

An Interview with Harold Brown

President Harold Brown has been at Caltech for almost three years. What changes has he promoted? What problems does he have? How is he dealing with them? What does he think of the faculty? And the students? How does he like being president?

These are some of the questions Caltech's faculty and students keep asking. Because they can't all get a chance to ask them directly, Engineering and Science invited representative members of the faculty and student body to interview the president and get his answers.

The interviewers: Clarence Allen, professor of geology and geophysics and former chairman of the faculty; George W. Housner, professor of civil engineering and applied mechanics and current chairman of the faculty; John Roberts, professor of organic chemistry; George Purcell, a graduate research assistant in astronomy and president of the Graduate Student Council; Paul Levin, a senior and co-editor of The California Tech; and Steven Watkins, a junior and president of ASCIT.

ROBERTS: What would you say were the noteworthy developments in your first two and a half years at Caltech?

BROWN: When I think about it day to day, I tend to be depressed by how little I am getting done. But when I sit down and try to write everything out, I am impressed with how much has actually happened, although I wouldn't say that they are things that I have done, particularly. They are things that I hope I have helped along. I would divide them into a number of categories. To start with the academic category, there has first of all been the admission of women undergraduates to Caltech. Then there has been the establishment of an independent study program, where a student can make up a curriculum tailored to himself (if he can get three faculty members and then the independent study committee to accept it). There is the applied physics curriculum—an option which to the engineers may just seem another way of splitting off a piece of engineering, but I think it provides real opportunities for a merging of science and engineering. Before that, of course, there was the turning of the environmental engineering science program into a specific option—a degree option. And I shouldn't omit the splitting of Physics I and II.

Now, in administrative terms—no, before I get to that, let me talk about some things that are not quite academic; they're not curricular, but they combine teaching and research. I would say that the Environmental Quality Laboratory is a very big and important change whose success still hangs in the balance. There has been an increased emphasis on behavioral biology, and a clear decision that we would expand our activities in social science by adding a small number of faculty. The exact way in which that turns into a curricular matter is still being considered. I would say that, in parallel with the EQL, there is a new emphasis on encouraging closer relations between the campus and JPL. The Caltech president's fund and the JPL director's fund, I think, have done quite a lot to develop that.

Now let me say something about administrative action, since the president can't help but be an administrator. I think that we have added somewhat more structure to the Institute. Whether this is good or bad is a matter that everyone will have to decide for himself. For myself, I decided that it was necessary. I think the Institute is past the size where everybody can just report to the president in an administrative way. That's a separate question from his being accessible. So we have straightened out the administrative structure somewhat without, I hope, increasing it inordinately. Another thing that has happened



is that there's much more in the way of advance financial and planning effort. Again, none of this is completely new. Everything has evolved.

ALLEN: In what way is Caltech different from what you thought it was going to be?

BROWN: If anything, I guess the people are even smarter than I expected (though I expected them to be pretty smart). I find it a more closely connected community than I expected it to be, and less connected with the outside world than I expected it to be. And it has proved to be less subject to faculty politics and backbiting than I expected. I would add that it was more chaotic than I expected it to be, too. I find it less so now, but whether that's because it's changed or because I'm more used to it, I don't know.

ALLEN: What do you mean "chaotic"?

BROWN: There was not a very simple procedure for getting things done, you know. I mean I would say to people around me: "This is what I want to do." And they would say, "Well, that's very interesting." But no one offered to help do it or said: "Here's how you do it."

WATKINS: You mentioned Caltech's relations with the outside world.

BROWN: Yes.

WATKINS: More specifically, what do you think the role of the university is—and the role of Caltech—with respect to the outside world, and, even more specifically than that, with respect to defense work or classified research?

BROWN: Let me answer those questions in the order in which you have asked them. I think that you can't

characterize the university as a whole with respect to the outside world because different people and different groups in it have different relations to the outside world. If you must try to characterize the Institute as a whole with respect to the outside world, I think you have to say that it can't successfully affect the outside world quickly. It has to try to do it over a period of time, in two ways: first, by the knowledge it produces and second, by the people it produces. The second takes even longer than the first. Having made that general statement, I would add that there are groups in the Institute—earthquake engineers, for example, and maybe the Environmental Quality Laboratory will be the same way—that affect it very quickly over a period of just a few years.

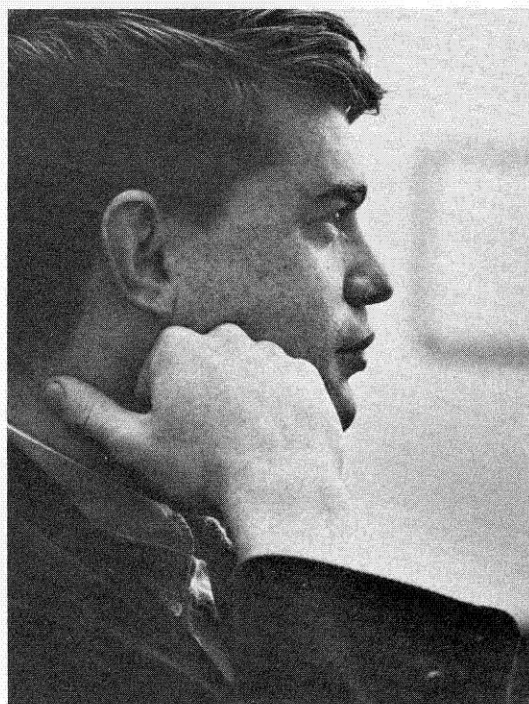
I think one has to ask the question the other way, too. How does the outside world affect the Institute? And there again, it affects it through the attitudes both of the faculty and, even more, the students, who tend to bring along new attitudes. Both these groups are affected by the outside world. The university is affected by the outside world through the outside world's valuation of its efforts and how well the outside world is willing to support it, because the university doesn't support itself at all. The only degree to which the university supports itself is by charging tuition, and in our case that amounts to about 10 percent.

But I don't want to let the second part of your question go by. With respect to classified work and defense research, it seems to me that a university's efforts should be governed first of all by the interests of the people there who conduct research. If a government agency is interested in supporting some kind of unclassified research that a faculty member wants to do, then I don't see any reason why he should be constrained by which government institution offers the support.

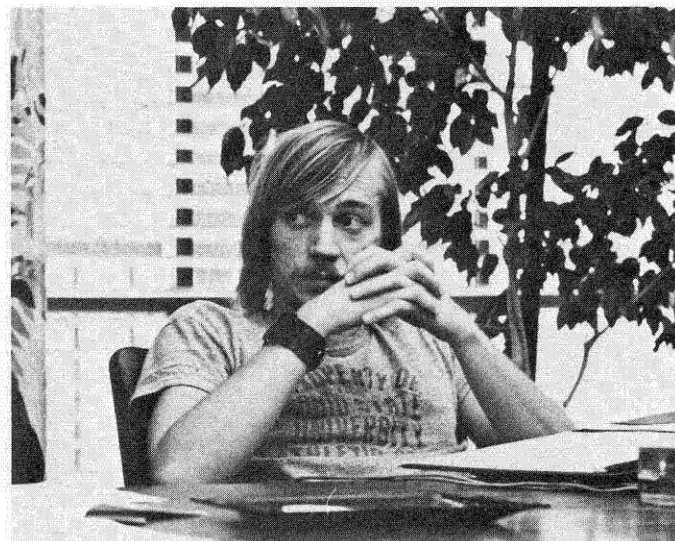
Classified research is a different matter, because I think classified research is not ordinarily accessible to the whole university community, and therefore it violates a very important criterion. This criterion may be relaxed somewhat—but only through clearly defined and rare exceptions—for off-campus laboratories. I think in times of national danger when there is really a national security peril which a university could help avoid by working on classified research—I would see that as a possibility. But that's not the situation now, and I don't think it has been since World War II, so that as a consequence I think Caltech has been very wise since the late forties to prohibit classified contracts for research on campus.

HOUSNER: To get back to the university interacting with the outside community—in engineering, of course, it's easier to do because often the problems come and knock at your door. But the question we face is how much time we should allot to it. Do you have any thoughts on that?

BROWN: My first thought is that probably it will vary with each individual and it will vary both with time and



George Purcell



Steven Watkins



John Roberts



Clarence Allen



George Housner

his own career, and there will be secular variation, depending on what's happening outside. I have a feeling that there's going to be pressure from the outside that says you've got to show that you're contributing your bit to society. By you I mean the Institute. And I don't think necessarily that the Institute should try to codify or reinforce that pressure from the outside. In fact, we should to some extent defend ourselves from it and say that there has to be a core of work on what we think is going to be important 15 or 20 years from now, and not just what the society thinks is important now or next year. Who knows what they will think next year? Yet, I do feel it is part of my responsibility as president of the Institute to make it clear to the faculty that pressure outside exists and we had better be aware of it, and probably for the health of the Institute and for the health of science and technology in general we ought to respond to it more than we did in the days when the money was forthcoming without any strings. Yet every faculty member has to decide for himself.

ALLEN: Could I change the topic a little bit? In view of the faculty's allegedly liberal attitude on national and international politics, have you found them to be surprisingly conservative in terms of their attitude toward possible changes within Caltech?

BROWN: Well, there's a famous quotation by Clark Kerr to the effect that university faculties are the most liberal people in the world, except when it comes to their own business.

ALLEN: Have you found this to be true here at Caltech?

BROWN: In the first place, I think that the Caltech faculty—as faculties go at first-rate academic institutions—is far more careful than average about expressing its views on national and international affairs. Put simply, I would guess that the Caltech faculty is probably (to the extent that you can characterize things in a left-right way, which becomes increasingly difficult these days) is less left than almost any first-rate university faculty in the country. They may not like to hear this, or maybe they *would*, but I think it's true. I would say that the Caltech faculty is reasonably willing to have things changed in its own business—although probably much less so than I am.

ALLEN: Then you haven't been *surprised* by the attitude of the faculty toward change?

BROWN: No. I expected them to be rather conservative, and they are not more conservative than I expected. I think it may be, because the tenure of presidents is more like that of students, that the president and students are probably both more willing to see change than faculties who expect to have to live with their mistakes for a longer

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time. I think, for example, that the Caltech faculty showed more willingness to include student participation in committees than was evident at most other places. There was less push for it here, but I think rather more rapid action so far as the faculty is concerned.

PURCELL: I think part of the reason for that was they felt a lot less threatened here than at other places.

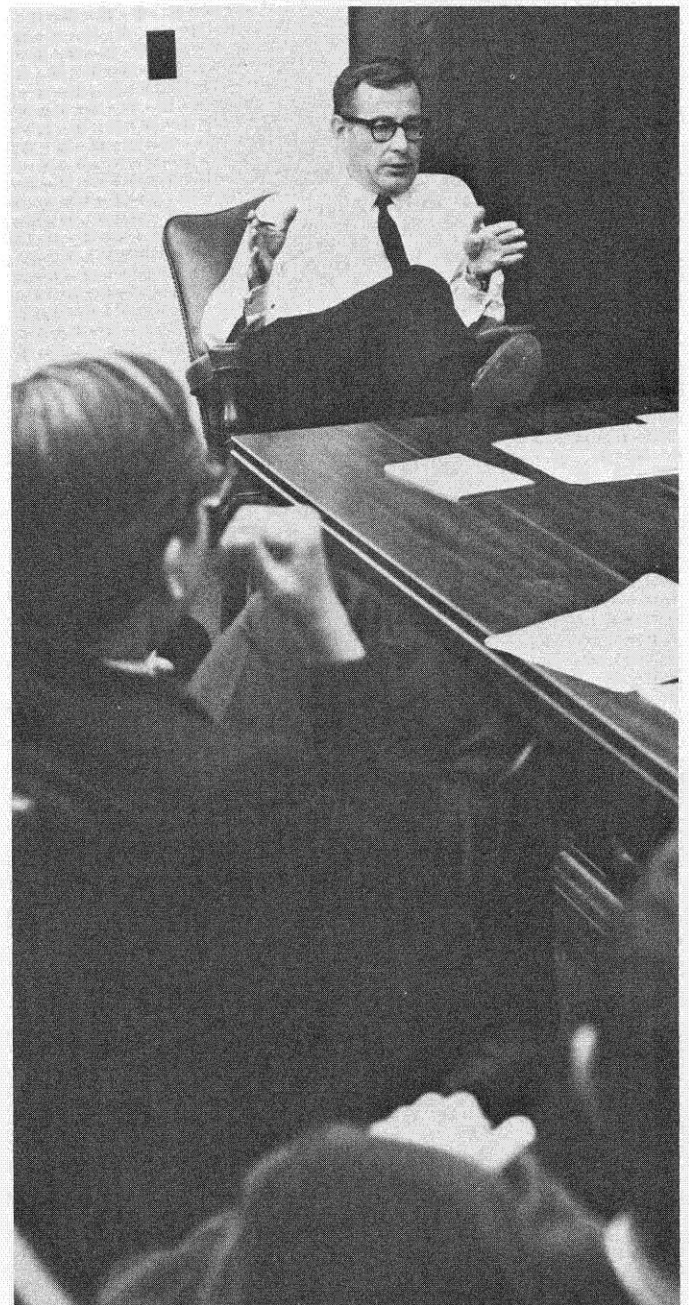
BROWN: They were willing to have somebody else help with the work, too. But I think that they felt less different from Caltech students than faculty feel from students elsewhere, and that is just another way of saying the same thing as you did.

HOUSNER: In the *L.A. Times* the other day there was a big article quoting some of the staff members as saying Caltech was not as innovative as it should be . . .

BROWN: It's probably correct. I think that when you add up what we've done in the past few years it adds up to quite a lot, but there's not an awful lot every day that is new. I think that there is a strong tendency among faculty members, particularly professionally highly regarded faculty members, to go on doing what they are doing. After all, they know they can do that well. Why change?

ALLEN: Well, if you think that we should be more innovative, as I gather you do, how do you suggest we go about it?

BROWN: I don't have a formula or procedure. I tend to think in terms of specific innovations rather than ways of being more innovative. I am very interested to see how the EQL turns out because there's an example of a way to be more innovative. It may work; it may not. My view of EQL—and I will take the responsibility for having pushed it—is that we're not establishing something like that in order to say to faculty members: "Look, you ought to stop doing what you are good at and know about and turn to societal, economic, social, and political problems on which you are likely as not to fall right on your face." What we are trying to do with EQL is to establish a mechanism by which those faculty members who want to branch out, who want to apply technology to other kinds of problems where the way is much less clear, can do so and do it in the Caltech milieu. Not many have taken the opportunity, and that may prove to be wise on



their parts. I don't know. But that is one way to provide for innovative atmosphere.

ROBERTS: Is it really necessary to set up administrative substructure to do this sort of thing?

BROWN: I think it depends on what kind of work you are talking about. For an individual faculty member's research, I don't think new administrative structures are needed, although some may want them as a security, or to give them more leverage, or for various other reasons. It's when you are trying to bring faculty members together, either with each other or with people from outside, that you need a new administrative structure, because the same characteristics of Caltech that make it so easy for a faculty member to do what he wants, make it very hard to get five or ten faculty members to do things that relate very closely to each other, and for that I think you do need to provide some administrative protection.

PURCELL: I'd like to ask a more personal question. You observed in a Town Hall address about a year ago that three of the least popular vocations a person can follow in this country today are that of the military, the university administrator, and the scientist or technologist, and I wonder if you could explain to us how all three of them became involved in your own life.

BROWN: Well, they didn't all happen at the same time. I suspect that I rather drifted into much of what I have done. I drifted into science partly because I had been good at it—well, good at mathematics, when I was in elementary school—and then I went to the Bronx High School of Science because it seemed to offer a very good education. But once I was there, it was rather clear that I was going to be a scientist or engineer. By that time there was a clear pattern. I went to college and first I was an engineer and then I was a physicist and got my doctor's degree in physics. So that's how I got to be a scientist. And I suspect it's not all that unusual even now that people get into science in that way. They are exposed to it, and they are interested in it, and the best way I think you can really get a youngster interested in science in junior high or high school is expose him to it and see whether he's interested in it—even though what he sees there isn't "really" science.

That's how I got into *one* of these despised categories. Then I came out to California after I got my doctor's degree and went to work at the Radiation Laboratory in

Berkeley, where they were hiring people to work on military-related projects. It's hard to cast one's mind back to those days, but I have a feeling that—in those days of the beginning of the cold war—I was not uninfluenced by a somewhat simpler form of patriotism than I now have. (I feel I still have it—but in a more complex form.) And I got involved in what was very interesting applied science involving nuclear reactors first, then weapons, controlled thermonuclear research, all those things, and was actively in them as a researcher for another three, four, five years, and then began to become an administrator. I had, I think, decided earlier than that, perhaps in the first year or so after I got my doctor's degree, that I didn't have the combination of brilliance and concentration (narrowness, if you prefer)—willingness to stick with one thing—that it really takes to be a first-rate scientist. So I got interested in applications where breadth even to the point of shallowness is not necessarily a drawback. After moving over into administration, I was strategically situated in terms of the evolution of the development of military—strategic and technical—situations. I was at the Lawrence Radiation Laboratory at Livermore when the hydrogen bomb decisions were made and the first designs were made and when the military depended much more than they now do on what the scientist could tell them about the feasibility of future systems and components. And I got caught up in the corridors of power, and it was a very natural thing to move to Washington. Looking back on it, I would add that—having just read Krushchev's memoirs and, earlier, Halle's book *The Cold War as History*—I'm not prepared to agree with the revisionist school of historians that we did the wrong thing in the late forties and fifties. I am possessed of fairly severe doubts as to whether we didn't continue on the same path too long, but innovation is not any easier in government than it is in a university. In any event, that's how I got to be in the military.

How I got into academic life I think I set forth in my inaugural address fairly accurately. I did have a desire to do something different. And this seemed different and challenging and a way to apply one of the central attitudes or purposes that I was able—or hoped I had been able—to bring to my previous situations, that is, trying to find some reconciliation between the internal drives of a first-rate professional organization and the larger setting in which it exists, whether the organization is a laboratory or a government bureau or military service or an institution such as this one.

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PURCELL: Do you still feel the same enthusiasm about the opportunities Caltech offers you now that you did when you came?

BROWN: Yes, somewhat to my surprise. I find—you know, I *expected* to like it, but what I didn't expect was to like it more and more as time went on. Now, such a curve always turns over, but it certainly hasn't done so yet and I don't see any signs of it. One of the things that surprised me about my own reaction to Caltech was how quickly I became extremely proud of the place. It's a very infectious spirit, and as you get to see what's going on, you see the quality of the research in science and technology, its variety, and the really outstanding nature of the people. You inevitably become very proud of the place, very protective of it, very loyal to it.

WATKINS: Caltech, as you say, seems to be innovative, but even though this independent study program does exist, still they've only let a few people into it. Maybe it's just a kind of a figurehead program.

BROWN: Well, one of the reasons they let only a few people into it is that of the 40 who applied, something like 20 turned out to have presented programs that were identical with programs that you could follow outside of the independent study program except that they didn't include Physics II. That was, I think, a little bit too much for the independent study committee to swallow. Nevertheless, I think that you raise a sensible point, because it's not enough for something to be available. You do have to have a certain number of people who are able to take advantage of it. So far I think there are only three people in the independent study program. My own guess is that it's never going to be more than ten a year because in order for the program to be useful, it has to be extremely challenging. If it's simply an easy way out, then it's a fake. I guess what I'm really saying is that it's not enough to say that the Institute or the curriculum has to be innovative; the student has to be willing to do some of the work to *make* the innovation. To me that means that there are unlikely to be

more than, say, ten or so in such a program.

WATKINS: What about something that seems to be more innovative—along the lines of Antioch's work/study program where you go somewhere else and work for six months or so and get credit?

BROWN: You know, that last phrase of yours—get credit—is something that would be a great innovation, but I'm not sure I'd like it. There are a lot of things that students want to do—and many that they do—about which they would be much happier if they got credit for doing

them. In some sense giving credit for that kind of activity puts a seal of approval on it. It's a way of saying it's really all right. But you shouldn't *ask* us whether it's all right; if you want to do it, *do* it.

But let me go back to the work/study question. That would be a big innovation here, and I'm not sure about it. It presents real problems because I think it is in a way antithetical to what Caltech stands for—giving students a broad enough base that they can go out and do various things. If you are really narrowly directed toward a work/study program, it's pretty well determined what the rest of your career is going to be before you ever



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leave school. I don't think that ought to be the case with Caltech students.

PURCELL: You said before that you liked it here more and more as time goes on. Let me ask you—how does a university president know when to quit? What's a reasonable tenure?

BROWN: Those are two different questions, but I think many presidents know when to quit because the events make it clear to them that they should. In quieter times there was nothing to give that signal, and as a consequence many of them didn't know when to quit—to the detriment of their institutions. I don't think those days will come back, at least not for quite a long time. I can give you an example of how things have changed as follows: I am a member—Caltech's a member—of the Association of American Universities. There are 48 universities in this group, and by and large they are the universities with the outstanding graduate programs. I have been a member for two years and nine months, and I am now either 17th or 18th in seniority of these 48. So there really has been a very substantial change. I think length of presidential tenure is going to swing back, but I think it fairly important that we not let it swing all the way back. Therefore, I think that it is probably a good idea, in some modified form, to do what Kingman Brewster suggested at Yale—that at the end of five or seven years there be a formal reexamination on the part of both the president and the institution as to how he has done and whether it makes sense for him to continue. It's not as easy to do as to say, but some method ought to exist that forces both the individual and the institution to take a fresh look at their relationship before retirement age.

ROBERTS: How do you feel about this problem—which must be your worst one—of raising funds for the Institute?

BROWN: I dislike it less than I expected to. There are some related things I don't like. I hate making speeches.

HOUSNER: Kissing donors?

BROWN: That's not so bad, in some cases. I don't like formal speeches, and yet I know I must make some. Very few people have more than three or four good speeches in them over a period of five years, and the consequence is that they make each one about 50 times. Even when the audience can stand it, I don't know how the speechmaker can, and it makes plain why so many university presidents become stuffed shirts. They just anesthetize themselves to say the same things over and over again.

That part I find a little bit trying, but dealing with outside people, explaining Caltech to them—and that's what fund raising really has to flow from—has its attractive as well as its difficult side.

ALLEN: A great many educators these days are very pessimistic about the long-term outlook for private higher education in this country. Do you share that pessimism in general and with regard to Caltech in particular?

BROWN: I think that private education is in a very difficult time, and I don't see it getting better very soon. I don't think that the private schools have successfully made their case as to why they should be supported along with public schools. They haven't adequately shown what I believe to be the case, that the diversity they have produced has really set a standard that has raised the level of U. S.

education enormously in the past 20 years. The good state universities are as good as they are only because they have had the competition of the private schools, but whether we can make that case adequately, I don't know. I have just issued a president's report that says something about how I see the financial future as well as the financial past. It's not a rosy picture, but it's not a hopeless picture, and I guess that is as far as I feel I can predict it.

ROBERTS: When you were in the Defense Department you were strongly identified with working out the cost effectiveness of programs. I see some traces of this now being brought into the Institute; and if we are going to be concerned about cost effectiveness of academic programs, while we can measure the cost, how are we going to measure the *effectiveness* of academic programs?

BROWN: I believe in cost effectiveness as a way of partially describing alternatives. It is not necessarily a way of deciding what to do. The answer you get usually depends on what you take as your measure of effectiveness. But not knowing how to measure academic effectiveness certainly limits the utility of this method when you apply it to purely academic questions. Now, I think we have been careful around here to start by applying it not to academic questions but to matters of support, where you can at least measure output. I don't think we have applied cost effectiveness to purely academic functions, and I don't know how you make those judgments. I have made the judgment, and I think that the Institute Administrative Council as a whole has made the judgment, that there are some programs (behavioral biology is one) that offer the highest chance of being the thing that 20 years from now we will look back on—unhappily or happily—and say that's the one we should have done, or, that's one we did. The coherence of a division's program and the relative strength of backing by all the people in it influence me and other people in deciding what makes sense. If everybody in the division thinks a program is good, the rest of us will be more likely to agree.

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PURCELL: Let me ask another personal question. How has your family responded to being in Pasadena and a part of the Caltech community?

BROWN: I think my daughters have flourished. They are tennis players, bicycle riders, skiers. As soon as they found you could swim all year round, they stopped swimming, so that didn't work. But I think they have been academic successes and athletic successes and even social successes. My younger daughter has been giving an annual party for her class now for three years. Sixty kids come over to our house every year, and so far we have survived. Our 16-year-old attends lots of Caltech events, and my wife, of course, has plunged deeply into Caltech matters, as many of you or your wives know. She has found Caltech to be just about the right size. The Air Force was such an enormous institution that it was hard to interact on an individual basis. She interacts very well on an individual or small-group basis. She had been able in some of those other jobs to go around and meet the wives of my immediate staff or give a series of teas and so on, but that doesn't really plug you into an organization. Here she has gotten into lots of substantive things. She charges right in although occasionally something blows up in her face, but that's all right. She just moves on to the next project when that happens. But she and Caltech, I think, have been an ideal match, and I think we had almost forgotten how pleasant it is to live in California. We lived in northern California before, and it was very pleasant indeed. Southern California is even better.

Now I'm sure some of the students have some nasty questions about why are we mistreating graduate students or why do we have a quota (which is non-existent, in fact) for women

PURCELL: Yes, I do. It's my observation as a graduate student that in generalized studies of the condition or the development of the university the special problems of the graduate students are often passed over with hardly more than an apologetic shrug, and I wonder what you think are the particular problems of Caltech's graduate school at the present



time and what visible change there is going to be in the next ten years or so.

BROWN: I think external circumstances are going to force us into a very careful consideration of this, because graduate student support has been subjected—from the outside—to a more precipitous drop than any other funding category during the past few years. The federal government has reduced its traineeships and fellowships by more than a factor of two in the past three years, and intends, apparently, to phase them out, except for the National Institutes of Health ones, almost entirely. So we are going to have to look at graduate education more carefully. In the past it has been, I think, largely an apprenticeship, and an adjunct to faculty research. That may be an unfair characterization, but to the graduate student it must have looked like that. And maybe that is the way it ought to be, but if it has been that way just kind of by accident, we are going to have to reevaluate it in view of the change in support levels. Have I incorrectly characterized it, do you think?

HOUSNER: No—you're right.

BROWN: This drop in support forces us to ask what is the purpose of graduate education because when the money dries up, you have to ask yourself whether you are willing to put out some of your own, or whether the graduate student is willing

to put out some of his, or if we are going to try to persuade the federal government to give some of it back to us directly or fund us so that we can use more graduate research assistantships.

You ought to know what it is you are selling in order to sell something. Is graduate education to help the research of the faculty? Is it to provide a continuing supply, or an increasing supply, of university faculty in the future? Is it to provide the highly trained people who will work in industry and government in science and technology? Since I suspect the answer is going to be a combination of these things, what is the right combination for each school? I'm convinced that the situation in which university faculties continue to expand by 10 or 15 percent a year is over for quite a while, and since this was the basis on which graduate education in the best institutions was being carried on, that is going to have to change somehow. I believe that it will be a very bad mistake for the country for the best universities to cut back on the graduate enrollment as much as I think some of them are going to have to do—or have done.

HOUSNER: Doesn't it seem that in the future somehow there has to be enough money to support the graduate students in science and engineering?

BROWN: How many? You see, the

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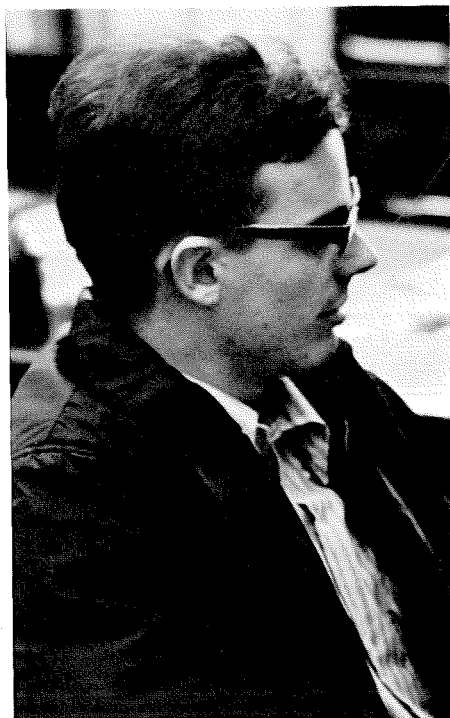
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national administration's argument is that because there are scientists and engineers out of work you should rather sharply cut back the production of scientists and engineers. On the average there is something to that, but I'm afraid they have got it out of phase; the effects of the cut will come just when people appreciate that they need more scientists and engineers. In other words, what I argue for is a more gradual adjustment so that we can be a little bit surer of where we are going. My own guess is that when the time comes that you need a lot of scientists and engineers—it might be five years from now—relatively few of the ones that are out of work right now will be the right ones then. The ones you can train now will be more adjustable and more flexible and more able to do those things than the ones who have been doing the same things for 20 years. They are a real resource and pose a real human problem; the nation should do all the re-training it can, but the long-range solution to new problems is new people.

I think for the next few years we are going to need to try to make our graduate students broader and more flexible—give them other strings to their bows. From now on our astronomers are going to need to know quite a lot about instrumentation, for example, and a PhD in high energy physics may need to be able to do very sophisticated computer programming if he has to. In that way our graduates are more likely to be able to respond to what I think is going to be a very rapidly changing set of demands—maybe even self-contradictory demands.

LEVIN: When you came to Caltech, what did you expect from the Caltech undergraduate? What did you expect him to be—aside from his academic capability? Have you been surprised or disappointed in any way?

BROWN: I had been told about Caltech students' practical jokes, and I have seen some of those come off pretty well. I had been told that quite aside from their academic proficiency, they were also very, very intelligent—which is not the same thing. They are very good at spotting flaws in arguments, any arguments, and they are not easily put off by authoritative but incorrect statements. And I have been



Paul Levin

quite satisfied, pleased, and impressed with what I have seen. I would add that Caltech undergraduates have turned out to be somewhat less self-assured and socially at ease than I had expected. But that has a certain charm; it's not a total loss. There is something rather appealing about ingenuousness and straightforwardness and occasional embarrassment.

WATKINS: Actually, I think it goes deeper than that. From my vantage point, it's really a serious problem, and I'm noticing it more and more the longer I'm here. We turn out, it seems to me, a completely disproportionate amount of some really socially maladjusted people.

BROWN: It is not impossible that this is connected with great intellectual ability, and it seems to me that it's not something the Institute can take care of entirely during undergraduate years. I don't think we are doing as good a job as we should, but I think that it's too much to expect that when somebody leaves here, he's going to be all set in that area.

HOUSNER: How shall we do that job better?

WATKINS: I think if you talk to the school psychologist he will probably tell you it's very much linked with the competitive atmosphere around here.

BROWN: I have a view on this question, but I don't have a solution. My view is that a way to ease this is to have a sufficient variety of activities which the faculty and the students view as worthy of praise and admiration and respect so that every student is good at one of those things. So long as the students value academic success much more than they value everything else, a large fraction of them will feel unworthy and under pressure and harassed, and they won't grow up. In other places, of course, the athlete gets at least as much praise. I'm not sure that's what we want to cultivate here, but the social lion, the success with the opposite sex, the athlete, the chess player, the person who takes an active interest in the outside world—if we could encourage students to respect things like that, then I think that will help this problem.