that have stood up. So that this was on the whole a good time and a productive time.

But there were some shortcomings. As I look back on those fifteen years, several things happened that were to cause us trouble later on. The first was what I've already suggested. The physical scientists, particularly the really brilliant, highly respected ones at the top, kept pressing the division to do more, to get more bright people.

BUGÉ: Could you qualify that? More of what you were already doing?

PAUL: Well, they were as well aware as I was that the people we had here now were good human beings, good undergraduate teachers. But there wasn't any scholarship here. We could

have wonderful discussions of contemporary novels; somebody would read the book and then pass it around amongst the rest, and that was fun. Or you would argue over the most recent *New Yorker* critique of a play or a book, and that was splendid. What the older scientists were saying on the basis of their wartime appreciation of the human demands upon a scientist was that we go further to help exceedingly bright young men to understand the world of human beings.

BUGÉ: Was this because they had had a kind of crisis?

PAUL: This is because of what they had seen. They had felt—and Robert Oppenheimer's career illustrates it—that a very bright scientist whose accomplishments push him up to the head of the column right away can nevertheless be ill prepared to make great decisions. These are the years when some of our best people were on the President's Science Advisory Committee in Washington. They were dealing with the AEC [Atomic Energy Commission] over atomic policy. They were dealing with the Department of Defense over weapons in general. This is a period, in other words, when the senior scientists who had gained great national prestige by their wartime service, were keenly aware that we needed to do more, that we needed to take our work with undergraduates beyond an introductory level, that we needed to have here on the humanities faculty some really exciting people who were doing work that was of national significance—challenging work. Bob Robertson, for example, spent hours. He would come in to see me periodically when he was mad about something else and wanted someone to blow off to. And always after he'd blown off steam, our conversation would turn around to the question of shouldn't we get a really first-rate historian of science. We had someone that we hired in the philosophy of science, Chuck Bures, who was a splendid personality. But what he was teaching as the philosophy of science was, again, not quite what you could find at some other universities. So these men were in fact pushing us to do more, even though this obviously meant competition for the dollar for their own division. They were not a selfish group in any sense. They wanted, here on the campus, creative scholars who were doing work in their own fields comparable to what a scientist at Caltech would be assumed to do in his own field. So that, particularly after the *Sputnik* boom came, we were getting better and better students in that period. I felt that what was really happening was that the quality of our students was improving steadily. They were coming here well prepared in those days, and exceedingly bright and receptive. The faculty was

superb and getting better. The percentage of people who never read anything and never thought about anything except in their field seemed to me to be shrinking as some of the older people retired and as this very vital group with wartime experience took over. So the students were changing, the faculty was changing, and manifestly the world around us was changing. And this was crucial, because the scientists felt, as I felt very strongly, that we were graduating bright young men into a terribly complex field, where they would be expected to play a role that could affect the lives of all of us. I took up teaching the handling of foreign policy, for example, for a number of years. Actually, the course went surprisingly well. I didn't claim to be an expert, though I had been trained in diplomatic history. But the course that I was teaching gradually evolved into a question of crisis handling in the State Department and in the White House. This was in the McCarthy era that it started. We continued on into the *Sputnik* era. This went extremely well, because it excited the students and it made them realize that this is the kind of place where they might be brought in. The Cuban missile crisis, for example. I used to make up case studies each year out of the best available material that you could find in print. I'd had my year to study the British and American foreign services at home and abroad—we went abroad on this Ford Fellowship—so that I had some background. This course annually drew an exceedingly active, thoroughly participating group of students.

BUGÉ: This was not a required course?

PAUL: It was an upper-class elective. It was always sold out. I mention this to show that my science colleagues were right—that there was an audience that wanted to learn what goes on in the real world, as they used to call it. When Alan Sweezy came here to teach economics, I felt he was doing the same thing with economics. He was, again, giving them a sense of the real world of economics.

BUGÉ: But it seems to me that that wasn't quite as crucial as what you were speaking of before, for scientists to learn something about the real world that they may be directly impacting in a national security sense.

PAUL: Well, it is true. When David Elliot started up this national security course, it perhaps

touched on it, though I don't think his course meant quite what you mean by the phrase you're using. For years and years, we were not doing enough to relate directly the physical sciences to the humanities and the social sciences. It's a difficult thing to do, and I'm not going to criticize us too much, because I'm aware of a number of things. One is that nothing is less satisfactory than English for engineers or literature for mathematicians. These diluted courses were tried at some other institutions—usually those that are more technological than ours, less basic science—and those courses really are not worth a damn. They're courses for intellectual cripples. I never wanted that here, and I hope we don't ever try that. I thought Carnegie Tech, for example, at a time went too far in that direction—of history for engineers. That's no good. But history and literature and social science can be exciting for the nonspecialist in the field, if you teach it carefully—if you teach it with visible enthusiasm, because you believe in it, because you think it's important to these eager young kids.

Towards the end of this first fifteen years, we had other problems, too. By having so much emphasis on basic courses, regardless of whether they were given in freshman or sophomore year or labeled upper-class courses, they were mostly introductory—it made it harder to recruit good people or to keep them. And I wanted to get us out of the lockstep in which most of us were trapped in a succession of courses that you repeated. I used to fight myself each summer, rebuild the course deliberately, change it, keep what seemed to work but make changes. It's one way that you can help to keep yourself from decaying into an annual repetition of old notes that you took twenty years ago. In this process of trying to keep the courses fresh, I became aware that the teacher who never does scholarship himself is at a disadvantage. And the reason, I think, is psychological. The scholar who is doing original work has the imagination and the courage to thrust his mind up against unanswered questions and see if he can answer them. Part of the problem is can he phrase them, to begin with, and then can he work out an answer. There is some likelihood that the original scholar who has the liveliness to do that will remain intellectually lively when he's past fifty-five, which is the age when decay sets in for many a person who has simply been an awfully good classroom performer. So that was a worrisome condition.

Then we were given by the Carnegie Foundation the first of two grants. The first grant was to experiment with, to try something we couldn't have afforded otherwise.

BUGÉ: This was in the early sixties, wasn't it?

PAUL: I can't remember. You'd have to look it up. But I was told afterwards by those in touch with the foundation that they were disappointed in what we did. And I can understand that. I thought we frittered it away in little bits of things. I didn't think we did anything very substantial. The Public Affairs Room and temporary financing for the AUFS program were perhaps the most substantial spin-offs from that first grant. But too much of it was used on little things rather than on trying something that would have been exciting and would have gotten us all involved. We had trouble getting the second, the follow-up grant, for that reason. It was only Earnest Watson's intervention that won us that second grant.

Now, I'd like to say something about Earnest Watson in this respect, because he is a key figure in the history of Caltech. I saw a great deal of him until I was married, until 1951, because for those four years both of us were living in the Athenaeum as bachelors. I'd eaten supper with him night after night when he was fed up, overloaded with problems that he'd faced during the day in the office of dean of the faculty. Now, Earnest Watson was such a quiet and reserved person that you didn't realize how much pressure built up within him when something such as the fight over Linus Pauling was central to the life of the university. I had found Earnest Watson a very understanding and helpful person. For example, when I came here, the library in history was miserable. The girl who was amateur librarian was instructed to give me a list of what was in it, and she typed up a list of a page and a half of books. My soul, you can't do anything with that! And typically, Clinton Judy didn't want to struggle with it. He said, "Rod, you go to see Earnest Watson. He likes you. See what'll happen." I explained it to Earnest Watson, who listened for a few moments and then said, "Certainly. During the war, we knew that we weren't keeping up some things because of concentration on science for the government. So we put aside some money. Here, I'll tell them today to set aside $1,000 to start you off. Would that be a help as a beginner?" And I said it certainly would. Well now, that kind of easy response—understand, by that time we knew each other and I think he knew what I wanted and that it was for the good of Caltech—this enabled us to start building the kind of basic collection we needed. Our annual appropriation went up. I think our appropriation was 500 great big dollars the year when I came.

Earnest Watson was a key person. He was always there until Friday noon, then he went

to Santa Barbara, to his house up there. He was always responsive, always ready to listen. And he did an enormous amount to keep Caltech going. He used to tell me about his struggles of the Millikan era. Millikan brought him here to be a kind of assistant. Earnest Watson is the one that saw Bridge Hall through to completion. He had a great deal to do with that construction, getting it ready for Millikan, getting Caltech ready for Millikan. He always felt that Millikan didn't give him much credit, and I'm afraid that's probably true. Lee DuBridge was quite different. He had discovered Earnest Watson's immense virtues. He had been impressed by the degree to which Earnest Watson ran Caltech's wartime activities, and so Earnest Watson became dean of the faculty, and an extremely good one. He was a bachelor, a somewhat lonely bachelor, and we would talk many nights. At the peak of the Linus Pauling controversy, for example, when at least one trustee wanted Linus to be fired, Earnest Watson and Lee DuBridge were standing up sturdily in defense of freedom of the faculty and saying this is impossible and Linus Pauling will not be fired. It's a pity that Linus, in his late years, has not acknowledged the very courageous support that he received from Lee DuBridge as president of Caltech and Earnest Watson as dean of the faculty and from the faculty as a whole. The trustees had enough common sense to follow the recommendations of people like Watson and DuBridge. So there was no internal crisis. Linus didn't show much sense in the platforms he chose to speak on. Anybody except Linus would have been sufficiently sophisticated to know that a group known as the Independent Citizens for the Arts and the Sciences is bound to be a left-wing front. And if you'd just look a little deeper, you'd find out what their motives were; they're not free discussion.

But that's the kind of thing that Earnest Watson would talk about. The fight over [Hsue-shen] Tsien, the brilliant young aeronautics man who went back to China, is something else. Again I sat and listened many a night when Earnest Watson was ready to explode over the difficulty of dealing with the Immigration and Naturalization Service and the State Department over Tsien's desire to return to China. Of course, he was finally allowed to return and then became the leading scientist for them. And I can't tell you to this day—I don't believe anybody could—whether that would have happened if Tsien hadn't had such a bad time before he was finally allowed to go, or whether he was planning this in the beginning. I never knew Tsien significantly, so I can't tell you. But Earnest Watson was, again, courageously staging a fight that took unbelievable hours of time. Caltech hired a good lawyer. They deliberately hired a lawyer who was not known as a supporter of left-wing causes. They hired someone with a solid

reputation that the government people would listen to with respect. And this man, Earnest told me one night, said he'd never seen such obstructionism. This was a difficult period for Lee DuBridge and Earnest Watson in several notable cases. The other man, Weinberg—wasn't that his name? [Caltech professor Sidney Weinbaum—ed.]

BUGÉ: I'm not sure.

PAUL: Well, another early figure who had been here was involved in the McCarthy period, too. And when the Robert Oppenheimer case came up, his younger brother had long since been tarred and feathered with the accusation of being a left-winger. So that there were a lot of these problems that were essentially political in nature. It was fascinating to listen to Earnest Watson when he simply blew off steam. One of the great things about Earnest Watson was his going to Santa Barbara each weekend, because up there he would invariably have breakfast with Jim Page, the chairman of the board of trustees of Caltech. And he would see several other well-to-do and influential trustees during the course of one weekend or another. As I listened to him as he would talk about the reaction of this or that trustee, I came to realize that Earnest Watson, this quiet, unpretentious, small man, was an absolutely invaluable link between the faculty and the trustees. Please notice I've said faculty and trustees, because in those days under Lee and Earnest Watson—and later with Bob Bacher as Earnest's successor—you never heard the words "the *administration.*" One of the happy things about Caltech was that you could go to see the president anytime, if he happened to be in his office. Or you could make an appointment if he wasn't. This was the simplest university, administratively, I've ever known, in those days. It was one of the great attractions. Thus, it was really not a case of the three elements—faculty, administration, and trustees, plus the students and their parents—those are the basic elements of friction in most universities. Here it was largely the faculty—who spoke, to be sure, through their elected president and dean—and the trustees. And Earnest Watson was in touch with those trustees; most of them trusted him. He was such a reasonable person, such a balanced person in his judgment. He deserves immense credit. Lee DuBridge once told me that he might have to resign in his support of Robert Oppenheimer; he might have to at least threaten to resign if one particular trustee, Reese Taylor, went ahead with his demand that Oppenheimer be fired from all connections here and later that Linus Pauling be fired. They were constantly jumping on Caltech

for somebody who in the past, as in Oppenheimer's case—he had no real ties here then—or in the present, as in Pauling's case, was believed by the McCarthy-type of thinking to be a tie with the left wing. And in their quiet way, DuBridge and Watson, neither of whom were fighting liberals, stood up gallantly for what they believed in. Earnest Watson was so often the link with well-to-do people who regarded him as a respectable person, not one of those wild-eyed academic liberals [laughter]. So he deserves credit for paving the way for Millikan before the First World War, before Millikan came; for coming back and helping Millikan after the war; for starting these lectures before high schools to help us recruit better students in the 1920s. The present Watson Lectures, as you know, have very appropriately been named in memory of Watson's work for years and years in that program. He spoke at high schools all up and down the state. His liquid air experiment lecture was developed really for that stage, the high school stages; and he always did it in a half-embarrassed way. It reminded me of the descriptions of Mark Twain. He would do these preposterous things with liquid air, and then say, "Well, it seems to work, doesn't it." He was a wonderful person.

BUGÉ: Do you think that because he and DuBridge kept back the public anger with these individuals, the campus was able to function more normally through that era?

PAUL: Oh, I think the campus functioned beautifully in those years. Now, you're quite right. The fact that the president and the dean of the faculty, and later the provost, were absorbing the criticism and punishment, made it easy for the rest of us. And we soon came to have confidence that we would be backed up, if we were ourselves reasonable people.

BUGÉ: Or even in the case of Pauling, if you weren't entirely reasonable.

PAUL: Pauling was not entirely reasonable. He's one of the most brilliant people of this generation, and he could be totally charming. He could also be arrogant. And he could be just foolish at what he was doing—not crazy, but foolish, naive. So that he's two things at once—I suppose the most distinguished chemist of his generation, and one of the great scientific minds of his generation. Again and again, visiting scientists would tell me that Pauling could walk into their strange laboratory at some other university, watch what they're doing for a little while, talk

with them, and then say, "Why don't you do it this way?" and thereby would open up a line of thinking that had never occurred to them. A truly brilliant man, who could be totally charming as an individual. That was a situation too, though, because he was away so much and absorbed in his own concerns that the late Carl Niemann was running the chemistry division, really, without credit, though we all knew what was happening. So that there were many things that Lee DuBridge and Earnest Watson had to cover over and keep functioning. And they did a very good job of it. Now, that's the atmosphere in which we were working.

Hallett gave me quite a free hand in history, and I changed the pattern of teaching as much as I could within the limits of manpower. I was allowed to add one extra person. We got along moderately well. Indeed, as I see middle-aged men now, whom I taught thirty years or more ago, they say they got a lot out of what we were doing in those years. Other scientific universities, notably MIT, were going well past us in experimenting, in trying to find a way to fit humane and social science disciplines into a fundamentally scientific environment. That is not an easy thing to do. And you should never toss off a light-hearted criticism of the people in power. When Jim Thorpe came to the Huntington Library, he said, "Oh, well, it's never worked at any scientific university; it won't work here." Well, Jim was being a bit harsh, and he doesn't know that much about scientific universities, as I gradually told him. But there was some truth to what he was saying. I think I've mentioned to you before that MIT had a succession of very bright young Harvard PhDs who would stay there for only two or three years and then go on to a better job. That illustrates the problem of how to build up a first-rate staff in a scientific university. I used to argue that you don't need to be as intimidated as you think you are. The scientists were ready and eager to have us do better. And yet, let me show you the other side of it.

Once I was sent around to lobby for something we badly needed; it was crucial to the division. The president said, "Rod, you better go around and lobby for this yourself. You're the one that wants it primarily. You go around and talk to all the division chairmen yourself. I'll back you up, but you present it in your own words; that will be more effective." So I did. One of the chairmen, who was a good friend of ours, broke my heart. He wasn't in any way aware of what he was saying. He looked up with a friendly smile when I came in. He said, "But you know, we're friends of yours. You know we regard you fellows as our mascot." All right, nice Fido; jump, roll over! You know, a mascot, the dog you bring on the football field at the half

when the band comes out to play. It was a totally unintentional piece of condescending superiority. But this was something we had to get past. When I came here, there was reason for that attitude to prevail. We were what the scientists called a service division. We were going to make little gentlemen out of physicists, teach them how to write English, teach them slightly better manners, give them a little bit of an idea as to what happened historically and not much more. That was what we needed to get away from. My own argument was that to get away from that, we had to have people in the humanities and the social sciences whose work would win the kind of reception from people in their own discipline at other universities that our scientists almost invariably won for their work within their own disciplines. Now, I'm sensible enough to realize you can't quite get the level of a Nobel Prize winner here, because if you did, he'd get picked off by Harvard or Berkeley or Chicago or some other major general university that has a strong liberal arts element. But you can get good people; we have them now. And Hallett gave me a pretty free hand in history. By the 1960s we had some very good people, both as permanent people and as temporary ones. These young people were getting restless. They were as aware as I was of this problem of outgrowing the status of being a service division and feeling somewhat embarrassed because people looked down upon you as merely useful and not as people with your own virtues that you had demonstrated by scholarly work. This was a major consideration that had to be overcome. Look at our work in philosophy, for example.

Begin Tape 2, Side 2

PAUL: We had three full professors—that is, tenured professors—in philosophy ultimately. Only one of those ever did any significant scholarly work. That's Alfred Stern, who was a rather notable Continental philosopher. The only trouble was we never got as much credit for his work as we should have, because it was an extremely Continental type of philosophy. His book *The Philosophy of Laughter and of Tears* stands out in my mind. He also wrote a book on the philosophy of history, which reminded me once more that the people who write about the philosophy of history generally haven't read much history [laughter]. But nevertheless, Chuck Bures was a superb influence on the students, yet for years he taught the philosophy of science without ever writing about it or speaking about it before general audiences. He was too shy. He was an awfully appealing person, but shy and in-drawn. He was wonderful with small classes,

and his students became his patients almost, perhaps too much so. But he did nothing to exchange ideas with the general science faculty or to make our interest in the philosophy of science known to the public or to the world outside in general. And in those days we had lots of lecture programs where most of us had to appear, so there were plenty of opportunities. But Chuck was too shy, and it would have been unfair to force him to.

BUGÉ: Did you lecture to the community at large at that time?

PAUL: Oh, yes. I felt an obligation—I think some of us did. You'd get asked by all sorts of people, and I felt we had to show the flag. We had to demonstrate by physically appearing, that Caltech did do work that was worth listening to, outside of science. No, I've given untold lectures on one subject or another. My only rule was I wouldn't talk on something I didn't know something about. I think Hallett gave many lectures, and he gives a brilliant lecture. It was important for our reputation. It was important for our standing with the science community. It was important for our ability to raise money, for us to become known as doing something in addition to the science for which Caltech is famous. And that, as I say, by the early sixties, hadn't come along as well as it should have. Our young people were restless. They wanted to do more. So the question was, What to do? This is the point where careful recruiting would have done a lot to have lessened the problem. A greater openness to reconsider our whole curriculum would have done more. I had improved history by getting away from this miserable routine that I inherited from Wally Sterling—one lecture a week and one quiz section; you couldn't accomplish anything. And at some personal sacrifice, I got it onto a basis where we had two class meetings a week in small groups. We hired one extra teacher. But I had to take up the slack for years, until we had more money to hire additional teachers. And that kind of slow response, I think, really was unnecessary. I had the strong feeling that the scientists were quietly pushing us at all times and that we could have done more and would have received support had we sought it. And I repeat that it was easier in those days, because humanists are cheap to support compared with a physical scientist, compared with any scientist except a mathematician perhaps. Our salaries, I'm afraid, were lower. I know they certainly weren't at the top, and I suspect they ran lower rank for rank. And we didn't have the expensive laboratories. We didn't have to go out and seek great big research grants all the time. We didn't have coveys of

expensive graduate students. So that it was relatively cheap to add a few more humanists. And when we really made a struggle to get one more, we nearly always won support. I think we could have had support much earlier; we could be ten years further along than we are now if we had begun in that period.

When it came to our basic curriculum, I felt then and I feel now that faculties are excessively conservative about their own teaching. They are daring when it comes to their science or their research; they pride themselves on asking original questions and then finding original answers. That's the guts of being a scholar. But when someone challenges their teaching and asks whether you should continue to teach what you've been doing for a number of years, well that's terribly personal; that's not the same thing at all. So it's never easy to move a faculty to look at itself coldbloodedly and ask, "Are we doing the best job we could do?" We began that—it was an awful struggle—in the l960s. A great deal of resistance was encountered. Out of that ultimately came the introduction of the social sciences. Out of it ultimately came the establishment of a small major in history or in literature or in economics, which later became social science. Out of it came, in other words, a number of improvements, one by one.

They were under some difficulties. To get a major, for example, in history or literature or the social sciences, we had to accept a wretchedly hard bargain that my good friend Gerry [Gerald J.] Wasserburg enforced as chairman of the committee. Gerry may have been right. He told me, "There are too many skeptics who think that the work will be soft, it won't be sufficiently exacting; it won't be up to the level of Caltech work in science. You'll never get it through unless we demand a lot of science for a person who's going to get a degree in English or history or economics." Now, that's a very contradictory statement. When you continue to require that a high percentage of a student's time for all four years go into science, you don't have much time left over to build up an impressive major. And that formula ought to be reworked some day.

BUGÉ: That's how it stands now?

PAUL: It still is pretty rigid. But there is some logic to it. There are a few fields where the heavy emphasis on mathematics and on basic science is an extraordinarily good preparation: the history of science, or the philosophy of science, or in certain types of social science, the types

that are basically quantitative, bascially theoretical. These are things that are a breeze for a Caltech student. Our students, as you know, are sunk in problem solving, in theoretical work; they're just very good at that. And I think there's not much question that until recently the brightest graduating seniors in high schools tended to go into science, not into humane fields or social science fields. That's changed in recent years. I think that medicine and law are getting very good students today, and economics has drawn very good students, as has the new type of political science. But at that time, that wasn't true. Science was the glamour field. The work in space did a great deal to publicize it, even though it meant that a lot of freshmen who arrived here had a very fuzzy picture of the distinction between basic science, applied science, and engineering. They weren't quite sure what they were coming here to do.

Part of my reason for wanting a major was to save the people who didn't make it in the normal four years. They were so bright, and yet as you know, to this day our attrition is unreasonably high. For a place that chooses its people as carefully as we do, has small classes, spends infinite effort in trying to counsel each student, we don't do well enough. We've got to get the percentage of dropout way down. It's true that a lot of our people graduate in five or six years. So they drop out for a while, come back and finish, and go on to good careers. But one hope was that some of our students would find a release that would enable them to stay on the campus in a new discipline and exploit the beginning that they had made in the freshman and sophomore years.

BUGÉ: Could you go back and pick up that freshman humanities course?

PAUL: Well, there was a set routine. Every entering student took freshman English and freshman history, which meant European history. In sophomore year, he took American history and a little government thrown in. In junior year, he took a more advanced course, which was English literature, as distinct from freshman year, which was partly literature and partly writing. Then in the senior year they all took a once-a-week course in public affairs, and then they chose a limited number of electives, in what we call upper-division courses or more advanced courses. Some of those courses were more advanced and some really were not.

BUGÉ: And this is the lockstep that you referred to?

PAUL: That was required of every blessed student. The virtue of that set, inflexible routine which allowed so little choice was that you knew what you were getting when students entered a more advanced class. Everybody got some exposure in how to write and how to read critically in literature and history. They all got some understanding of what basic European and American experience had been. I thought the course in English literature in the junior year, for example, was one of the best courses we offered. Each year, I thought it did a very good job of getting kids excited about reading—finding that fiction, poetry, and drama can be fun to read. We had teachers who did well in that junior course in English. I found it much easier to teach sophomore history, which was American history, than my colleagues did who taught freshmen European history. By the time they got to me, they knew about Caltech, they knew something about history. History then, as now, was often taught badly in the high schools. Indeed, one of the things I used to have to start with in sophomore American history was to say firmly, "This is not the same kind of course you had in high school. There'll be less memorization and more thinking and more writing and more discussion. And you'll be reading grown-up books that weren't written for classroom use; you'll be reading grown-up books that were written for mature people to read and enjoy, and to read critically." It went pretty well on that basis.

But it was a lockstep. It allowed very little freedom of choice. The students complained that they had very little time to experiment. And you must realize, too, that we narrowed the students' choices because we lacked the manpower to offer many alternatives. For example, we never had more than one psychologist on the regular faculty. Frequently that man was less than full-time. The philosophers taught psychology part-time or they borrowed someone from the Health Center. We did an inadequate job in psychology, which was one of the fields the students wanted to know something about, because many of them had problems. This is always going to be true. The average science student dedicates himself to science long before he's graduated from high school. They have problems with girls. They have problems socially. They have anxieties and uncertainties about themselves. And each of us that became rather close to the undergraduates spent a lot of time simply talking with students, counseling on an amateur basis if you will. I kept accusing the Health Center of doing a grossly inadequate job of counseling. And I'm afraid that was true for many years. The system of psychiatric counseling we had had at Harvard when I was an assistant dean there before the war was head and shoulders above

anything that we have even now at Caltech, which shows you how slow we have been to help a group of brilliant young people who sometimes have quite serious psychological difficulties.

BUGÉ: It does seem that that could have something to do with the attrition rate.

PAUL: It has a lot to do with the attrition rate. But you must realize that Caltech is what's known as a pressure cooker. So that pressure exerted on the students has a lot to do with it. I served on a committee all one summer under [H. Frederic] Bohnenblust's admirable chairmanship.* Bohnenblust was one of the fine people here in mathematics—the only mathematician the students really liked. But we served all through one hot summer trying to see what was wrong, why the attrition rate was so high. We'd had a very bad year. That's when we adopted the pass/fail system for freshman students. I think that has helped to lower the tension. My own argument was that no matter how you cut it, our freshman year was a transitional year. It was somewhere between high school and college. It ought to have been a straight college year, but it really wasn't, because of the psychological and social condition of the students that came here. I think it's gone better to have pass/fail. But it took us a long hot summer and beating down the opposition of some of the scientists to get that through. Among the restrictions we placed on students was we gave them an inadequate chance to take courses in psychology and philosophy and we had no sociology. We didn't give them the chance to look at themselves in contemporary society. I was constantly trying to build up history courses which help a person to understand how we got to where we are now, how human beings have dealt with each other in times past. And without this sense of a past, you can't begin to understand complex modern society. So I wasn't ashamed of the emphasis we laid on that. But we did a poor job of helping students to understand, through formal study, the society into which they were going to be dropped when they graduated. So that there was a ferment of pressure for change, and it got worse as other universities proved more daring than we.

One of the major changes we made here is one that's still in force, although I think it should be examined more carefully. It's one that I myself dreamt up. When we finally got to the

* Through failure of memory, I credited Bohnie with being chairman of the committee that reappraised the freshman year and instituted pass/fail grading. Bohnie was one of the major factors in our achieving anything, because criticism of math was so severe, but Ray Owen was the chairman. We met at his house throughout a long hot summer, and Ray's tact, wisdom, and quiet firmness were crucial to the unanimity ultimately achieved. —R.W.P.

point where a general reappraisal was ordered for the set curriculum in humanities and social science, the version that came back really was not satisfactory. I went home one weekend—I'd spent years thinking about this, after all—and came back on Monday with a basic proposal, and I think I've got a copy somewhere here, which is the foundation for what we now offer. In part, I was copying the Harvard seminar that David Riesman and others had introduced; David was an old friend. But the idea was to take a bright, preferably brilliant, teacher, put him or her into a small class of freshmen. I didn't much care what the subject was, provided it was something substantial, something challenging, and something that would give a sense of evolution, of the growth of human relations, human thought, whatever the topic might be. I thought it could be in history or in literature or in philosophy, and in some types of anthropology—cultural anthropology. But my idea was to put a small group of students, fifteen or seventeen, in the room with a good teacher, give him three hours a week, not the two that we then had, have quite a lot of writing, and have a very free discussion in class. I also wanted an allocation of money, so that the teacher could afford to take the kids home for dinner periodically and have the classes in his own home sometimes. I had done this for years, thanks to having a patient wife. Those classes outside, off the campus, were always successful. The kids loved to get away from Caltech, and in the evening. I wanted more than that. To hold the class together—I mean the freshman class as a whole—I wanted us to maintain a few things in common. For example, maybe the whole freshman class should be asked to read a new controversial book and then have a big meeting of the whole class where someone would give a talk on it and then we'd have questions and answers from all over the floor. Unhappily, a lot of those rather carefully devised correctives were dropped from the program that was adopted. But the course we now have derives from that change, which must have been fifteen years ago or so, I guess, maybe more. The weakness in it has proved to be that we've allowed students to scatter too widely. I had thought of the student as going through the freshman year with one instructor, at least through two terms, preferably through the year, so that the instructor and student would come to know each other and so that the class would take on a pronounced personality. You don't know how much of the success of a discussion class comes after the class has settled into a group personality. People know each other. Each one knows what the other can contribute. There's a good-natured relationship. Laughter when somebody comes up with his familiar right-wing

criticism, or left-wing criticism; people begin to laugh before the man's through with his comment. And that's good, because kids here are nice with each other; they're not nasty. So I had conceived of it as going through most or all of the year in a course in history or literature or philosophy or cultural anthropology. But it hasn't worked out that well. We haven't had any teachers outside of history or literature to speak of. And the students have been granted a freedom to move back and forth that's really quite disrupting.

BUGÉ: So instead of staying with the history class—

PAUL: They'll have one term of history, one of literature, one of God knows what. And that gives you a kind of shotgun approach which has breadth, perhaps, but it doesn't have much depth. I've been pretty lucky. I suppose half of most of my classes have stayed with me for the year. This has made it visibly easier to accomplish more with them.

BUGÉ: Was this in response to a student demand for that freedom?

PAUL: The students asked for that freedom, and it was voted them. That was back in the 1960s, when the philosophy was that the students are always right. Sometimes they are. But I think we went a little too far. Many schools did. We weren't as permissive as some. In retrospect, the sixties were a terribly difficult period in which to revise a curriculum at a place like Caltech, because everyone was upset. It's the period when the Berkeley free-speech movement of 1964 revolutionized university life. It's the period when black self-consciousness came along, women's self-consciousness, a whole series of demands. You remember this familiar phrase: "non-negotiable demands," and that dreadful word "relevant;" it must be relevant—relevant to what? It's when street language, which was close to gutter language, began to appear in classrooms with a demand that that be accepted as "relevant." It was only later that universities that went hard overboard discovered that they had prepared their students for nothing but a continuation of the same. One of the tragedies of well-meaning innovation in these years could be seen at universities that established black studies, turned it over to whatever black person they could find, and then found at the end of four years that they had badly educated black students who weren't prepared for anything but to continue in black studies. I found this when I was on

accrediting committees to other universities. Towards the end of the period of revolt, the black students themselves turned on the programs and said, "This has to be better." And today, I think it is better. So that in the 1960s we faced an awfully difficult problem. You didn't want to drop the level of quality; you did want to respond to student demands. One of the problems was that every good university was competing for black faculty members, and they were as scarce as can be. Some universities solved their problem by draining off the best black teachers from these pathetically badly endowed black colleges. Now, all that did was weaken the black college. Those that appointed second-rate people who were badly trained lived to regret it. And again, they were penalizing the students for the future. So that in defense of what may look like some messiness here, I would point out this happened everywhere and we avoided some of the worst pitfalls. I dreamt up a year's sequence in black studies with one term on the African background, one on American black experience, one on black literature. But we did all that through teaching by people that were on the faculty anyway. When student interest fell off and enrollment declined to the point where it wasn't sensible to offer a course anymore, we weren't stuck with anything or anybody. So sometimes we showed common sense—not always. And besides, we tried hard to get more black students. As you know, that's been a struggle. It still is, despite earnest recruiting. And the same is true of Chicano students. I think recruiting women students has gone better. By the way, women students, in my experience, have been very good. Some of the best students in my classes in recent years have been women. Some of the most articulate, some of the most reliable in terms of doing their homework, getting the papers in—they've been a pleasure to teach.

BUGÉ: Do you happen to know whether more women have tended to major in the humanities options after coming here?

PAUL: I don't know. I have no knowledge of that. But remember that our basic job here is not to seduce people out of science into the humanities. Our basic job is to help educate a better scientist. Now, Hallett Smith used to quote Machiavelli to that point. He said, "After all, Machiavelli wrote *The Prince* to help educate future rulers. And that's what we're doing with scientists." This is a typical, brilliant rationalization by Hallett, who's a very brilliant guy. This demands a certain humility on the part of the teacher of history or literature. You're training

people, you're educating people to be good in another field. But that's not a bad thing.

Now, I could go on for a long time. But the 1960s became for us a period of difficult transition. Hallett was nearing the end of his long chairmanship. In the second half of his twenty-one years, he was not eager for change, anymore than Fred Lindvall, who had been chairman of engineering for a comparable period, was eager for change. Both divisions were in trouble. Both were under heavy criticism from the faculty as a whole. The creation of the Committee on Aims and Goals brought this to a focus. As I told you last time, engineering escaped a lot of criticism because Fred Lindvall's retirement came up at this time. A search committee was out for a new chairman. And so criticism of engineering, which was just as much justified as criticism of the Humanities Division, was muted during the Aims and Goals Committee's work. The Aims and Goals Committee tried to look at the campus as a whole. It tried to look at everything that was done here—the teaching, the quality of the students, the quality of the faculty, the kinds of courses we offered and that we failed to offer, the living conditions, the social life, the psychological state of mind. This was in many ways a great effort. Very few universities had the guts to do this. It's self examination of a punishing kind. It cost all of us an enormous amount of time. There were about twenty of us on the committee. The chairmanship had to change several times—whenever they plucked off our chairman to be chairman of a division or provost or something while we were in mid-course. Neil [Cornelius J.] Pings ended by being the last chairman. ou ought to look at those reports to see how much of the present university stems from those recommendations. The IAC [Institute Administrative Council], for example, is what we recommended. The limited tenure for chairman of a division, or indeed any administrative officer, came directly out of that. I think I mentioned to you last time that Tommy Lauritsen and I wrote that. We wanted two five-year terms for chairman of a division or provost or president, but the committee as a whole wouldn't accept it. But ultimately, when Tommy had died and I was left to float this through the board of trustees, Arnold Beckman came to see me and he said, "I understand immediately what your problem is. We have men who lose their effectiveness as administrators in my companies, and I think your original idea of a five-year term, then a review of what has happened, and then a second and final five-year term, if both parties agree—that I think is much safer." That has been the policy since then. It's a very important reform that came out of that committee, even though there's been a tendency to reappoint people to the second five years almost automatically. That's partly because most

people don't want to be administrators themselves, and it's such a weary business when you set up a search committee. But it is an important out. One of my arguments was, it would provide a graceful escape at the end of five years and an even more graceful escape at the end of ten years. It would avoid the problems we got into when both Hallett and Fred, both of whom I like immensely, went over twenty years. Their two divisions were in trouble by the time the Aims and Goals Committee met. Poor Hallett told me that the day he spent before the Aims and Goals Committee was the worst day of his life. I was away; I didn't want to be there, but I had a legitimate excuse for being out of town. Hallett said it was a miserable day. He had left David Elliot to present the social sciences as a possible addition, and that went very badly. It infuriated the committee. But in the end we wrote a report that I think ought to be a part of this period in Caltech's history. The incoming president, Harold Brown, praised the report and said this was done by able men and he intended to use it as his guide. This pleased us, because there were some cynics on the faculty who called it the "Committee on Games and Holes" and made fun of it. The people who were active on that committee tended to appear in administrative posts as the new administration took over. It was a stepping stone, in other words, for many people, because they had showed their stuff in this committee. It was also a body of people that was drawn upon when new crises appeared later, such as the turmoil over Jenijoy La Belle's promotion, that very troubled case. They again drew a lot of us that had been on this committee. So in a sense it became a kind of panel from which people were drawn away from their own research into some type of public service.

So that you have to get a sense that after the relative peace and really the very happy conditions between the late 1940s and the early 1960s, we moved into a turbulent period of the 1960s lasting into the early 1970s. This was true throughout the nation. It was true in universities; it was true, as you know, in the civil rights movement and the marches on Selma, on Montgomery, in the marches on Washington. This was a very troubled period. Caltech was surprisingly peaceful compared with most of the world and, indeed, compared with most universities. If you look at Stephen Spender's book *The Year of the Young Rebels*—which he called 1968; it's a study of student revolts throughout the western world—you'll see how remarkably peaceful Caltech was. Now, a part of that peacefulness we owe to Joe Rhodes, a student who was the son of a black father and a Filipino mother, a very attractive young man, a very persuasive young man; I came to be very fond of him. Joe Rhodes decided, as either a

freshman or sophomore, I don't remember which, that he'd like to be student body president. Since the student constitution prohibited that, he proceeded to have the constitution changed. He was that kind of a person. He organized this great big conference in which students and faculty sat down together and beat out a lot of problems. For example, student representation on faculty committees, consultation with students on all sorts of things. Joe Rhodes did us an enormous favor. At the time, he irritated some of the more conservative faculty, but the fact was that by the time violence was coming to most university campuses we already had the reforms instituted or on the way here at Caltech. Furthermore, Joe Rhodes's reforms started us down a course that we've never quite forgotten, although at times it hasn't been as rigorous as it should, and that's a course that leads the faculty periodically to realize they should be listening to the students; they should be finding out what's on the students' minds. The students have had a couple of conferences—the one at JPL two or three years ago I remember as a very effective conference. There were conferences in the 1960s, and they're building up to another one now. I think this is an excellent thing, where students and faculty try to get physically away from the campus and away from the daily problems that prevent them from changing, and talk somewhat abstractly about the purpose of a university and then begin to talk more concretely about specific changes that the students want. Now, the students are not always right. I kept saying through the sixties that one of the troubles is the children aren't always right. And having raised a large family, I'm sharply aware of this. But nevertheless, if you listen to students, you can learn a lot from them, about what you're doing right and what you're doing wrong.

Now, scientists as a whole are not social activitists, so that our revolts would have been less violent anyway. But the fact was we already had so many of the objectives of student revolutionists at other campuses that we never had a real revolution here. The reforms had come. And I think it made Caltech a better place. It means that students have been on faculty committees ever since.

BUGÉ: Do you think that's a good thing?

PAUL: I think it's been a very good thing, yes. It's put them into closer communication with each other. Student participation on the Admissions Committee, I think, has added a great deal. Student participation on the Academic Policies Committee has at times been very helpful,

although that's a committee that sometimes doesn't seem to accomplish much in a given year. I've been on it myself, and I can easily understand why it has weak years. But these were years in which we considered all kinds of things. I dreamt up a scheme that occupied the Academic Policies Committee for one whole winter. Looking at what we were and what we ought to be, I thought we should create a whole little college or school of the humanities as related to science. I didn't want to dilute what we were doing in science, and I didn't want to change the basic pattern whereby most of the students here would be scientists. I suggested that we had enough manpower, that with a few additions we had the buildings—in other words, that we could do at a relatively small outlay the job of creating here a small school of humane studies and social science studies that would be related to science. They would require everybody to take, for example, basic work in math and physics, so that we would have people going on in humane fields or social science fields with a solid background in science; but they would be allowed to go on and be real majors, not just the ones who have so limited a time as under our present faculty rule. This got everybody excited. There was a long time when I really thought it was going to be accepted, and I remember the day when it failed in the Academic Policies Committee. It broke down over whether it would be possible to teach freshman physics to these students who would obviously have less math, less science. The possibility of teaching two levels of physics was unacceptable. And could they take freshman physics? The answer seemed to be, No. And on that day, somewhere along about April or May, we failed, after having spent months arguing what was known as Rod Paul's crazy scheme, which nevertheless was appealing. It was a way to avoid diluting or weakening the admirable work in science. But bring into a scientific atmosphere a small number of very bright kids who would come in at the start with the idea, "I'm going to live in a scientific community while I'm going to become in fact a person in a humane discipline or a social science discipline. I'm deliberately coming to prepare myself for life in a society which is increasingly scientific." I had argued that these people would make admirable government administrators, admirable business executives, that they could even become museum directors—that you could think of a multitude of ways in which this uniquely educated little group of people could serve. They would be small enough so we could hold them together. I wanted them to have a lot of group activities.

BUGÉ: It sounds like a wonderful idea.

PAUL: Well, the faculty got excited for the time being. The senior faculty weren't the ones who killed it. It died in the Academic Policies Committee finally, and over this wretched question of physics. Now, as you know, we teach physics at two levels anyway at Caltech, and it would have been easier to float through now.

We had a later crisis, a very brief one, over whether we should incorporate Immaculate Heart. That was years later. And that was so bizarre that it never got through.

BUGÉ: That I've never heard about.

PAUL: Well, Immaculate Heart was in trouble, and the question was, Should we adopt them? That was much more screwy than my notion, because I was going to require students to come in with math and physics at high school level and have them take quite a lot of basic science.

BUGÉ: Essentially with the same requirements as the rest of the students?

PAUL: Yes, but I put that up for a question on which I thought the scientists had to do a lot of deciding. I wanted them to come in with somewhat less rigorous standards, because I didn't think you could get a student of literature who would take the time to have as much math and physics as we required. And that was something we argued back and forth, and for quite a while a lot of senior scientists said, "Well, look, there's no reason why we shouldn't do this. Try it." But it failed. So that there was more turmoil in those years, more intellectual ferment about change, than may appear in the record of what has actually happened, because these are things that didn't get out of the committee stage. The most we did was to create this small major in three fields: history, literature, social science. We've also expanded the opportunities to take courses at other colleges, like Occidental nearby. We've already had the 3/4 plan; you know, they can go to Whitman College or a number of small colleges for part of their time, come here for part of their time, and graduate with two degrees. We've had that for years and years; that was here when I came. So we've had a few escape hatches. And yet, the attrition rate is still too high, if you consider how bright out kids are, how good the faculty is, and how painfully carefully the students are selected for Caltech.

Begin Tape 3, Side 1

PAUL: The faculty skepticism over what social science would be really was memorable. To this day, I can remember the untold hours of trying, first, to beat out within the division a rational program in social science, and then secondly, to sell it to the university as a whole. As we got into it, I think most of us discovered the first problem was that in the division itself, we didn't really know what modern social science had become. Most of us were years out of date. The courses we had taken ourselves or that we thought we had taken proved to be not at all what was being offered now. We consulted a lot to be sure; we brought in people for advice. Everybody gave us different advice and splendid suggestions that we should hire this person or that person to be the lead dog in this. And every time we tried to hire such a person, he proved to be so brilliant and so well settled that he had no desire to come in and start a whole new venture. I suppose the thing would have gone a lot more easily if we could have gotten, for example, someone such as Ken Arrow, the brilliant economist who was on the early list. As I look over some of the lists of those people that we thought about as lead man in social science, and later we thought of as chairman of this division, some of them have proved to be every bit as good as we were told they were going to be. My personal disappointment to this day is that we lost the balance in all the infighting and in the ultimate development after Lance Davis came with his very good ideas—we lost the balance between the behavioral social sciences and these hard quantitative social sciences. And furthermore, we acquired some exceedingly able, hard, quantitative social scientists who'd look with scorn on all types of behavioral social science. So it's been harder ever since to add somebody in anthropology, psychology, sociology, or anything like that.

BUGÉ: Do these people also look with some scorn on the traditional humanities?

PAUL: I'm not sure. I wouldn't want to answer that. I'm not sure that it's as bad as that. Some of them, certainly, acted as if they did and caused a great deal of internal friction. But I don't know. I don't want to say flatly one way or the other; it'd be unfair.

Social science really began to move forward when Lance Davis came here. Lance acts dogmatic, he seems arbitrary, and most people think of him as the embodiment of hard social science. But Lance is, in fact, well read, and he's a decent, humane guy. He's his own worst enemy in terms of creating what, I think, is not a real impression of what he is. I like him and I've always liked him. He did a world of good for us when he came here. I was on the Aims and Goals Committee then, was charged with writing the social science part, because Ted Scudder kept disappearing, as always, to Africa. And Lance became my secret confidant, advisor, and guide in trying to put this together. He did the university a lot of good. And he provided us with a great many of the nominations of people that we might seek as chairman of the division and as lead man in social science. Lance in the end hired a lot of people, many of whom had been at Purdue when he had, just before Purdue's social science operations cracked up. Lance got us some good people, and his role is a very important one in the social sciences.

When we were doing this, money was drying up. If we had done it ten years earlier, money would have been easy. The Ford Foundation was begging people to take money; they hadn't found out how to give it away that well yet. People were more ready to take a chance on you. We came in late and had to struggle for cash to keep going. And that's very important, because it's unwise to start a field on soft money—that is, on grant money. What we needed was a great big chunk of money as permanent endowment. Instead, we got chunks of money to help us get started, to help us hire people for a period of years.

BUGÉ: This was more Carnegie money, wasn't it?

PAUL: I think some of the second Carnegie grant probably went into this. I'm not sure. There were other grants. But we got some money, yes. And understand, by this time, thanks to Alan Sweezy and Mel Brockie, we had graduated a series of Caltech undergraduates who had gone on to do very well, not only in graduate schools but in first-rate graduate schools in economics. Roger Noll, who went to Harvard, is a case in point. A whole series had proved that a Caltech education as an undergraduate was an excellent preparation for distinction in economics. This was one of our arguments, and it was a genuine one, and it's still true. When we began to build up in economics, we went through a curious period; things have never been so good since then. We had a time when we had a group of very good economics teachers who were offering the

students lots of choices, because they didn't have any graduate students to distract them. Our teaching then was better than it has been in recent years in undergraduate social science. Now, by the end of the 1960s, we were running into real difficulties. The social sciences were getting established. They were aggressive and pushy beyond question. They irritated a lot of people on the faculty—not just the humanists, but rather more so the physical scientists who came to fear them. They thought, These are economists, they know how to get money, and it's all going to drain away from chemistry or physics or some place into economics. Unhappily, after the social scientists became numerous, they ceased to eat much at the Athenaeum; they ceased to make the friendships that some of us had made years ago and had preserved. On the other hand, they did play softball and basketball with scientists, and a few of them developed close relationships. Some of them have been so obviously able people that by their sheer intellectual distinction and by the grants they won, by the things they've published, they have proved themselves to the faculty as a whole. [But there has been a] gradual sag in the literary staff. The very good classroom performers we had had when I came had been replaced in a haphazard fashion without careful screening, and they tended to move up in rank so that the level of work in literature was not keeping pace.

BUGÉ: Were these people scholars?

PAUL: Not really.

BUGÉ: So they were not really scholars and not great teachers?

PAUL: No, some have begun to achieve something in later years. But they were not as good classroom performers as the older men they had replaced. They didn't have the central role in the university that those earlier humanities people had. Those humanities people really had a great influence throughout the university. It was out of all proportion to their numbers or their scholarly distinction. They were so attractive a bunch and so friendly and sociable.

BUGÉ: And so cultured.

PAUL: That's the right word—cultured rather than scholars. They were people of culture. They had had a great deal to do with life at every level—undergraduate, graduate, and faculty—here on the campus. They were ties to the community of Pasadena. The new ones weren't like them. They weren't that good, and yet they weren't any better as scholars. And we've been in a swamp in literature for fifteen years by now. It's been a struggle. We've recruited a couple of times over—new young people, and it hasn't worked out. Jerry McGann is the first major figure that we've been able to bring in since Hallett Smith retired. You must realize that Hallett had been one of the really distinguished people in literature. In his field in Elizabethan literature, Shakespearean literature, there wasn't a better person in the country. He had stature, personal attractiveness, a splendid reputation. So his loss was a major one in terms of distinction and leadership. We had nobody with which to replace him. Jerry McGann's beginning this autumn on the campus is the first time we've broken through. We been through several prolonged, agonizing negotiations to try to get someone.

BUGÉ: And what brought Jerry McGann here?

PAUL: Jerry McGann has come in as the Dreyfuss Professor. It's not really quite the correct use of the Dreyfuss chair, because the Dreyfuss chair—I was on the committee that wrote that; three of us wrote that—the idea was that that would be a net addition, that the Dreyfuss Chair could be any field in the humanities. I specifically wrote in the phrase, "It shall not be used to fill a vacancy." It shall not be used simply to strengthen something here, but because you find a terribly bright person that you think would be exciting to have on the campus. Well, I chaired the search committee and we had one awful time trying to bring here the exciting people we turned up. We brought some of them on to be looked over. But in the end none of the marriages worked out. So now it's been used, the Dreyfuss chair, to bring in Jerry McGann, who is first rate. We hope that with his leadership we can begin to get bright young people and maybe one or two or three senior people, or say, halfway up the ladder—associate professor, perhaps—and thereby strengthen literature and make it the force it should be on this campus. You see, you can't use the word "humanities" without blushing, unless you have here, at the minimum, literature, history, philosophy, fine arts, music. These are surely some of the basic disciplines. History is good here now. If they hire a couple more people, they might be in danger of being

really distinguished. And the fact that we're trying to ward off Harvard's approaches to a couple of historians and one political scientist now, and Stanford's approach to a couple of political scientists, shows that we have gotten good people in those fields. It's a damn nuisance now, to have to try to protect the children you've raised, so to speak. But it shows you how much has been possible by effort. There's no reason why English, with the Huntington Library next door for research, can't be good. It's a crime that there haven't been major scholars here in Elizabethan literature, where the Huntington is extraordinarily strong, or Stuart literature, or American literature of the Colonial era, or in fact any kind of English literature up to the Romantic revolution. And the Huntington now is buying great manuscript collections of quite modern writers. So that there are plenty of chances for good research, and there is no excuse for not having, at Caltech, good English people who can teach here, do their research over there, and live in the kind of double world that I've lived in for thirty-five years.

Now, it's not easy. You develop a split personality. Every scholar who has any sensitivity at all is split between his responsibilities and love for his own family and the constant uneasy suspicion that you're leaving too much on your wife because the demands here are too heavy and you're not doing enough with the children; that's one responsibility. The second one is you're teaching over here and there is always the constant uneasiness, "I should be doing more for the students." Then there's your scholarly research, and in my experience that's what suffers. Most people have it backwards. It's not the teaching that suffers; it's the other way around. You can always put off your research; you can't put off those students that are going to face you on Monday.

Beyond that, there's something that I didn't understand before I came here, which is that there's all this committee work, report writing, auxiliary duty. I've had more than my fill, because of something that grew out of the peculiarly unbalanced nature of this division. As the original group retired or grew too old to want to serve on committees or to write reports on projects that we might go into, we had too few people in the next age level who seemed capable of running a committee or carrying out a project. That has been true ever since. My successors, now that I'm peacefully retired, kept telling me last winter that the same thing is still true. People that I myself recruited or helped recruit now find that they are stuck. They were, most of them, not quite forty when Roger [Noll] came in as chairman, Dan Kevles and Dave Grether as executive officers. They were people who were too young to be asked to give up their own

research. It's a sacrifice for a person of that age, to turn aside from his career and submerge himself in administrative work for a time. But we've had in this division, for reasons that are sheer accident, a terribly unbalanced distribution of people through the different age brackets. It's been a headache; it's one of the curses of my personal life. There's always the demand that you've got to do this, because who else have we got? And that argument gets awfully thin after thirty years, and you get tired of it. It helps explain why the university is having trouble getting a successor to Roger now. Roger has served four years as chairman. He's been very successful—a very vigorous, imaginative leader. But he told me a couple of years ago, "I'm not going to serve out the full five years even of the first five-year term you fellows wrote years ago." And I asked why. He said, "Because I hate this job as much as you did when you were chairman." [Laughter]. And I asked him how did he know how much I hated it. He said, "Because I watched you every day." And he's right. It's a sacrifice, because it's hard to be an administrator, particularly today. A case where there is a challenge to a promotion or a refusal of tenure becomes an agony. For months, you're defending your division, even if the promotion or the denial of tenure, whatever it is, has been carried out with great care. Boy, do you have a problem!

I hate university life where you have to keep consulting a lawyer. Universities didn't used to be like that. That shows how old-fashioned I am. I grew up in a period when you trusted people; the other guy was a gentleman. You went through an agony of soul searching when you had to make a decision, but you consulted others. You made your decision carefully. Your superiors would back you up, and that was it. If there was an appeal and it was proven that you'd made a mistake, of course you recognized it. But on the whole, you made your decision carefully, quietly, and with an awful lot of consultation. And most decisions stuck and there were no lawsuits or threats of lawsuits.

RODMAN W. PAUL

SESSION 3

February 17, 1982

Begin Tape 3, Side 2

PAUL: I'd like to stress that the 1950s at Caltech, as at most universities, was a relatively peaceful time. Here at Caltech it was a happy period, although a hardworking one. It's a period when I think most people felt relatively comfortable here and without the pressure that has been so apparent recently. At the same time, it was a period that had the drawbacks I mentioned last time. So that by the period of the l960s, for internal reasons, we were ready for change. And yet that, as you know, is the period of almost revolutionary change at many American universities, starting particularly with the free-speech movement at Berkeley in 1964. I would stress that whatever revolution took place at Caltech was mild compared with most good universities. It really wasn't revolution at all. For that there are several reasons. One is that the scientist as an animal is not an activist in political and social affairs. The other is that Caltech students are extremely decent people. There are always some that are discontented, obviously. But taken as a group, they seem to have included in the student body of the 1960s very few of the really nasty types who ended up as arrogant philistines who were ready to destroy the university in order to twist it their own way. We simply didn't have the problem that was so obvious at Columbia, at Harvard, at Berkeley, at various other places. Faculties had lots to be guilty of—that includes Caltech—in the l960s. But the young radicals sometimes destroyed more than they created. So that when we went into the l960s, with its widespread changes throughout academic America, we were ripe for change ourselves. One of the tragedies of university life, that is the students' biggest complaint, is when they get a professor who really isn't very interesting. It's very hard to change if the man is already well established. We talked a lot in the 1960s, and we will keep on talking for years, about the abolition of the tenure system. The *Los Angeles Times* had an article denouncing it two or three days ago. But there are problems. Here at Caltech we could probably safely abolish the tenure system insofar as it is a protection against adverse, politically inspired action. That was the original reason for a tenure system; it was to protect people,

especially at state universities, from heavy pressure which would lead them either to recant and conform or be fired. But beyond that question of the politics of it, which would still be a real factor at most American universities that are publicly supported, quite aside from that, I keep saying that if we didn't have legal tenure, we would have moral tenure. Because if a man reaches fifty-five and his teaching is slowing down, his mind is visibly not as good as it used to be, what do you do? Do you throw him out and tell him to get a job as a salesman or something? It's a very hard question to resolve. And because it is so difficult, we've talked about it and we've never done anything very constructive about it. Here in this division, we had some dead wood at the time when the Committee on Aims and Goals began. The engineering division had much more. In both divisions, there's been a gradual clearing-out process, as retirements, resignations, and denial of tenure have taken place. So that that situation has gradually cleared itself up to a large degree. Within this division, it's left us with an English department that needs to be refilled, extensively. And they're in the process of an intelligently directed series of searches—not just an ordinary search for one or two assistant professors but a search that is bringing in distinguished scholars in English, getting them to talk here, so they can look at us and we at them, and so that we can get suggestions from them as to whom we might consider. Every once in a while perhaps one of these very scholars could be persuaded to come. But I mention that because we've gradually cleared away most of the dead wood in this division, as I think engineering probably has. But we haven't always been able to get the replacements.

BUGÉ: Do you think that the environment here in Southern California, as well as at Caltech, has improved so that some of these scholars are likely to be attracted?

PAUL: The intellectual environment, I think, has continued to improve. Look at what has happened on this campus. When I came, it was almost entirely a scientific campus. There were no public affairs, no theatre, no entertainment; the talks were entirely scientific, though some were very good talks. But look at the richness of the offerings that have been made possible by Beckman Auditorium, and now Ramo Auditorium and the humanities lecture hall. We now have a series of places for talks, concerts, even small plays, movies. On this campus, it's a much richer intellectual offering that we can put before a newcomer. And in the meantime there's always been a varied, though not always rich, offering within the greater Los Angeles

community. In terms of museums, look at the immense strengthening in the last few years: a fine symphony orchestra; a play series at the new civic center downtown. In other words, the surrounding community offers much more intellectual challenge and intellectual excitement than was true when I came at the end of the war. Those are plus factors that make it easier to bring a person here. After all, would you rather be here, or would you rather be in an overgrown farm town that has a state college which is crawling up from its past as a state teachers college? You see, there's no real answer to that.

The adverse factor, and this runs through all that's been accomplished in recent years, is that faculty salaries had just gone up to a respectable level relative to other professions when inflation began to hit us. One of the tragedies of the academic world that I've seen is that just as we began to get a respectable remuneration that gave you a little margin on living, so that living wasn't squeezed and lean at all times—I don't mean that one lives in poverty in academic life, but there's not much margin—just as we began to get away from that and salaries were really going up splendidly, particularly at a first-rate place like Caltech where the trustees were generous to us, then inflation began to eat away at it. It has not been possible for any privately endowed institution to keep pace with inflation. Today there is a financial drawback, which is severe in this area, because of the cost of housing. You find, as we try to recruit now, we're going to go through the same exercise we have with every person we've really sought in the last two or three years. Our salaries are good but we have to tend to push them up to the ceiling to get a really established person from some other part of the country. And after you've pushed the salary up to attract him, you find yourself hard aground, not so much on the price of real estate, though that is very high, but on the cost of interest on the mortgage. We should be rebuilding several departments. Physics, for example, which has always been the greatest force in Caltech, is trying to rebuild itself and needs it. Engineering has been rebuilding itself. We are trying to rebuild ourselves. There are probably other departments. But it comes at a bad time financially.

BUGÉ: Could you go back to the sixties and discuss your considering taking a position at Bancroft Library?

PAUL: Oh, that's one of the few jobs that I would have found really so attractive that I might well have left. The others were much more chancy. When the University of Illinois wrote to ask

would I come for such and such a number of dollars—and within the profession, when they mention the salary, it's serious—this is something you really have to think about; it really is an offer. When they just feel you out in general way without mentioning the salary, then you figure, Well, this is preliminary only. But the Illinois one I mention because my wife and I were given a free house at the beach that weekend by a kind friend. We went off and took with us the catalog and all the papers I could collect on the University of Illinois. And when we came home, we found that I had a raise in salary that the Illinois people couldn't meet. We heaved a sigh of relief. We'd never lived in the Middle West. It's flat as a pancake. We then realized that really neither of us wanted to go.

The Bancroft is something different. It was, and is, one of the great inadequately exploited opportunities in western history, which is precisely my subfield of American history. My friend Jim Hart, who finally went in as director, has done a lot for it. He's done a superb job with limited funds. But at the time they were fishing around for a director, one of the people on the search committee was a friend with whom I had served on a Woodrow Wilson committee. I'd done quite a lot of work in the field. So they had me up. But what made it impossible was the arrogant dismissal of western history as trivial, insofar as the main history department at Berkeley was concerned. They had some excellent historians, some of whom I'd known for years. But the attitude toward western history at that time was so hostile a one that I said I wouldn't go without a warm welcome and a full professorship. I was not going to go up there simply as director of the library, which I think might have been available, but it would have to be full acceptance within the department. I wasn't too sure that would come along, and it didn't. So without a concession of that kind, and without assurance of much better support than I had seen the retiring director get, I didn't want to go.

I can illustrate the atmosphere at that time, which was really conspiratorial in Berkeley. It was an unattractive period. Students were revolting; the faculty were having secret meetings. It wasn't a good time. When I went up there, I asked if I might speak to the retiring director, who was an old friend. My request had to go all the way up to the head of the university before the word came back down through the chain that yes, I could go if I was careful. I didn't like this at all. Again, it gave me the feeling of an academic institution run under conditions that are not appropriate to a place of learning. When I went to see the retiring director, he talked tremendously about the heart attack he'd suffered and how it had been forced on him by his

relations with the librarian of the University of California. He wasn't bright enough to realize that a lot of his real trouble came through inadequate support from the history department behind him. Everybody at Berkeley agreed that the existing librarian had to go. He was just the wrong man. I could have seen going there while that man was there, because you would have gone under the assurance that just as soon as he could be gotten off the campus, this man was going. But the other thing, which is the inadequate support by the history department, was built into the system and was supported by some of the ablest American historians in the country. So, to me, it was an unfriendly situation. One of my oldest friends, Jim Hart, a man I'm very fond of, was finally put in there. That solved the whole problem, because he had been vice chancellor of the university, chairman of the English department. He's a fine scholar, a wonderful person. He has a private income. And he knew the politics of the University of California inside and out. An outsider would have been like an amateur precinct walker being dropped into Tammany Hall. I preferred to be down here with a comfortable raise in salary and with the very friendly situation at the Huntington Library, where Jack Pomfret was the director in those days, a close friend.

Jack, in his good-humored way, had fended me off for a number of years when I told him that the Huntington should make the mining West a special field. Now, I've written a great deal about the mining West. And I told Jack that the mining West would be an excellent field, because it wasn't yet fashionable. If he tried to build up in the cowboy West or cattleman West, he'd be bidding against all those oil barons and cattle barons in Texas and Oklahoma. It would be ridiculous. The prices would be out of reach, and the stuff wasn't as good as the prices asked for it. So I urged that they pick up this field while it was still unfashionable and essentially undiscovered. I'd done a lot of the pioneering work in it. One day, Jack came down for the coffee break in the basement—we took it every day at 10:00 in the morning and at 3:00 in the afternoon. Jack said, "All right, Rod, we've decided to support you. What do you want to do? Would $10,000 get you started?" I said, "It sure would." And they've gone ahead since then, until they now have one of the great collections in the country. Scholars from all over the country and from Britain, Australia, and New Zealand have come in to use it.

So that, that's the difference. Here I could see a library responding to suggestions that I was making and doing something about it, going out and buying materials. And once you begin to buy, your interest becomes known to the dealers; through the dealers it becomes known to the scholars; and the scholars also see books being written by people who thank the Huntington

Library. So the word spreads rapidly. Presently, private people with papers become willing to give them. I've gotten a series of collections for the Huntington, free of charge, because you persuade the donors that the Huntington is interested in the field and takes beautiful care of things given to them, superb care. And it's an awfully friendly, easy, effective place to work.

BUGÉ: You really were enjoying the best of both worlds.

PAUL: Well, I was enjoying the best of both worlds in that sense. I liked the Bancroft Library, but it's always been an overcrowded library, with no endowment. I didn't believe it when I went up there—that they had virtually no endowment. They were dependent on appropriations and on passing the hat among well-to-do friends when they wanted to buy any collection. I just couldn't believe that that library, in the nearly 100 years that they had been running it, had failed to collect money for an endowment. Herbert Eugene Bolton, whom I knew well, had been the dominating force, aided by Dr. [Herbert I.] Priestley, who was a less belligerent but awfully nice man, too. They'd been good to me. But somehow, in their long reign, which was really Bolton's reign, the money had not come in for endowed funds that would guarantee them money for acquisitions and money for continuing salaries if somebody got dropped off the university payroll. They were really subordinate to the library of the University of California. That's why the outgoing director had had such an awful time with a librarian who happened to be just the wrong person for a librarian. To this day the Bancroft has never really regained the position it lost at that time. Right after the war, it was miles ahead. When I came to the Huntington, the Huntington was extremely weak in western materials. Today it is extremely strong. And things are beautifully cataloged. The staff knows what they've got. It's a superb place to work.

I would have been terribly tempted to go to Berkeley if the terms had been right and if we could have reached an agreement. We couldn't. I told my friend on this three-man search committee that as far as I was concerned this was an absolute *sine qua non*. It had to be a warm welcome and a full professorship, a promise of support; otherwise there was no point in going and knocking yourself out.

BUGÉ: And also, at this time at Caltech, you weren't having some of the problems that you later did.

PAUL: We weren't having the problems we had later. Later I thought very seriously of going. I was asked to be chairman of the department of an adequate though not first-rate university at a time when I was just terribly discouraged and worn out with the internal warfare in this division. Trying to keep the peace and yet trying also to get something done in the way of changing the division to make it a better place. This was so exhausting, so repetitious. We went through cycles of the same efforts, always ending up against the same obstacles, and then two or three years later some new person would come in enthusiastically and we'd go through the same wretched business again. So that you're quite right. At later times I did think of leaving. But Bob Bacher and Lee DuBridge pretty much talked me out of it. When I thought of going to be chairman of the department in another university, which was then building up a strong western history collection, I said one thing I had to get away from was this submergence in eternal committees, always debating something, always preparing a report. Bob Bacher is a very wise man. He said, "Rod, what makes you think that after the first year or two there, you wouldn't be bogged down in the same number of committees, particularly if you went there as chairman and a very senior professor?" I guess he was right. The others, the feelers that came in, I in most cases dismissed with a polite note. Though I am sufficiently aware of my own financial welfare so that I would always quietly drop a Xeroxed copy on the desk of the chairman here. This is standard academic tactics. You don't toot your own horn, but if a man writes in and says would you be interested in this job or that, just take the trouble to send a Xerox copy to the chairman so he knows that other people love you even if you don't feel loved here [laughter]. No, this is reasonable.

We had some funny offers. One came in from Montana, when they had been given money for a named chair. My children, who were then rather small, said, "Daddy, that's wonderful! We could have a ranch." I asked them if they knew how heavy the snowfall was out there. We'd be locked in all winter. So I just wrote back a nice letter and said, "Thanks a lot for thinking about me. But you go on searching." The people over in Nevada asked if I would direct a research institution they were going to found. It was very appealing, because it was an interdisciplinary attack on the problems of the semi-arid and arid Southwest, and I found that very appealing in principle. But you just needed to look at it to see how unsound it was. There was no solid money; it would all be soft money—grant money, you know, that you spend off and

you've got to raise some more. And in a state like Nevada where politics are terrible! Oh, heaven's sakes, I never gave it a second thought. But again the children said, "But Daddy, we could have a ranch there, too" [laughter]. So those are not anything that should be taken seriously.

BUGÉ: It would be hard really to compete with Caltech, even with all its problems.

PAUL: Yes. Though you must realize certain things that anyone in the humanities faces. You never have graduate students at all in your field. This is a pity, because graduate students, as my old professor at Harvard used to say, push you. That is, to keep up with the advance work they're doing, to read their dissertations as they go through successive drafts, you have to keep up to date yourself. To teach in seminars at graduate level, you have to be up to date. It's all too easy at an undergraduate institution like Caltech, which doesn't have real majors in your field, to coast on what you already know. You know so much more than the students. You have to drive yourself. My wife was explaining the other night to someone who thought academic life is easy. She said indignantly she'd seen her husband rebuilding even his freshman course every year. Well, that's true. And the teacher who takes his work seriously ought to rebuild annually.

Have I explained to you that the problem of teaching in a scientific university is that although you have exceedingly bright students, students that I suspect really are brighter in some intrinsic intellectual quality than you find in most liberal arts universities, nevertheless you don't have real majors in your field, students who push ahead and write undergraduate honors theses that are sometimes publishable. I had that in the one year I taught at Yale; I had a student produce a publishable senior thesis. And in my own days at Harvard, when I was an undergraduate, my undergraduate thesis was published. This is fun. And beyond that, you don't have the graduate students. Most people of my level are not only writing what they've learned, but they're exploiting their graduate students' theses. You'll see the footnotes; people are fair about it. But you'll see a whole chapter that grows out of work done by "my esteemed student of twenty years ago" or whatever the footnote says. So that you miss a lot. I've been asked to a lot of farewell cocktail parties or dinners for colleagues who are retiring. Those parties are usually organized by the man's former students, who are now out teaching in a variety of places. It's a very warm experience. It's one that one misses in coming to Caltech. So does that explain to

you that you lose something when you come here.

BUGÉ: I was going to ask you, and this seems to be related, whether you still believe it's possible to staff a humanities division like this one with people who are both scholars and excellent teachers? This may be one main reason why it's been so difficult.

PAUL: Well, it's a constant problem. Jim Thorpe, the director of the Huntington, said when he came, "Well, no scientific university has ever succeeded in establishing a strong humanities staff." I would like to prove him wrong. I think Hallett Smith felt that way, but I don't believe it's necessarily true. The strength of the present history staff here shows that you can build it. And yet I sit here nervously aware that we've had two people as guests at Harvard this fall in history, and one is being offered jobs by both Harvard and Stanford in political science. So that we've built strong departments in history and political science. Are we about to lose people? I hope not. The struggle to rebuild English I've told you, and they're right in the midst of this elaborate campaign that I started describing a moment ago. If this campaign, headed by Jerry McGann, who's a well-known, distinguished scholar—if this campaign doesn't produce within, say, two years, then I would be very discouraged about what you can do. It has proven more difficult to get good literary scholars here than good historians so far. But I think that's because we have momentum. Remember, I've been here for thirty-five years and started—within about a year and a half of arriving, started fussing about the quality of our historians. We cleaned house, started over again, and then we've made a series of starts since then. We've tried to be alert to grab the individual good person when we've seen him. On the whole, I think we've done best to bring in bright people at the bottom. And yet when we were permitted to hire a woman scholar outside of normal complement, we got someone as distinguished as Eleanor Searle, who's a very good historian. And health factors were a part of the reason why we were able to hire John Benton, who, again, is a very good scholar. Dan Kevles is here partly because this is a scientific university and he is a historian of science. Morgan Kousser is here partly because he wants to do quantitative social science, and he's surrounded by people who want to do that. Here at Caltech he could learn the mathematics that he almost uniquely has among American historians. So that there are certain types of historians that we've been able to get here by the very nature of Caltech.

BUGÉ: I know that you have been selected as outstanding teacher on at least two occasions. Is that tendency toward excellent teaching still true of humanities professors, of these historians?

PAUL: Well, humanities teachers have nearly always had a solid core of men who were close to the student body. In the old days, it was a kind of buddy relationship almost. Harvey Eagleson was an outstanding example. He had a very good influence on people, and he was a very good teacher in those days. In more recent years, yes, they voted me the Excellence in Teaching Award twice over. And yet I wasn't as close to the students as I was when I was a younger person, particularly before I was married. It's an awfully difficult thing to reconcile the demands of family, teaching, research, outside national responsibilities, and responsibilities to your profession, if you serve as I have on all kinds of boards of editors and executive councils and whatnot. It's an awful pull to cover all bases. I'm much less close to the students now than I was in the first five or six years at Caltech. But in teaching I've always made a major effort and the students have responded. And I still think that is possible.

BUGÉ: Does that show up? Do the students continue to select people in the humanities?

PAUL: Well, look at Valentina [Zaydman], the Russian teacher, voted year after year. She's an excellent teacher. And language teachers, you know, are not always that popular. She's a remarkable woman. She's finding this tug-of-war now, because she's recently married, she's doing advanced linguistics work at UCLA, she has had a mother who has been a responsibility, and yet she's teaching here. So it's difficult to do all these things at once. My own regret about my career at Caltech is that through trying to do too much I haven't done enough in some directions. That's why these last few years I've tried to be selfish and focus on cleaning up the scholarly side of my career, trying to get done this last big book. I've done everything else now. It just means that late in life I thought I'd done enough.

BUGÉ: Judging by your vitae, you certainly did a lot of writing, even during the last few years of the seventies—and you have received many awards.

PAUL: Yes. Well, that's been pleasing, that things have come along, that people at last recognize you. Another thing you have to realize is that in a professional association—and I've been in lots of them, and president of two of them—in a professional association, a person who teaches at a big liberal arts university has a veritable bloc of votes formed of his colleagues and his former students who are now themselves faculty members. So you tend to get pushed forward much more rapidly. If you'd like to have the brief, momentary glory of being president of a major professional group once, or on a major committee, executive council, or a board of editors, it's a lot easier if you've come from a big concern—say, the University of California, the University of Michigan, University of Wisconsin, or whatever it might be. But I don't regret coming here. I've always tried to follow a lesson I learned as a boy in mountain climbing, which is "Never look back"—except to look at the view when you've gotten to the top. But never look back and have regrets. That does you no good at all. So that I've gone ahead rather stubbornly and have really not responded vigorously to any of the feelers that have come from universities elsewhere.

When I came here at the end of the Second World War, the colleges and universities in Southern California, and to a large degree throughout the state, were rather weakly staffed. Berkeley, of course, towered above everybody else. Stanford was in deplorable condition. USC [University of Southern California] then, as now, was weak but today is trying to come forward. UCLA was eager and on its way. But I had the feeling then, and have continued to have it since, that when one and preferably two or three other universities start to improve, they tend to make the whole area richer, more appealing to still more good people elsewhere. That means you will have more colleagues to talk to, more people that will come and work at the Huntington Library and you can have lunch with—the whole thing builds up cumulatively. This has gone on in a very pleasing fashion. UCLA had a bad break years ago. They had exactly the right history department, just moving up to seniority, when the whole thing fell apart. I don't think they've ever come back to quite that level. That's the kind of thing that you see happen sometimes to a good place, and it really makes you mourn. That's what I trust will not happen to Caltech in the humanities and social sciences right now. Now, what else might I tell you about?

BUGÉ: Could you talk a bit more about the environment at the school as Millikan's era was ending, under DuBridge, and to the present?

PAUL: What stands out in my mind is that at the end of the Millikan era, which coincided with the end of the Second World War—or to put it differently, at the beginning of the Lee DuBridge era—Caltech was taken over by a group of people who had had extensive wartime experience. It wasn't the kind of wartime experience that most of my non-Caltech friends had had. The group of us that had been in the army or the navy or the air force, we'd had one type of experience. The scientists here had had a very different kind, as civilian leaders in the development of wartime science, including the atom bomb project and the development of radar, all of these really superb developments. So that the people who took over Caltech at the beginning of the DuBridge era were, to a large degree, highly experienced people with a breadth of view, with an understanding of national politics, an interest in national affairs, foreign policy, and strategy. They were a wonderful group. I thoroughly enjoyed being with them and found it a very rich experience.

BUGÉ: Had most of them been associated with Caltech before the war also?

PAUL: A great many had. But some, such as Lee DuBridge and Bob Bacher,

Begin Tape 4, Side 1

PAUL: had been here, in one capacity or another, before the war and then had been off at other universities on the eve of the war, then were brought back here. Caltech had a wonderful system. They used to use those National Research Council fellowships to bring in bright people for a couple of years. Then years later, when they needed a new professor or a chairman of a division, they knew just where to go. George Beadle is a classic example. If you look at some of those names, of DuBridge and Bacher and George Beadle and Bob Robertson—these people coming back to Caltech where they had once studied, coming back with a richness of work elsewhere, of wartime work, of dealing with foreign scientists, of dealing with national problems—they provided a superb, intellectual environment, which was also a social environment. We were asked to a lot of parties in those days given by scientists, usually to honor some visiting friend

they'd made during the war or some distinguished person—perhaps Hans Bethe, someone as distinguished as that—who was just passing through the university. This was a wonderful experience. And there was a cohesion to that group, because all of them had experienced something of national concern. They all had a sense of the university's relationship to the nation. So that I thought Caltech was singularly free of a selfish, in-grown parochialism, the kind of self-centeredness that sometimes strikes a university. Like all universities, we sometimes tend to think that we're awfully good here and to forget that there are other places that have just as good people. That has come up many times in my life when I have sat on committees that have been struggling with the question of what kinds of people we should admit, and the way we should educate them after we've admitted them. I used to irritate my science friends by asking, "Is it really true that ten years after graduating from Caltech, the Caltech person will be way ahead of the straight-A student from Berkeley, or Pomona, or Michigan?" or wherever it might be. At this point, the scientists generally get a bit huffy and say, "Well, no, no, that's not really true. The straight-A people will emerge as straight-A anywhere." But this is a consideration that has always run through my mind at Caltech. We do a lot with students. But do we always do so much more than other universities, if you measure the students only at the level of quality that we accept here? It's not fair to measure us against a cross section of Berkeley, where you know that the lower echelon is below anything we would consider. Do I make my point?

BUGÉ: Yes, you have a more concentrated pool.

PAUL: Right. And this creates a special situation. The faculty and the students are in many ways very much alike here. This I gradually began to learn in those postwar days, when everybody was new here or was restarting again after the war. The students of course, in a sense, copy the faculty, because the faculty are role models for them. Dick Feynman is the great example. They all love him, and rightly so. But faculty and students tend to think somewhat alike. This made it a fascinating experience to be dropped into a totally new kind of environment. It's also an environment that I would have found lacking if it hadn't been for the escape offered by the Huntington Library, which then had all kinds of scholars in history and literature passing through, and the escape that I had through service on committees that were national or regional in scope. These are usually committees that you're appointed to by one of

the big historical associations. Or I worked for the Woodrow Wilson Foundation when they started those very successful fellowships for brilliant graduating seniors who were going to graduate school. Or when I was in Washington for so many years on the National Archives Council or certain other Washington services before that. These national and regional experiences, plus the Huntington, kept me from being too parochial, I think.

BUGÉ: How about your relations with the students here, as opposed to students in other places where you've been? Do you find them harder to get close to?

PAUL: No, I don't think so, because there's one rule that should be cited as a law of physics here at Caltech. And that is, our students love to talk about themselves. When you find yourself eating in Page House, as I have off and on—I've been an associate there for years—I don't go there as much as I should. But if you are sitting with strange kids that you haven't met before, the one thing that will get them started is talking about themselves and their problems. You learn quite a lot from that. What I sometimes miss, is finding students who have had time to read the daily newspaper or even watch the television news broadcast at 7:00 or the *MacNeil/Lehrer Report*. These are things that mean a lot to me. If you live out here in this paradise of the Sunbelt, I think it's quite important to try to be aware of what's happening nationally and internationally, as well as in the West as a whole, of course. But our kids are pretty busy. They really don't have much time.

BUGÉ: Has this always been true?

PAUL: Yes. And it's perhaps made worse by the anti-intellectual atmosphere of the student houses. This has gone on for many years; it's worried us for as long as I can remember. It's a strange paradox that with the brightest students in the country, they boast about how little work they do. That's not always true. They sneak off at night to study privately, so that their roommate won't know they're cramming. But it's a reflection of a lot of things that are not healthy.

If you ask, am I close to the students, the answer is not easy to give. I've never seen them as much in my home, for example, as I should have. There are many reasons for that—a

house full of children myself, and a lot of hurry. There are many people, such as Ray Owen, who have done infinitely better than I in getting to know students through the years while leading busy and productive lives. So I wouldn't claim any great success with that, and yet I have kept in touch with them here. I've spent hours talking with them on the campus. They've asked me to participate in conferences and meetings and committees from time to time. I haven't even been active in the Caltech Y, and yet I've known an awful lot of students, and they come back and talk about things and keep asking you to write letters of recommendation. They come back and visit you years afterwards. So that I think the answer is that relations with students have gone well.

There is a question that Caltech has to think about. This Division of Humanities and Social Sciences corresponds to the whole faculty of a small liberal arts university. We have people covering about the same subjects that you'd find in a small liberal arts college. You'll find this in that memorandum I wrote once for Bob Bacher in that folder I lent you last time. This is all very well, until you stop to think that we also try to perform most of the non-teaching operations that are characteristic of a small liberal arts college: service on committees within the division, service on university committees. Our people even serve extensively on the Admissions Committee, though you'd think that would be a scientists' committee primarily. So that we have always tried to do a lot with a little, in terms of human bodies.

Now, it need not have been as bad as it has, if we had had a larger percentage of people of proven effectiveness as committee chairmen, project leaders, report writers, or whatever the chore may be at a given time. We've been weak in not having enough people who could really take up these auxiliary jobs and see them through. We've got awfully nice people; a lot of them are good teachers or pleasant colleagues. But there are some that you just don't ask to chair a committee, because you're painfully aware of what'll happen. So that in a situation that would inherently be difficult because we really do correspond to a large percentage of the faculty of most universities, the situation has been rendered much more difficult by the failure many years ago to build up with a sufficient quality of faculty. So that when you seek a new chairman of this committee or that, you can't say, "Aha! Here's So-and-so, who hasn't been asked to do anything for a year and a half. Let's ask him to do it." We've always been shorthanded. Jim Quirk, the economist here now, who is a hell of a nice guy, holds me up as the striking example of a pretty good scholar that was almost ruined by getting diverted too often. Now, Bob

Leighton, when he was chairman of physics, once talked with me about this. We were discussing whom we could get as chairman of this division. He said, "You know, there's something about this place that gets ahold of all of us. It's gotten ahold of both you and me. Why do we do things that deliberately interfere with careers?" This is very true. If you value your professional reputation, you want to go ahead in your career, and you find it exciting to do given pieces of research and discover things that people don't know and write it out and change people's thinking. If you have that ambition, then it's a sacrifice to do all these extra chores. Roger Noll, who is retiring as chairman in September, if not earlier, is an example of a man who, when he was altogether too young for his own good, was asked to take over as chairman because we didn't have enough other alternatives. Roger has been a very effective chairman. But remember that he was also a very effective economist. He was rising to the peak of his career. He has done this job in an unselfish way. He's done it at sacrifice of his own career. I don't think it's too late; I'm sure he'll recover and get back into full-time research. But if you think of it in these terms, then to serve as chairman of this division, for example, is an awful drain. It doesn't leave you much time to do anything else, if you do your chairmanship properly.

BUGÉ: It seems that one of the things that's happened since Lee DuBridge took over as president is that the character of the school has changed and the demands have changed, but there's really been no accommodation in the structure of this division.

PAUL: That's right. It's been worse than that, because Harold Brown adopted a very unwise policy. I can understand why he did it; he was trying to save money. But when one person would retire, he would call upon somebody else who already had an administrative job to stretch himself over two jobs, not one. Neil Pings is the classic example, who was stretched too thin over too many jobs before he went to USC to be whatever it is, vice provost or something. But Harold Brown's policy, which was well intentioned—he was seeking to save us the money of bringing in new administrators—really exacerbated an already bad situation. Ray Owen is an example of an unselfish, wonderful person who has been asked to stretch himself over all kinds of responsibilities. Jim Morgan, who is, again, a fine person, has done the same.

BUGÉ: You mentioned administration in terms of Brown. You said last time that under Lee

DuBridge the administration was not so much a distinct part of the university. I wondered how that evolved?

PAUL: I'm glad that you reminded me. I think I said to you—and if I didn't, I meant to—that in the DuBridge era you almost never heard the phrase "the administration." At most universities, there's an almost adversary relationship between "the administration" and the faculty. There are the four elements—the administration, the faculty, the students, the trustees—and way off somewhere the amorphous general public.

BUGÉ: Yes, you did mention that. And I'm wondering how it happened.

PAUL: Well, we never had a group that was called the administration. Part of that, after Lee DuBridge, was probably necessary, because we weren't as efficient and as well organized as we should have been. Trustee committees and faculty committees were in agreement that there had to be more efficiency, more careful spending of money. One way to do that has been to bring in more professional administrators, bring in people who are hired solely to do a job as administrators. You seek, if you can, to find a faculty man, such as Murph [Marvin L.] Goldberger, who knows what faculties are all about. Harold Brown didn't, and that was a weakness, through no fault of his. He really hadn't served on a faculty. He had been manager of great enterprises, and a very efficient manager. But I have had the feeling that the term, "the administration" is quite common today at Caltech. So the closeness, the real harmony of purpose, of the era of Lee DuBridge, Earnest Watson, and Bob Bacher is not quite what it used to be. But part of it was that nobody could dislike Lee DuBridge, no one could distrust Lee DuBridge, nor could anyone distrust or dislike Earnest Watson or Bob Bacher. They're just people you know and like and regard as close friends. And when you sit down with them, you know perfectly well they're not going to do you in, as some provosts and presidents are famous for doing in other institutions. In that period—we were small then, too, a somewhat smaller number of students, a perceptibly small faculty and research staff—so that we knew each other better. I always felt I could go to see the president or the dean of the faculty, or later when there was a provost, go to see the provost. I always felt I could see any one of the two top people whenever I wanted to.

BUGÉ: And there was an active social life that integrated everyone.

PAUL: There was a very active social life then, some of which still persists, but I don't think quite as much. There's been an enormous change. I would be a poor judge, because the people I came to know well then, of course, are somewhat like me—they're retired or gone. I haven't always met the new people that well. In my own memory, yes, there was a social closeness that did an enormous amount for one's happiness and for one's education. And there were on the faculty in those days faculty members who had done enough reading in fields close to yours so that it was embarrassing to talk to them, they were so well read. That's really challenging. It's fun to have people like that around. You can't talk to someone as bright and interesting as Jesse Greenstein without learning something. In those days I used to say that Murray Gell-Mann must be a great man because he could explain extremely difficult scientific phenomena to me, and that's the acid test. He could do so because he's so bright that his mind can leap over the thousand-and-one technicalities and definitions and realize, "Well, Rod Paul doesn't know a thing about this, so I will talk in terms of a few fundamentals." Now, that made Caltech exciting. To have a guy as bright as that sit after lunch and explain to you something you didn't know and you really hadn't had explained at all when you'd seen it mentioned in the newspaper. And Richard Tolman could do that. But it takes a very bright person to simplify. A less bright person's explanation gets all cluttered up with the details, and I find my mind turns off after the fourteenth definition. I can no longer retain what's being said. Caltech has always been blessed with some really bright, interesting people who also are patient and kind to an ignorant listener who happens to be their neighbor in the Athenaeum or on campus.

BUGÉ: Maybe it's still going on to a certain extent.

PAUL: Oh, I think it does. Take a person like Rudy Marcus, whom I began to know when he first came here a couple of years ago. I mention him because I happen to have eaten lunch with him many times. I've eaten lunch a great deal with Francis Clauser, who hasn't been here all that long. He was a Caltech person who returned, of course, to be chairman of his division [Division of Engineering and Applied Science]. Francis is someone I've come to know and

enjoy immensely in later years. So that, yes, this socializing still goes on. Or a character like John Pierce, who's a real screwball, a brilliant person, can talk about all sorts of things—again, so well that he embarrasses you. John is in many ways an eccentric of the right kind, a brilliant and effective scientist and a very interesting person to talk with. And he's fun. Again, I've seen a lot of him at luncheons during recent years. This Bill Bridges is a hell of a good scientist, interesting person to talk with, but I haven't seen as much of him. I'm trying to think up a few recent names, just to show you that I'm not totally unaware of who's come.

BUGÉ: I wondered if you had thought of any other interesting stories that Earnest Watson related to you during the years when you shared dinners.

PAUL: No. The types of things that stood out in my mind were, in the first place, the good he did us with the trustees because of seeing them on their own vacation ground up there in Montecito, next door to Santa Barbara. Secondly, watching him and Lee DuBridge in the peaks of the Linus Pauling affair. That was a long-running dispute with a few very conservative trustees trying to get rid of Linus Pauling, who was the greatest chemist, really, of his generation. And Lee and Earnest Watson stood up courageously in that. Then, Earnest Watson would tell me wonderful stories about coming here as the advance guard for Robert Andrews Millikan. He was the one who was sent here to get Bridge Lab up and ready by the time Millikan came here. He was the one who did chores for Millikan for years, with inadequate credit given. He became testy about it in his older years, and I don't blame him. He hadn't gotten the credit he deserved.

Now, I came to know the Millikans quite well when I first came here. They would invite me usually to lunch on Sunday, and it was a rather formal lunch. Of course, the Millikans were believers in no liquor of any kind. As Mrs. Millikan used to say, "We're the dry Millikans." Their son Clark Millikan, who was a good friend of mine, was a very different sort. There was no problem of dryness; we could have a drink in peace. But his parents would invite me to lunch sometimes. After the first time, which was clearly to look me over and see if I would do here at Caltech, I must have passed muster that time, because I began to be asked for other occasions. Then Mrs. Millikan called up one week and said, "Rod, we have a new cook who will be performing this Sunday. Now, I've got to have somebody in to test her on, and I can't do it with someone who would really matter, so I want you to come" [laughter]. I knew just what she

meant. She couldn't invite a wealthy potential donor and have a culinary disaster. If I did, it wouldn't matter; I'd still be on the payroll. She was really quite charming.

The first time I went there, Dr. Millikan, who was a famous talker, got to talking as he usually did and dominated the conversation. Until finally Mrs. Millikan interrupted him in the middle of a sentence and said, "Robert, you've said enough. Now, let the young man talk."

BUGÉ: And did you?

PAUL: Oh, sure. I thought of something to say. But she did that. Again, when I became engaged, the grapevine apparently reported that to Mrs. Millikan with the speed of light, as it does in a faculty community. The telephone rang, and it was the familiar voice: "Rod, we hear you've become engaged." "Yes, Mrs. Millikan." "Then, I want you to bring your girl to lunch on Sunday." Now, she didn't say, "So that we could look her over," but that was plainly implied. This was not an invitation; it was a command performance. I told my girl, "We are going to lunch on Sunday, and it doesn't make any difference whether you want to or not. We have to go." Actually, it worked out beautifully, though I must say it started badly. Some friends had given us an engagement party that went till late in the night; it was really quite a convivial affair. And I had told Anne sternly, "Now, look here, tomorrow we have to be cold sober when we go to lunch. We will be given tomato juice or apple juice—there's usually a choice." And the next morning, with somewhat of a hangover, I came and said, "Now you've got to pull yourself together. We go." It really worked out very well. My wife is a very attractive person, and Mrs. Millikan clearly liked her. That I knew, because after lunch Mrs. Millikan got out the gold medals that Dr. Millikan had been given, and she particularly showed Anne the papal medal. Understand, the Millikans were extreme Protestants, but nevertheless it meant a lot that the Pope had given Dr. Millikan this gold medal, which is in the Archives, I think, now. As she showed Anne all these mementos, particularly the awards and medals and honorary degrees, I realized that Anne had hit it off. She was a success. It was OK, hangover or not. So that worked out fine.

These are memories of early Caltech. I came, as I say, in this transition at the end of the war when a great deal was happening at once. But I guess the important point to stress is that after all these changes, from war to peacetime arrangements, from Millikan to DuBridge, from

the older group to the group that had had wartime experience and this broader view, from the GI-type student to the postwar student—after all those changes took place, we settled down and the 1950s were really pretty peaceful. And after *Sputnik*, for example, why, science universities were positively appreciated. So that money came from many sources, a lot of it government money—indeed, government money to an alarming degree, because we worried about becoming too dependent. So that the 1950s were pretty peaceful. This is the period when, yes, I saw a lot of Earnest Watson. When I got engaged and said I was going to get married, he looked at me and said, "You're doing the right thing." There was a grimness about his remark as we sat eating our bachelor supper in the Athenaeum that made me realize that he was probably a lonely person. He had devoted a lot of his life to looking after his mother while coping with Dr. Millikan and with Caltech's problems. Earnest Watson in those years was a free man for the first time. He didn't have his mother to worry about; he didn't have Dr. Millikan to worry about. And things were going much more smoothly. He was building that striking house of his at Montecito—a very expensive, small house that was charming. I've stayed in it and been there numerous times. That house gave him immense pleasure. Then, of course, he went traveling and met Jane on a boat, and that was just wonderful. So that Earnest Watson's late years brought the rewards that he richly deserved. And it brought a relaxation of the tension that he had been under in the years when I knew him.

There's a relationship there that I should mention that's crucial to understanding these years. Lee DuBridge was a person who studied the people around him, made up his mind whom he could trust, and then trusted them and worked through channels. He trusted Earnest Watson and rightly so. When Bob Bacher succeeded Earnest Watson, the relationship between Lee and Bob Bacher was already so close that many a time I've gone to see one of them and if one of them made me a promise I knew the other would back it up. There was no problem. It was very reassuring. And likewise, Lee had a way of working down through channels. He thought of people, "Well, this is my man in that field." In those days, Lee had become a trustee of the Huntington Library. Jack Pomfret, the director, came to see me one day and said, "Rod, I'm going to put over an idea before the trustees and see if they will accept it." It was an idea about publishing George Washington's incoming correspondence—an elaborate, big project that would have taken a lot of money. He said, "What will Lee DuBridge say when I present this?" I said, "I'll tell you exactly what he'll say, Jack." "What?" "He'll say, 'Have you discussed it with

Rod Paul?'" Lee will say that not because I know anything about George Washington—I don't—but because I'm his man in history. It's just that Lee's mind instinctively thinks in that way. He's worked through each of us for years; he's learned whom he trusts. And he's such a decent guy you'd never let him down. So Lee's reaction will be, "What did Rod Paul say," and he will overestimate what I know. Well, a week later Jack Pomfret came back. I said, "What happened when you presented it to the trustees?" "Well," he said, "Lee DuBridge said, 'What did Rod Paul think of it?'" So it cost me some hard work to telephone around the country and find out about this project.

But I cite this to bring out the degree of trust that made Caltech a very harmonious and happy place to work in. Outside visitors who came on missions that gave them a considerable inward view of the way we run always spoke of this. They regarded Caltech as a very well-run place in those years. Towards the end of Lee's very long tenure, we were slipping a bit in terms of the efficiency of the buildings and grounds office, the business office, and relations between faculty, president, and provost. But most of his administration was a very harmonious and, I think, a very effective one. Really, we owe a lot to a very few people in key positions in those years. But remember how long most of the key scientists had known each other. They had known each other before they came to Caltech often, or they'd been together during the war, or they'd been postdoctoral fellows at Caltech. They knew each other well.

BUGÉ : That's quite a unique situation.

PAUL: It is. I hope it's true today; I'm not sure that it is. Science is much bigger, just as my field is much bigger. There are more faces and you can't know them all that well.

BUGÉ: I think I've asked you all my questions. Is there anything you would like to add?

PAUL: No. The thing that's most on my mind is whether we can build the kind of faculty that will give students as bright as ours the teaching they need. There are great big booby traps in what we're trying to do now. One of them is the building up of tension. This division has become known to other universities as what they call a pressure cooker. In other words, publish or get out. I think it's been oversimplified. But it is very true that you won't gain tenure without

a very respectable career as an independent scholar. This is, on the whole, the right thing to do. I explained to you last time that I think a good scholar doing original work is much more likely to last through to retirement without drying out, without getting into his anecdotage ten years before his time. But nevertheless, there are real dangers in this. We have sometimes had to push some of these people into giving enough attention to undergraduate teaching. I've told you that the economists don't do as good a job with undergraduates now as they did before they had their graduate students. Besides, it's all too easy to go on teaching in a university that doesn't have advanced students in your discipline. You can give a lot of time to your scholarly work and not as much to the teaching as you should. But up till now I think we've done pretty well in avoiding that. It's more a fear that I have as I look at the tension that young people are under today as they approach the point where tenure decisions have to be made. Or as I look at bright young people, such as the social scientists, who are under intense pressure to produce—to a large degree, a self-imposed pressure, peer pressure. They see one of their friends putting out a book or an article that's earthshaking and they feel they've got to do the same. Now, I said a moment ago the students are like the faculty. The same is true with the students, you see. A lot of the tension and pressure that the students complain of is self-imposed. A lot of the pressure and tension within the faculty is self-imposed. Any hotshot place like this is likely to do this to itself. What you somehow have to scramble through—and there's no formula, there's no guaranteed path—you somehow have to scramble through the different roads, the one that leads to scholarly distinction in your field so that you're the most famous guy there is. The other is to be a good teacher, to know your students as individuals. Another is to be a good colleague, to be willing to do some of the chores that in the past we have tended to load on to too few people. And don't forget that the scholar is a human being. He's got his family, his own life, his own interests. It's a very heavy combined load, as heavy as I know in any profession today outside of service in Washington.

BUGÉ: That's a very good point, I think.

PAUL: So I watch the future with hope and also with concern. If you look at the record of non-success with English and philosophy, you'll see that my concern is not without justification. We've tried it; we've recruited carefully to replace the former people. We've done badly.

BUGÉ: Well, it's been a hard job. I think that's very clear.

PAUL: Yes. And I don't claim that we've been 100 percent successful in history. I'm honest enough to say that there are mistakes, including mistakes that I have made specifically.

ADDENDUM TO THE RODMAN PAUL ORAL HISTORY INTERVIEW

March 22, 1983

[This material was not tape recorded but was written after the interview was completed.]

Through concentrating on the problems of the 1960s and 1970s, I have failed to say anything about the central person in all this: Bob Huttenback. To write the history of this era without discussing Bob would be *Hamlet* without Hamlet. I am unable to explain this huge omission. Bob is an extraordinary person—very strong physically and psychologically, with endless energy and a superb ability to bounce back from defeat or check. Bob is a restlessly creative individual, quick to pick up ideas or to generate them himself.

Bob rose gradually to an increasingly commanding position during Hallett's final year. Upon Hallett's retirement from the chairmanship, he became acting chairman for over a year, then chairman. The long acting period was because the search committee, of which Harold Brown was nominally chairman, though I actually had to run it as executive secretary because Harold was too busy, could not reach agreement. A faction within the division strongly opposed Huttenback when he began to emerge as the leading candidate.

Huttenback's decade as chairman and acting chairman was a time of intense activity and much controversy and dissension. Bob got us moving again after our long stagnant period, but a sharp split developed between those who were determined to stress productive scholarship and those who wanted to continue the old careless, easy standards for opportunity, promotion, and tenure that had given us such a weak division. The historians and social scientists were the proponents of strict standards; the center of opposition was in the literary group, although they

were not alone in this.

Bob's fierce energies and strategies were poured into a prolonged attempt to restaff literature, re-create the defunct philosophy group, and find someone for the Dreyfuss and Luce chairs, while simultaneously starting the social sciences. We were handicapped in the literary searches by our lack of any commanding senior figure, but that can't have been the sole cause, for we failed to find a Dreyfuss Professor, which would have been a new and independent position, and had to settle for a part-time arrangement with USC Law School in filling the Luce chair. As chairman of both those searches and a participant in the others, I am painfully aware of how difficult it was to persuade first-rate senior people to come here to what seemed to them an alien environment in which they would be too isolated from their profession.

We did hire a whole batch of young English teachers, and everyone of them failed, save Mac [George W.] Pigman. The philosophy problem was unsatisfactory from the beginning. With no full-time senior figure, we leaned heavily upon the admirable Will Jones, who gave us far more help than we had a right to expect. But when we finally hired two young philosophers, one proved a total dud and the other gave up philosophy entirely.

Meantime the social scientists forged vigorously ahead. When the literature people complained that they were taking over the division, my answer was that we were letting them take over because of our weakness.

No one could have worked harder, more resourcefully, or under more trying conditions than Huttenback; and yet when Murph Goldberger took over as president, I told him, in a series of appraisals that he requested, that we were little better off in regard to humanities personnel than we had been ten years earlier, when Bob's impressive crusade began. The imposition of severe financial restrictions and personnel ceilings under Harold Brown had made our struggle even less effective than it might otherwise have been.

Bob was exceedingly loyal to Caltech and a fierce fighter for his division. When he left, the search for his succession was getting nowhere, and I had to take over temporarily as acting chairman. The six months intended stretched out to nine, but I got a free trip to China out of it. It was the most exhausting administrative experience I had ever known, and I have been in and out of administration ever since I became assistant dean of Harvard in 1937. The division was sharply split; one actual and another potential lawsuit were in front of me (over tenure and reappointment); the social scientists were constantly threatening to resign and go elsewhere if

they didn't have their way; the literary people had no morale at all; the language instructors were in revolt; and I kept finding that Bob's habit of doing business orally (with no written record) and off-the-cuff had left a swamp of uncertainties. I was constantly telephoning Santa Barbara to ask if he could remember whether he had in fact made this or that promise. I found that some of my colleagues were not above telling what Huck Finn called "stretchers." There were financial irregularities also that took much time to straighten out, with the help of David Morrisroe's staff, who expressed profound relief at discovering that I have a New England conscience—even if I'm incompetent as a financier.

All told, being acting chairman under an acting president [Robert F. Christy, 1977-78] in an era of financial austerity and fierce internal bickering and lawsuits, made that a winter that decided me to retire promptly after my sixty-eighth birthday.