CALIFORNIA INSTITUTE OF TECHNOLOGY

1969 Financial Report

TEACHING AND RESEARCH - A FINANCIAL PREDICAMENT

HIGHLIGHTS

	Year ended June 30	
	1969	1968
Student fees	$ 3,067,000	$ 2,674,000
Endowment and investment income earned	6,086,000	6,158,000
Gifts received	12,289,000	15,194,000
Instruction and departmental research	9,116,000	8,150,000
Sponsored programs, direct costs	11,935,000	12,156,000
Jet Propulsion Laboratory, direct costs	143,626,000	214,329,000
Endowment funds, at market value	120,825,000	123,500,000
Number of faculty members	618	627
Number of students	1482	1520

California Institute of Technology
1201 East California Boulevard
Pasadena, California 91109

TEACHING AND RESEARCH - A FINANCIAL PREDICAMENT

ROBERT B. GILMORE, *Vice President for Business and Finance*

The California Institute of Technology, like nearly all educational institutions, faced a basic financial problem in the fiscal year 1969: Costs are rising faster than revenues.

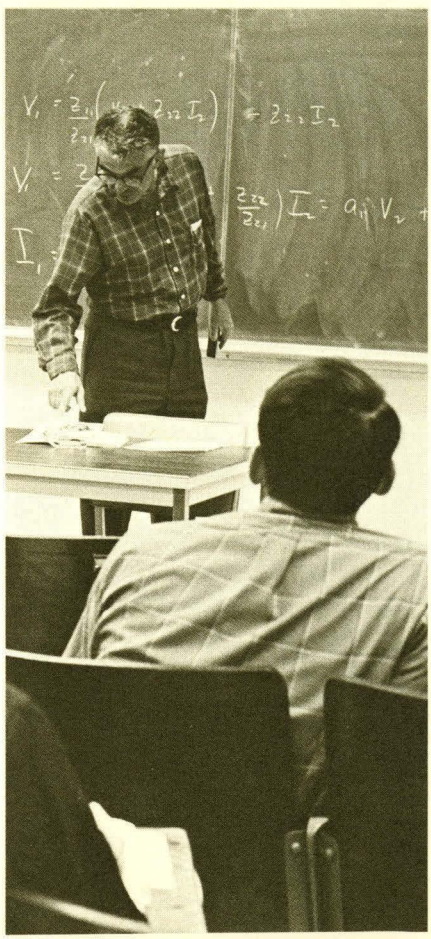
Machines have been developed to increase the productivity of workers in other fields. But in education, increased productivity is limited by the needs of the students for individual attention. Mass production techniques have not proven very effective in producing creative, intelligent, socially conscious human beings.

The two dominant costs in education—salaries and facilities—have risen far more rapidly than other costs in our economy. Thus the cost per unit of output in education has been rising much faster than the national rate of inflation. The result is a financial strain on all colleges and universities.

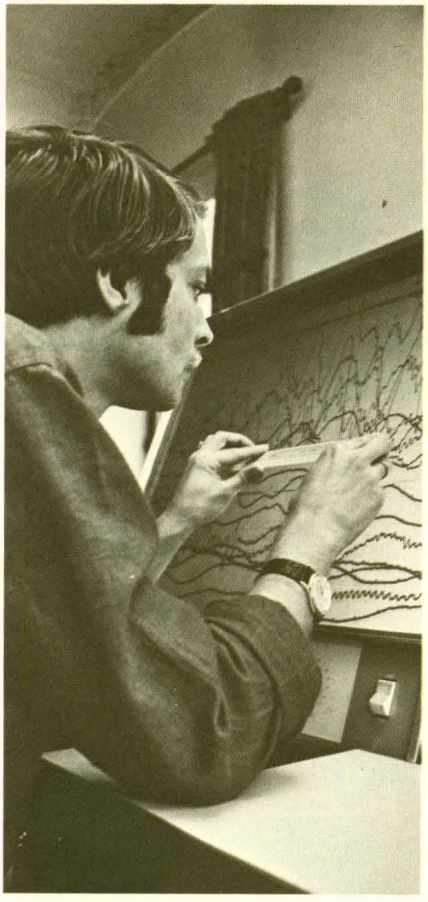
Caltech's receipts from both private gifts and federal programs declined in 1969, and government agencies have indicated that their support of students and research will be even less in the coming years.

A growing emergency is faced by independent and state-supported universities alike. One conclusion is emerging. Federal programs for higher education must be increased sharply if public and private universities are to meet the demands placed on them by our society.

This report concentrates on Caltech's four major problems in the fiscal year 1969, and on the actions taken by the Institute to meet these problems: (1) Federal Sponsorship, (2) Gifts, (3) Management of Endowment, and (4) Tuition.



FEDERAL SPONSORSHIP



In response to a Congressional and Executive directive, the National Science Foundation imposed a ceiling upon the use of grant money at each grantee institution. This ceiling, announced two months after the beginning of the 1968-69 year, caused severe problems since many purchase commitments and annual predoctoral and postdoctoral appointments had already been made. The ceiling affected 72 faculty research administrators, who faced up to the emergency. The rate of research expenditures under NSF grants dropped appreciably. However, Caltech felt obliged in many cases to subsidize projects rather than disband a research team immediately, and thereby deny graduate students employment and research experience.

The general mood of the American public today seems to reflect less interest in research of a basic nature and more desire for immediate applications of scientific advances. Congressional attitudes are shown in the recent requirement that all future Defense Department projects have "a direct and apparent relationship to a specific military function or operation." The National Science Foundation is to assume more responsibility for nonmilitary research and development as well as almost all basic research. This Defense Department mandate affected Caltech when the Office of Naval Research transferred many of its projects to NSF without the funds to carry them out. Fortunately, NSF announced partial restoration of its cuts in spending after three months. The year as a whole showed a 2% decrease in research activity.

CAMPUS FEDERAL RESEARCH EXPENDITURES (DIRECT)

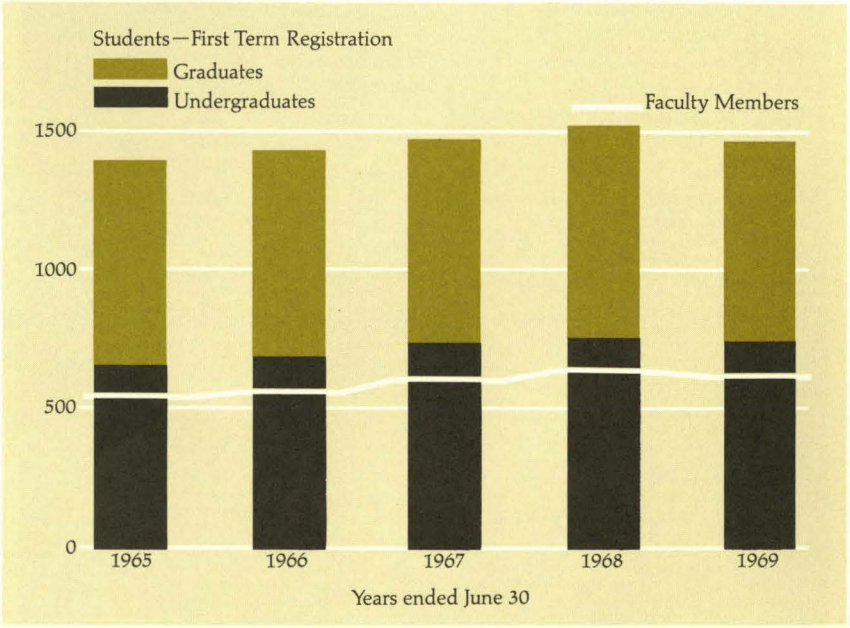
By Division and By Agency *Years ended June 30*

	1967	1968	1969
Biology	$ 1,766,290	$ 1,894,691	$ 1,757,423
Chemistry and Chemical Engineering	1,616,725	1,665,739	1,662,638
Engineering and Applied Science	2,120,605	2,044,120	2,206,726
Geological Sciences	1,251,701	1,381,206	1,195,347
Humanities and Social Sciences	3,074	808	6,465
Library	—	12,327	11,072
Palomar Observatory	399,287	395,511	402,603
Physics, Mathematics and Astronomy	4,064,949	3,535,765	3,434,437
	$11,222,631	$10,930,167	$10,676,711

Public Health Service	$ 2,671,772	$ 2,534,830	$ 2,558,210
National Science Foundation	1,674,957	2,096,113	2,254,863
Atomic Energy Commission	2,106,649	2,056,120	1,940,883
Department of Defense			
Air Force	992,630	770,841	736,865
Army	287,097	238,188	219,729
Navy	1,602,376	1,609,497	918,570
National Aeronautics and Space Administration	1,817,591	1,435,465	1,674,439
Department of Transportation	—	—	145,328
Department of Interior	—	83,802	121,280
Department of Agriculture	46,182	69,021	57,838
Office of Education	—	13,135	11,072
Other	23,377	23,155	37,634
	$11,222,631	$10,930,167	$10,676,711

At Caltech there are parallel changes in the research objectives of some faculty members who are turning more to the crucial problems of environment and behavior. Expansion of the division of humanities and social sciences is progressing, and the divisions of biology and engineering are becoming more involved in research on environmental control and behavioral biology. But these new efforts are small compared with the established programs of basic research in the physical sciences and will require additional new revenues from private sources.

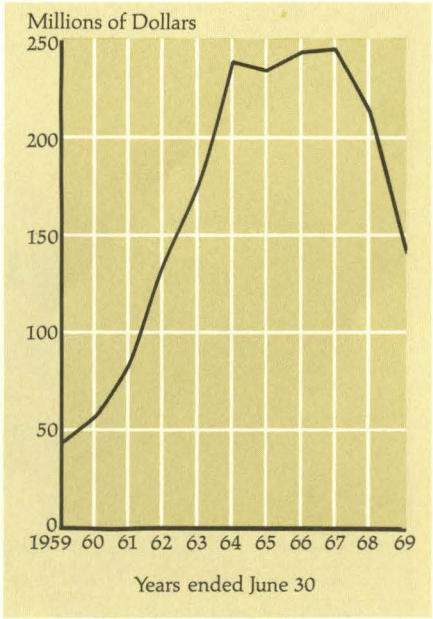
The sponsorship of basic scientific research is now being reexamined at the federal level. Without this sponsorship, sorely needed new basic knowledge will not be forthcoming. Society will then be less equipped to grapple with the greater challenges of the decades ahead. Past experience proves that the progress of society depends upon continuous advances in fundamental new knowledge. Prolonged and severe cuts in university basic research endeavors would prove to be shortsighted indeed.



STUDENT ENROLLMENT—FACULTY MEMBERS

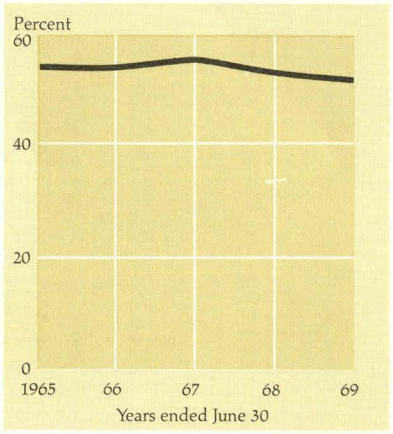
Student aid from United States Government funds decreased 7%, and in only a few cases was it possible to substitute Institute funds. This direct aid, along with employment on research projects, helps outstanding students to come to Caltech regardless of their financial resources. The Institute expects a more severe drop in federal support for students in the future. During the next two years, both NSF and the National Aeronautics and Space Administration will completely phase out their programs of graduate student assistance, and the Office of Education is materially reducing the number of its fellowships. Student loans from private and federal funds have increased and continue to assist needy students. However, Caltech student aid funds will be insufficient to maintain present graduate enrollment levels unless new student aid revenues are found.

The Jet Propulsion Laboratory, which is operated by the Institute for the National Aeronautics and Space Administration, also experienced severe contract cutbacks. Direct costs decreased one-third, as compared with the previous year. Although the reduced support for JPL did not hurt the academic program, it was felt heavily at the laboratory in reduced industrial subcontracts. Since World War II days JPL has been operated by Caltech as a public service which benefits faculty and students through exposure to JPL engineering and systems work. JPL is now seeking new ways to apply the capabilities it has developed in unmanned planetary exploration to the needs of society. Some of the applications include medical x-rays enhanced through computer techniques, systems analysis of mass transportation problems, and new uses for space program materials and techniques.



JET PROPULSION LABORATORY DIRECT EXPENDITURES

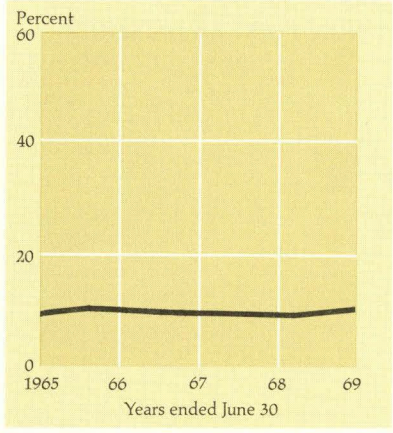
GIFTS



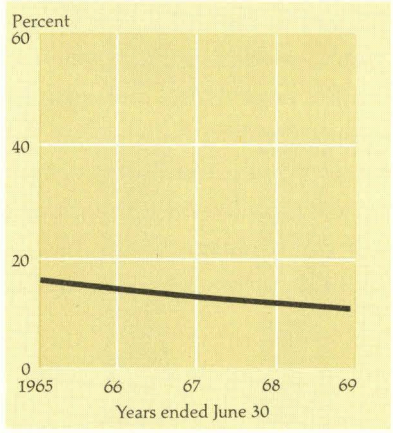
FEDERAL SPONSORSHIP

Caltech received a total of $12,289,000 in gifts from foundations, corporations, and individual donors during the year, compared with $15,194,000 in 1968 and $14,971,000 in 1967. The graph on page 8 shows gifts according to the intended purpose. Funds unspecified as to purpose amounted to $3,432,000 or 28% of the total. These unrestricted gifts are especially valuable because the Trustees have wide latitude in assigning them for capital uses or to make up deficits in operating costs.

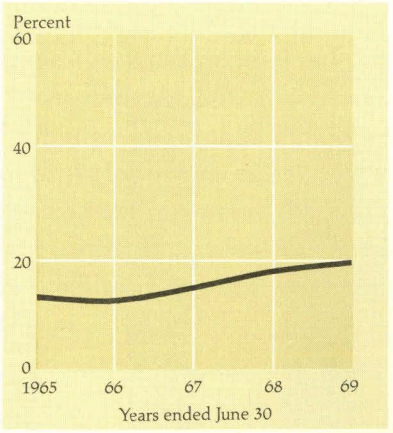
During 1968-69 major bequests of $3,800,000 were withdrawn from endowment investment for essential facility projects for which new gifts could not be found. These projects included steam and refrigeration system improvements, parking lots, offices for administration, alteration and modernizing of older buildings.



STUDENT FEES

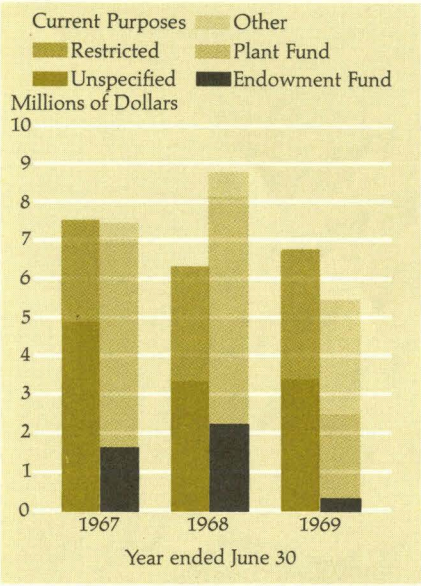


ENDOWMENT INCOME



GIFTS APPLIED

MAJOR SOURCES OF REVENUE
As a percent of total educational expenditures (auxiliaries excluded)



GIFTS RECEIVED

This meant that future income had to be sacrificed in order to finance today's plant needs. In addition, it was necessary to withdraw $4,384,000 from unexpended gift balances for support of operations, compared with $3,879,000 the previous year.

In this period of financial crisis, Caltech more than ever needs increased gift support from foundations, corporations, alumni, and other individual donors. The only alternative is an erosion of endowment and ultimately a reduction in programs of education and research. Caltech must convey the message that investment of funds in its teaching and research is vital to our nation and indeed to the free world. The Institute's faculty and the students it educates to become the creative, scientific leaders of tomorrow constitute a national resource of inestimable value.

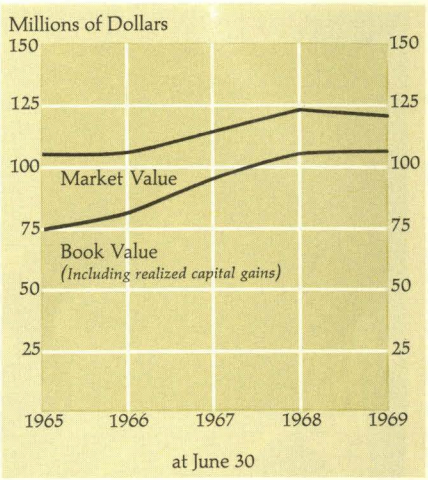
MANAGEMENT OF ENDOWMENT

To help meet the challenge of increased financial pressure and price inflation, Caltech is taking steps to increase the total return on its endowment investments.

In January 1967 Caltech granted broad latitude to an outside manager for investment of the readily marketable equities and the fixed income portions of its Consolidated Endowment Pool. On July 1, 1969, the equity portfolio was divided equally between two managers to put greater emphasis upon investment performance. The operating agreements are designed to encourage aggressive and attentive management. Investment objectives are a maximum total return (interest and dividend yield plus capital appreciation) within risks

appropriate for the Institute. Holdings are mainly in common stocks of companies considered to have growth potential.

Included also in the Consolidated Pool (shown below as Other investments) are some common stocks, real estate, and mineral rights which cannot be sold as yet or which have limited markets. As these internally managed special investments are liquidated, the proceeds are added to the equity portfolio.



ENDOWMENT FUND

ENDOWMENT INVESTMENTS

	Market Value at June 30 1969	1968*
Consolidated Endowment Pool:		
Equity portfolio	$ 85,568,000	$ 86,535,000
Fixed income portfolio	19,563,000	21,006,000
Other investments	19,772,000	20,497,000
Total pooled investments	124,903,000	128,038,000
Less current and trust funds included	8,100,000	7,919,000
Endowment funds pooled	116,803,000	120,119,000
Specific investments related to individual endowment funds	4,022,000	3,381,000
Total endowment invested	$120,825,000	$123,500,000

*Certain transfers made during 1968-69 are shown retroactively for purposes of comparability.

The Institute also manages the investment of various trust funds, most of which are invested separately to produce income for life beneficiaries, as well as to experience moderate growth. Preparations are now under way to establish a trust investment pool to make available to donors the advantages of diversification and to facilitate intensive management, provided government tax regulations now being revised will permit such pools.

TUITION

Together with gifts and endowment income, student fees provide the revenues for support of instructional activities, both for direct teaching costs and for related, supporting services. This year the annual tuition was raised after three years at $1,800 to $2,100, an average increase of 5½% per year. Previously, students faced an increase only once during four years. Now annual adjustments are planned, a pattern followed by many universities.

As educational costs rise, gifts, endowment income, and tuition must all be increased to maintain Caltech's standards of education.

LOOKING AHEAD

Caltech's financial problems in the year 1969 were a reflection of the major economic trends of the nation and the resulting effects on higher education. The fight against inflation brought curtailment of government research and tight money. Business uncertainty has meant fewer gifts. Caltech's responses are new efforts to increase gifts and endowment growth, and a policy of annual tuition increases.

For the future, Caltech intends to continue in the direction charted by its founders: to teach in small classes; to maintain an atmosphere of freedom and research; and to concentrate on a select number of fields, seeking preeminence in each field and insisting on excellence as a minimum. The Institute will face the challenge of severe financial pressures with determination not to compromise its traditional standards of quality and selectivity.

To secure the Institute's financial position, President Harold Brown has called upon academic and administrative officers, working together, to forecast financial resources and to propose allocations consistent with Caltech's academic and social objectives. These proposals will be presented periodically to the Trustees for discussion and approval. By such planning Caltech will insure that all funds are used to strengthen and expand work in its chosen areas. Other programs must necessarily expand at a slower rate, or be reduced, when total funds are inadequate.

FINANCIAL EXHIBITS

Not all of the Institute's assets can be shown on financial reports. Even more valuable than buildings and endowment is Caltech's 618-member faculty, once described by *Fortune* magazine as "probably America's richest concentration of talents in fundamental sciences."

In 1969 Sweden's Royal Academy of Science awarded the Nobel Prize to two more Caltech faculty members: Max Delbruck, professor of biology, shared the prize in physiology and medicine; and Murray Gell-Mann, who is the Robert Andrews Millikan Professor of Theoretical Physics, received the prize in physics. The awards brought to 14 the number of Nobel Prizes presented to Caltech faculty and alumni.

What financial statements *can* tell is the story of the stewardship of the funds entrusted to Caltech. The financial condition of Caltech at June 30, 1969 is reported, with comparable figures for the previous year-end, on the Balance Sheet on pages 14 and 15. The Statement of Changes in Fund Balances on pages 16 and 17 reports the major items that affected the fund accounts, and relates the information on the Statement of Current Revenues and Expenditures (page 18) with the beginning and ending fund balances from the Balance Sheet.

The financial affairs of educational institutions, for financial report purposes, are reported by major fund groups. Here is a brief explanation of the traditional terminology used:

Current Funds include the accounts involved in the day-to-day operations of the Institute and the unexpended funds held to meet future operating requirements.

Loan Funds have been established by gifts over many years, and by government grants, for use as revolving funds for student loans.

Endowment and Similar Funds report the carrying value of the various assets comprising the principal of endowment funds entrusted to the Institute in perpetuity, and quasi-endowment funds which, although expendable, have been designated by the Trustees to be held for investment to produce income.

Annuity and Life Income Funds are those gifts which are received subject to living trust agreements.

Plant Funds are a combination of unexpended funds to be used for plant renovation or construction, and the cost of plant assets in use.

BALANCE SHEET (in thousands)

ASSETS

	June 30 1969	June 30 1968
CURRENT FUNDS		
Cash	$ 1,081	$ 1,464
Investments (note B)	13,888	332
Accounts receivable—		
United States Government (note A)	24,991	26,458
Other	974	904
Prepaid expenses and other assets	1,143	1,134
Investment in and advances to other funds (note B)	11,072	15,677
	$ 53,149	$ 45,969
LOAN FUNDS		
Cash	$ 11	$ 25
Investments (note B)	23	22
Notes receivable	1,603	1,368
Investment in assets of other funds	278	311
	$ 1,915	$ 1,726
ENDOWMENT AND SIMILAR FUNDS		
Cash	$ 488	$ 113
Investments (notes B and D)	113,665	119,551
Advances to other funds		4,612
	$114,153	$124,276
ANNUITY AND LIFE INCOME FUNDS		
Cash	$ 72	$ 58
Investments (note B)	11,134	9,114
Investment in endowment and similar fund assets	711	641
	$ 11,917	$ 9,813
PLANT FUNDS		
Cash	$ 191	$ 541
Accounts receivable—United States Government	294	238
Investments		2,276
Investment in assets of other funds	9,953	6,567
Investment in campus properties at cost—		
Land	3,516	3,385
Buildings	47,744	43,755
Equipment	32,992	30,346
	$ 94,690	$ 87,108

LIABILITIES AND FUND BALANCES

	June 30 1969	June 30 1968
CURRENT FUNDS		
Accounts payable and accrued expenses (note A)	$ 25,486	$ 27,749
Advances from United States Government to finance research agreements	992	983
Deposits and advance collections	400	373
Share of other Institute funds in investments	10,231	
Fund balances (Exhibit 2) (note C)—		
Unrestricted—allocated	1,176	1,676
Restricted	14,864	15,188
	$ 53,149	$ 45,969
LOAN FUNDS		
Returnable to donors	$ 1,218	$ 1,030
Fund balances (Exhibit 2)	697	696
	$ 1,915	$ 1,726
ENDOWMENT AND SIMILAR FUNDS		
Funds held in custody for others	$ 344	$ 324
Share of other Institute funds in investments	8,324	23,196
Fund balances (Exhibit 2)—		
Endowments	78,386	74,231
Quasi endowments	27,099	26,525
	$114,153	$124,276
ANNUITY AND LIFE INCOME FUNDS		
Undistributed income	$ 71	$ 58
Interest bearing advances payable to other funds	393	552
Fund balances (Exhibit 2)	11,453	9,203
	$ 11,917	$ 9,813
PLANT FUNDS		
Accounts payable	$ 360	$ 671
Interest bearing advances payable to other funds	3,066	4,060
Fund balances (Exhibit 2)—		
Unexpended:		
For plant additions	9,525	8,637
For renewals	892	717
Invested in plant	80,847	73,023
	$ 94,690	$ 87,108

SUMMARY OF CHANGES IN FUND BALANCES *Year Ended June 30, 1969*

(in thousands)

	Current Funds		
	Unrestricted		
	Gifts	Other	Total
Gifts, grants and bequests received	$3,432		$3,432
Endowment and investment income (note D)	32	$1,181	1,213
Applied to current revenues (note C)	(3,348)	(1,212)	(4,560)
Expenditures for campus land, buildings and equipment:			
Current funds			
Unexpended plant funds			
Allowances under sponsored research and other programs for use of facilities and renewal of plant			
Retirements and disposal of plant facilities			
Net gain on disposal of investments			
Transfer from (to) other funds:			
Current year gifts and bequests	(886)		(886)
Other transfers	670	(300)	370
Other additions (deductions)	(69)		(69)
	(169)	(331)	(500)
Balance June 30, 1968 (Exhibit 1)	522	1,154	1,676
Balance June 30, 1969 (Exhibit 1)	$ 353	$ 823	$1,176

Restricted	Loan Funds	Endowment and Similar Funds	Annuity and Life Income Funds	Plant Funds	
				Unexpended	Invested in Plant
$ 3,381	$ 6	$ 182	$ 2,948	$ 1,894	$ 446
4,334	32			507	
(5,233)					
					2,056
				(6,099)	6,099
				941	
					(782)
247		4,338	62	8	
(1,132)		2,018			
(1,731)	(7)	(1,870)	(762)	3,939	
(190)	(30)	61	2	(127)	5
(324)	1	4,729	2,250	1,063	7,824
15,188	696	100,756	9,203	9,354	73,023
$14,864	$697	$105,485	$11,453	$10,417	$80,847

STATEMENT OF CURRENT FUNDS REVENUES AND EXPENDITURES *(in thousands)*

	Year ended June 30 1969	1968
REVENUES		
Educational and general:		
Student fees	$ 3,067	$ 2,674
Endowment income	3,167	3,628
Gifts applied	4,384	3,879
Sponsored programs, principally research agreements—		
United States Government	10,677	10,930
Other	1,367	1,309
Recovery of indirect costs	3,613	3,372
Other sources	204	221
Total educational and general	26,479	26,013
Student aid	2,330	2,443
Auxiliary enterprises	1,676	1,519
	30,485	29,975
Reimbursement by United States Government for direct costs and management allowance of organized research at Jet Propulsion Laboratory	145,773	215,995
Total revenues	$176,258	$245,970
EXPENDITURES		
Educational and general:		
Instructional and departmental research	$ 9,116	$ 8,150
Sponsored programs, principally research agreements	11,935	12,156
Libraries	641	586
Student services	616	560
Operation and maintenance	2,671	2,418
General administration	1,841	1,836
General institutional expense	1,721	1,872
Total educational and general	28,541	27,578
Student aid	2,340	2,450
Auxiliary enterprises	1,751	1,613
	32,632	31,641
Direct costs of organized research at Jet Propulsion Laboratory	143,626	214,329
Total expenditures	$176,258	$245,970

NOTES TO FINANCIAL STATEMENTS *(June 30, 1969)*

Note A—Accounts payable include $22,500,000 representing costs incurred prior to June 30, 1969 (a substantial portion of which had not been billed to the Institute as of that date) under contracts providing for reimbursement by the United States Government and accordingly such costs are also recorded as accounts receivable from the United States Government.

Note B—Institute investment at June 30, 1969 comprised the following:

	Current funds	Loan funds	Endowment and similar funds	Annuity and life income funds
			(in thousands)	
Marketable securities			$105,053	$ 5,345
Savings accounts and short term commercial obligations	$11,376	$23	614	1,101
Real estate, etc. less amortization and accumulated depreciation			7,481	4,480
Mortgages, notes, etc.	2,512		517	208
	$13,888	$23	$113,665	$11,134

Investments are stated at their approximate market or appraised value at date of gift, or at cost if purchased by the Institute, less applicable amortization and depreciation on real estate investments.

Quoted market value of marketable securities of the endowment and similar funds and annuity and life income funds at June 30, 1969 was $117,130,000 and $6,021,000 respectively. Accumulated amortization and depreciation of real estate carried in the same funds was $1,406,000 and $569,000 respectively.

Note C—In accordance with generally accepted accounting principles for colleges and universities, gifts and investment income are recorded as income for the period in which they are expended or applied.

Note D—The Institute is the income beneficiary of certain funds, recorded at a nominal value, held in trust by others. The income derived from these funds amounted to $353,000 for the current year and has been included as endowment and investment income in the Summary of Changes in Fund Balances.

OPINION OF INDEPENDENT ACCOUNTANTS

October 10, 1969

To the Board of Trustees of
California Institute of Technology

In our opinion, the accompanying balance sheet and the related statements of current funds revenues and expenditures and changes in fund balances (Exhibits 1 to 3) present fairly the financial position of California Institute of Technology at June 30, 1969 and the results of its operations for the year, in conformity with generally accepted accounting principles applied on a basis consistent with that of the preceding year. Our examination of these statements was made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

Price Waterhouse & Co.

Price Waterhouse & Co.

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