

UNDERGRADUATE SCHOLARSHIPS AT CALTECH

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WEBSTER'S COLLEGIATE Dictionary defines scholarship as 1) the character or qualities of a scholar, or 2) a foundation for the aid or support of a scholar. To most people, then, the word suggests a reward or prize for outstanding scholastic achievement and, therefore, an honor. For many years, through the twenties and early thirties, scholarships at the California Institute were looked upon in this light and were awarded as prizes to a few of those in approximately the top ten percent of their respective classes who were given Honor Standing.

During the thirties an important change occurred in the general attitude toward the awarding of scholarships. These were hard times and families found it difficult to send their children through four years of higher education. Between the two world wars, however, both industry and government had come to regard a college education as a prerequisite for employment or promotion in an ever-increasing number of jobs, with the result that college training appeared to be a necessity to many who—prior to 1918—would have considered such training a luxury beyond their needs and resources.

The answer was, of course, the tremendous growth of the state universities, but the private colleges too were wise enough to know that those most deserving of, and best able to profit by, a collegiate education were not confined to the wealthy. They set out, therefore, to raise additional scholarship funds. Many of them, including the California Institute, in their desire to secure the best students, regardless of economic background, decided to award scholarships involving tuition or cash primarily on the basis of financial need rather than scholastic superiority.

This does not mean that scholarships are given to inferior students. There are too many good students with financial need, and too few scholarship funds to create any such risk. But it does mean that a good student will not receive cash or its equivalent simply because he is good. If he has no need, he will receive an appropriate honor and the cash will go to someone who does have the need, and who has also demonstrated that he is worthy of this help.

This change in basic policy has brought with it many problems. Foremost is that of determining financial need. But there is also the matter of the public's reaction to this change. As I have indicated, most people think of a scholarship as an honor and do not readily accept the substitution of some other term such as Honor Standing.

There is also the competition among colleges for

the better students. Since World War II the habit of making multiple applications for admission has become widespread. It is safe to assume that two-thirds of those who apply to the California Institute have likewise applied to at least two other colleges. No one can criticize this practice, in view of the fact that an applicant's chances of admission here are about one in five, but it does create a situation in which colleges often find themselves competing for many of their top applicants. In such a situation the award of a scholarship, or of a larger scholarship, will often turn the scale.

It is good to know that there is competition for brains as well as for brawn, but this competition naturally makes matters difficult for those who try to adhere to the principle of financial need in awarding scholarships—especially in view of the wide difference of interpretation that can be given to this rather indefinite term.

With the foregoing as a background we can now go into the machinery by which the California Institute awards scholarships, and the ways in which we are attempting to cope with the resulting problems. The administration of undergraduate scholarships is the responsibility of a faculty committee known as the Committee on Undergraduate Scholarships and Honors.

The actual selection of scholarship holders in the sophomore, junior and senior years is made by a subcommittee composed of the Chairman of the main committee, the Dean of Freshmen, the Dean of Students, the Director of Undergraduate Scholarships, and one other member of the main committee. However, awards are not considered final until they are approved by the main committee.

Scholarships are awarded to entering freshmen by the Freshman Admission Committee, acting in this regard under authority delegated by the Committee on Undergraduate Scholarships and Honors. The same arrangement holds for transfer scholarships, the recipients of which are selected by the Upperclass Admissions Committee.

In order to obtain a scholarship a freshman or transfer applicant must fill out a form which calls for rather detailed information on his and his family's financial resources. The form must be on file in the Admissions Office not later than March 1 for freshmen and April 1 for transfers. Scholarship applications are available at the time freshmen are interviewed, and the interviewer thus has an opportunity to go over the information in person with the applicant.

A student in residence at the Institute may apply for

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scholarship assistance—usually called a grant in aid—if he stood in the top half of his class at the end of the preceding academic year. Until the fall of 1953 only the top quarter was eligible, but additional need and the knowledge that a number of potentially outstanding graduates do not rank in the top twenty-five percent have made it necessary to extend the eligibility, even though this has placed a serious strain on the funds available.

During the summer all students in the top half of their respective classes are notified that they may apply for grants in aid if they need assistance. The letter of notification points out that funds are limited and that application should not be made unless there is a genuine need. As far as the committee has been able to ascertain, the undergraduates, with few exceptions, have adhered admirably to the spirit of this request. Application forms from students in residence must be filed within a few days after registration for the fall term, when full information is available on summer vacation earnings. Each applicant for a grant is interviewed by a member of the subcommittee, and when these interviews are completed the subcommittee meets and tries to arrange the fairest possible distribution of the available funds.

Judging financial need

There can be no hard and fast rules for judging relative financial needs among any group of students. Family resources and family obligations, such as number of dependents, furnish a starting point, but almost every case presents a different problem. The Committee on Undergraduate Scholarships and Honors has, however, set down certain basic criteria.

The first of these is that if a student is to receive aid he should make a reasonable contribution of his own time and effort in earning money unless there are excellent reasons why he is unable to do so. The Committee therefore sets up a figure—usually around \$600, though it may vary in individual cases—which it is believed a student should earn in a twelve-month period. This amount is counted among his assets in determining need.

A reasonable contribution from the family, depending on income and number of dependents, is likewise expected. The Committee feels that its responsibility is to make it possible for undergraduates to obtain the bachelor's degree; therefore, in considering savings and other non-income items, it makes no allowance for the applicant's further education in graduate school.

The Committee does not feel that it is warranted in extending help to students who marry after entering the Institute beyond the amount which might be given had the student remained single. Those who enter after marriage are considered to the extent possible on the basis of the cost of supporting their families.

Finally, the Committee believes that seniors, with only a year to go before it is possible for them to enter full-time employment, should be asked to use the In-

stitute's loan funds, which are generous in their interest rates and terms of repayment.

Guided by these basic principles, the subcommittee tries to determine the difference in each individual case between available resources and necessary expenditures and, in so far as possible, to make up the difference. Up to the present time, however, the Committee has had to limit its aid to a maximum of full tuition (\$600) because of a lack of sufficient funds.

The only exception to this practice occurs in the case of students who, to the greatest extent, fulfill the conditions set up by donors of certain special scholarships which amount to more than full tuition. Those with the highest grade-point averages for the preceding year receive some preference, but basically it is financial need which determines the size of the award.

The Committee does not claim that its judgments are infallible. The determination of individual need is difficult. There are many indefinite and cloudy situations, but the alternative to awards based on need appears to be an allocation of funds according strictly to grade-point average—the old theory of a prize or honor, under which a number found themselves with more money than they needed, and a larger number with less than the minimum necessary to go on.

There are, however, more problems connected with this kind of scholarship award policy than the determination of financial need. The reaction of the public must be considered, and our public consists not only of the applicants and their families but of the secondary schools which these applicants have attended, and on which we rely for students in the future.

It has already been pointed out that secondary school graduates, and more especially their parents, often look upon cash or tuition scholarships as honors. We have lost good students, sons of well-to-do parents, simply because they and their families felt that Caltech did not value them as highly as did some other college which had given them a scholarship—even though, as far as we could determine, no financial need existed, and even though they did receive Honors at Entrance.

This attitude can also prevail among secondary school principals and other administrative officers. One way of impressing a community with the quality of the school which it is supporting is to advertise at commencement, or in other ways, the number—and even the amount in dollars—of college scholarships which the members of the graduating class have received. Fortunately, this practice is not yet widespread, but it appears to be increasing.

Scholarships and honors

For colleges which award largely on the basis of need, another embarrassment arises. Student X, with an outstanding record but no need, is given honors but no scholarship. Student Y from the same school, with a record somewhat inferior to that of X but with a real financial problem, is given a scholarship. Yet many times it is student Y who makes the headlines in the

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local newspaper, along with the dollar amounts that have been offered him. It is for this reason that the California Institute never publishes awards of scholarships, but only Honors at Entrance and, in the case of students in residence, Honor Standing.

The idea that money is the most appropriate award for excellence is firmly rooted in this country, and it will not be easy to uproot it. Several attempts are, however, being made. Among these is the uniform scholarship application blank for entering students, being used this year by twelve West Coast private colleges, including Caltech.

Each college has a set of these blanks, with its own name in large type at the top of the first page, and some special information on its own scholarships and rules governing application on the fourth and last page. All the rest of the blank is the same for all the colleges, including, on the first page, a careful statement of the difference between Honors at Entrance, which are rewards for excellence but carry no stipend, and Scholarship Grants, which are to aid the needy and are not considered as honors.

If available scholarship funds are to aid the largest number of worthy applicants it is essential that the public—parents, students, and educators—be persuaded that merit does not always and necessarily have to be paid off in cash. The uniform scholarship application is only one step, but an important one, in this process of education.

A healthy airing of this problem is going on in other parts of the country, and it is to be hoped that this will lead to other cooperative endeavors to lessen the confusion and the abuses which always tend to exist wherever money is being given away.

What Caltech spends on scholarships

The amount of money spent each year on undergraduate scholarships at the California Institute is a considerable sum. The following table gives the figures for the current academic year and provides a comparison with previous years.

	1948-49	1949-50	1951-52	1953-54
Freshmen only.....	\$ 6,500	\$12,150	\$23,150	\$30,250
Total undergraduate (including freshmen)	19,575	32,250	47,950	81,000

Out of a total of 582 undergraduates, 158 were given grants for 1953-54, making an average grant of \$512.

Two things stand out in these figures. The first is that freshmen receive by far the largest proportion of the total. For one thing, freshmen are likely to have earned less during the summer before admission than they will later, and they are strongly advised not to hold jobs during the first year. For another, many freshmen applicants and their families must have the assurance of some aid before they feel that they can risk a start at a college which charges \$600 tuition. Once through the first year,

most of these men manage to continue, even though they may not receive subsequent scholarship help.

The second noteworthy fact is the large and steady increase in the total amount of money awarded and the increased need which this reflects. This is brought about partly by the decrease in the number of government-supported veterans in the last few years, but largely by the steadily rising cost of living.

Where the money comes from

The sources from which these funds are drawn can be divided into three categories.

- 1) Endowment funds given to the Institute for undergraduate scholarships and included in its portfolio of investments, the income only to be used. In 1953 \$32,450 was spent from this source.
- 2) Special funds given year by year by foundations, corporations, and individuals, the entire amount of the gift to be awarded in the year in which it is given. In 1953, \$41,950 was spent from this source.
- 3) Funds from the Institute's general operating budget allocated each year for scholarships. In 1953, \$6,600 was spent from this source.

From the foregoing it may appear that the Institute is pretty well off for scholarship funds, but two facts need to be pointed out. The first is that for several years we have spent more from Category 1—endowment funds—than the capital amount of these funds has produced in income. We have been drawing on resources accumulated from 1943 to 1946, when three-quarters of our undergraduates were in the V-12 program completely supported by the Navy, and during the two or three years thereafter, when many students drew all they needed under the G. I. Bill.

The second fact to note is that over half of our present income—that designated as special funds donated annually—may be temporary in nature. Even corporation scholarships now established on a nation-wide basis are subject to the influence of changing tax laws and the continuing approval of boards of directors and stockholders. Many of the gifts in this category, while most welcome, may be of an even less substantial nature if one looks very far into the future. We are, therefore, in the position of a man who is living beyond his income by drawing on savings, and relying on the generosity of friends who may at any time find it necessary to withdraw their support.

Equally important is the fact that all of our scholarships for more than full tuition—and all those which can be awarded for the full four years rather than for the freshman year only—are included in Category 2—the special funds over which we have no control beyond year to year or, at the most, four-year commitments. While it is safe to assume that we will never engage in competitive bidding for applicants who are simply holding out for the highest offer, it is essential that we have funds to give those top students who really want to come here, but who cannot do so without the assurance of

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some support often beyond a tuition scholarship. A prospective student in this situation knows that competition at Caltech is keen, and each year a number of our best applicants feel that they must attend a second-choice college in fairness to the family budget, rather than enter here on a one-year scholarship and take a chance on a renewal.

In this connection, the figures on cancellations after admission has been granted are of interest. In 1953 there were 98 such cancellations, more than half of them for financial reasons. A number of those who withdrew their applications did not give definite reasons, but it is a safe assumption that finances dictated the choice for many of these as well.

In the case of 36 of these cancellations we know that the applicant made every effort to attend Caltech, but in the end had to decide on a state university, or on a college which offered either a larger scholarship, or a scholarship which extended over four years. Many of this latter group were among our top applicants. We had given them scholarships to the extent of available funds, but not to the extent of the need that existed. Had half of these men entered in place of an equal number who, in our estimation, stood below them, we would

have today an even better freshman class, and eventually an even better group of graduates.

While the number of cancellations this year was higher than usual, the percent of those withdrawing for financial reasons has always been large. Added to this is the fact that it is by no means certain that the California Institute will be able to keep its tuition as low as the present \$600 rate. An increase will mean that more people will need help, and the amount of this help in dollars will have to be increased for each person.

If, then, the California Institute is to continue to enroll the kind of student for which it is seeking, and be independent to the greatest possible extent of the financial resources of the applicants in making its selection of the best, it must be able not only to maintain its present level of scholarship assistance but to expand this level to meet increased need and increased costs of obtaining an education.

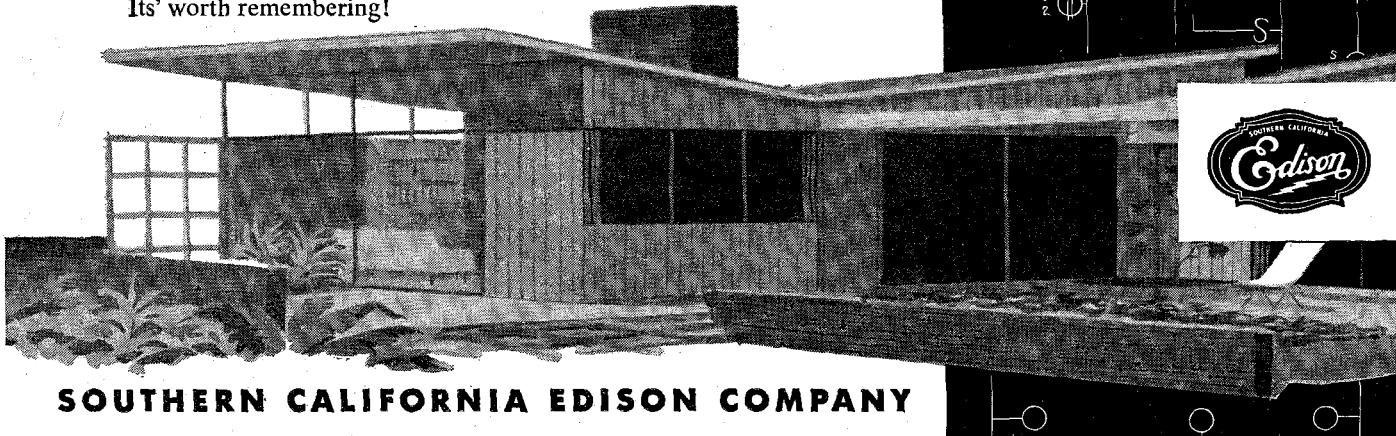
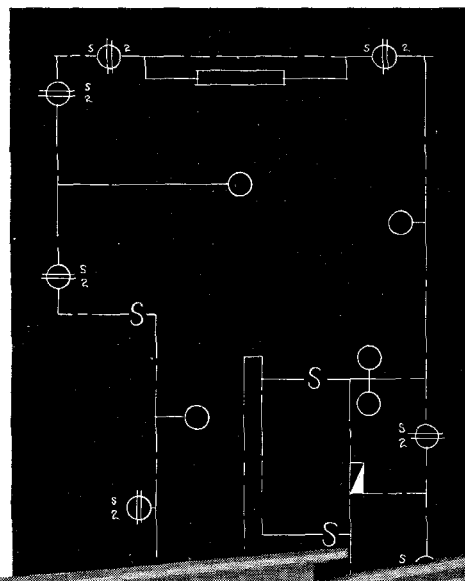
The most useful funds for this purpose are those which are given to the Institute in the form of principal, the interest from which may be used without special restrictions. Quite properly and understandably, individual donors wish to give scholarships under certain conditions—such as rank in class, year in college, or major field of study. Such gifts we welcome, but where several have substantially the same restrictions, a situation can arise in which there are not enough good candi-

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dates who precisely meet the requirements, while on the other hand there are very deserving students who cannot get assistance they need because they happen to be in the wrong class or the wrong option.

Nothing in this article should be taken to imply that the Institute does not welcome, and receive with real gratitude, annual gifts to be used in their entirety during the current period, under such restrictions, within certain limits, as the donor may wish. The Institute will not accept scholarships which exclude applicants on the grounds of race, creed, or color, or which require any agreement concerning future employment. Aside from this restriction, almost anything goes. On the other hand, a long-range scholarship policy which fits need to worthiness in the greatest possible number of cases should have behind it a substantial bulwark of endowment funds over which the college authorities have full control in meeting the requirements which exist at any given time. At present, we do not possess such an endowment for scholarship purposes.

The job of the undergraduate school at the California Institute is to enroll and to graduate creative people who will also be an influence for good in the communities in which they will eventually settle down. These people

cannot be selected exclusively from families which can afford to pay all of the \$1600 a year it now takes to attend here if a boy lives in the Student Houses. This figure, which includes personal expenses for clothing, laundry, entertainment, etc., is about a minimum. Nor will the most creative or the best citizens always be found among the top ten or twenty percent academically. A scholarship program so limited that it can care only for those who attain these rarefied heights will miss many a man who, while earning perfectly respectable but not outstanding grades, has profited greatly by engaging in a number of worthwhile extra-curricular activities and has, therefore, also made a valuable contribution to undergraduate life.

In order to select and enroll the best applicants, and to enable many of them to develop properly during their undergraduate years by having time to spend on something besides studying and earning a living, we must have an adequate scholarship endowment. If this endowment is to be of the greatest value, those responsible for scholarship awards must be able to use the income in any way which best fits the current need. In spite of the generosity of many friends our funds are far from adequate at present. It follows then that if we are to keep Caltech at the top of the heap in terms of the quality of its graduates, we must do all we can to increase these funds.



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