

Aims and Goals— What Ever Happened?

In June 1967 the chairman of the Caltech faculty appointed a committee of faculty members to study the question of the long-range goals and objectives of the Institute. In May 1969 the committee issued a nine-volume report. *Then* what happened?

There can be no doubt that the activities and goals of the Aims and Goals Committee are of little current interest. In fact, reporting on their status now reminds me of the words of the contemporary American philosopher, Satchel Paige: "Don't look back. Something might be gaining on you." But I am also intimidated by the threat of the late George Santayana that "those who cannot remember the past are condemned to repeat it." In spite of the double-edged threat, I feel an up-to-date assessment may provide interesting perspective on the recent and current status of the Institute and its adaptation to the exigencies of our times.

Assessment of the effectiveness of the Committee's impact upon the campus must, of course, be largely subjective, and I can hardly be regarded as a dispassionate observer. Furthermore, it is obviously difficult to assign cause and effect. Many of the changes called for by the Committee have taken place, but undoubtedly would have done so even if the Committee had never existed.

The Committee report first received formal and thorough review from the administration of the Institute. The Institute Administrative Council, for example, spent at least one full working day thoroughly discussing all recommendations directed wholly or in part at the administration. In addition, the document was called to the attention of the Board of Trustees, and I am sure that Chapter IV of the Aims and Goals Report, "Decision Making at the Institute," prompted a panel discussion on that topic at the National Trustees meeting held in Palm Springs in October of 1969.

Second, the documents were made available to various student groups, but to my knowledge no formal review was undertaken by the undergraduate student body. However, ASCIT officers have subsequently taken it upon themselves to urge a number of the adaptations and student reforms called for in the Committee report.

Third, and perhaps surprisingly, one group has clearly defaulted so far on the matter of undertaking any formal review of the recommendations of the Committee: *the faculty*. At the time of the disbanding of the Committee in

A Foreword: A little ancient history

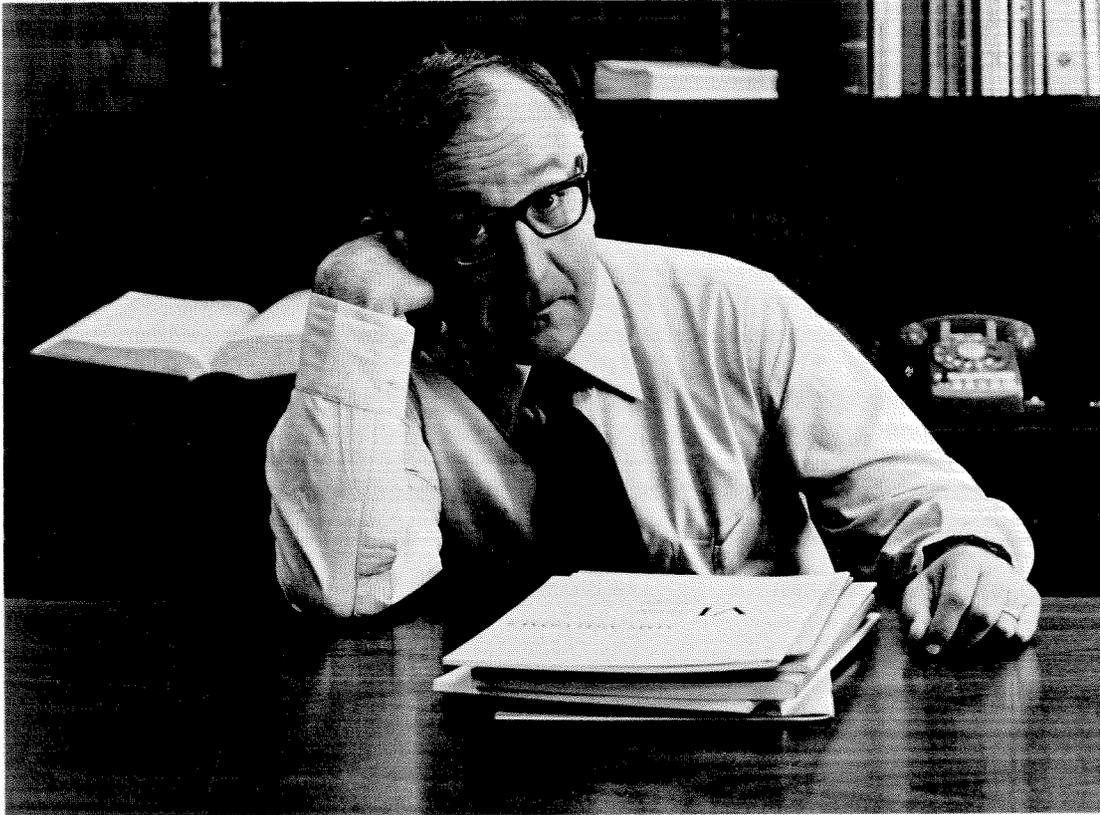
From the minutes of the meeting of the Caltech faculty February 27, 1967: "Professor C. A. Mead stated that in recent years he has come to the feeling that many of the major decisions affecting the long-range character of the Institute are made without sufficient involvement or communication with the majority of the faculty. To these faculty, items such as the new fund-raising development drive appears as a *fait accompli* without a clear discussion of the needs and requirements for such a drive or even of the desired direction for the Institute growth. Accordingly, he moved that the chairman appoint an ad hoc faculty committee to study the question of the long-range goals and objectives of the Institute."

A committee was appointed on June 1, 1967, by Jesse L. Greenstein, then chairman of the faculty. This group of 20 to 25 faculty members became known as the *Aims and Goals Committee*, and it met relatively frequently over a two-year period. The activities culminated in the publication of a nine-volume preliminary report in May and June of 1969. The results of the deliberations of the Committee were summarized in an article in the May 1969 issue of *Engineering and Science*. That article listed the some 70 specific recommendations of the committee on topics including general problems of growth and change, decision making at the Institute, undergraduate life and education, graduate students and research fellows, humanities and social sciences at Caltech, relations with the community, and JPL and other off-campus facilities.

In sending its report to the chairman of the faculty, the committee noted: "In preparing this report our objectives are rather modest. Primarily we are anxious to identify problem areas worthy of attention from either or both the administration and faculty. On issues so identified, we have attempted to indicate the range of views held by the committee members. In certain cases the views so assessed are tantamount to a consensus. On the other hand, we have not let the absence of a unified committee position deter the statement of a problem or an attempt to measure the spectrum of opinion on the subject.

"The ultimate disposition of this report will depend upon the will of the general faculty. Possibly our own reflections and the reactions of others will lead us to want to submit a revision as a final draft. In any event, we anticipate the dissolution of this committee before the end of 1969."

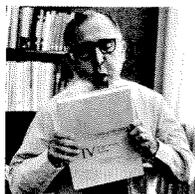
The committee was formally dismissed by the Faculty Board in February 1970.



Neal Pings, chairman of Caltech's Aims and Goals Committee, reconsiders the Committee's objectives and achievements.

February 1970, detailed recommendations were given to the faculty board for referral of various points to stipulated standing committees or special committees of the faculty. That review has not been carried out, nor is it likely to be done. In several cases this inertia of the faculty's political system has probably resulted in the loss of easy opportunity to open further inquiry on important topics. But it is my personal opinion that, in a variety of diffuse ways, the Aims and Goals Committee has nevertheless affected the attitude and actions of the faculty, perhaps in some cases in ways that are more fruitful than formal review of the Committee's report.

Some significant changes in the Institute which were at least anticipated to some extent, if not caused, by the Aims and Goals Committee have taken place. Perhaps paramount is the seemingly general, tacit acceptance of the Committee's reiteration of the fundamental principles of operation of the Institute: special emphasis on small size, and quality and excellence in a selected few areas of intellectual inquiry. It is conceivable that reemphasis of this position actually caused reduction in scale—and



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stretch-out in pace—of developments in the areas of social science compared to plans envisioned by some in 1966. However, growth and diversification in those areas have gone ahead on a very sound basis. The addition to our faculty, during the last two academic years, of a half dozen promising young scholars in the areas of political science and economics is particularly noteworthy.

A procedural matter recommended by the Aims and Goals Committee was adopted almost immediately by the administration: a more formal identification of the Institute Administrative Council, the central governing body for the campus. The identity of membership of that group and its role in establishing Institute policy are now clear.

The Committee made several other recommendations regarding the governance of the Institute, some of which actually seemed somewhat bold at the time. For example, "Graduate and undergraduate students should be more effectively involved in the decision making process of the Institute." Mind you, at the time that recommendation was made, the *Aims and Goals Committee itself had no student representation*. Only one year later, the faculty had formally amended its bylaws in order to allow significant student representation in all the elected faculty committees. Undergraduate and graduate student representatives are invited to every faculty board meeting and to many faculty meetings. They do not vote in those meetings, but frequently enter into discussion, particularly on topics related to student affairs. Student participation has been almost uniformly useful and constructive. Indeed, certain of the faculty committees now have the attitude that they simply cannot hold a meaningful meeting without the designated student representation. These changes have all taken place in the spirit of cooperation, without formal demands, and with no acrimony. Incidentally, I believe that this is one change that clearly would have taken place

whether or not the Aims and Goals Committee had existed. However, the acceptance by the faculty of this reform over a relatively short time period may well have been aided by the Committee's recommendations.

The Committee made a number of recommendations on undergraduate life and education including, "The undergraduate operation is important and essential. The existing program has much to recommend it, but there are opportunities for major improvements which should be seized. Much greater flexibility in the undergraduate curriculum is needed. Individual options should be encouraged to offer several alternate means for satisfying their requirements. The common freshman year should no longer be regarded as essential for all students. Innovation, experimentation in all aspects of undergraduate education should be encouraged, supported and rewarded."

The climate established by such a recommendation probably provided encouragement to the chemistry faculty in its decision two years ago essentially to remove all formal requirements for the BS degree in chemistry. Students, of course, still take rigorous and demanding programs in the chemical sciences, but the details and amounts of study in various areas, sequence of courses, etc., are worked out between the student and a faculty adviser.

Last year the biology faculty created the Biology Scholars Program. "This program permits for a small number of biology juniors and seniors the formulation of individual academic programs combining course work and independent study adapted to each student's interest and requirements. Each program must be acceptable to and supervised by a faculty committee. Work is undertaken and evaluated on the basis of a written contract between the student and his committee of instructors."

This concept of specially designed courses of study has now been adopted on an Institute-wide basis with the beginning this fall of an Independent Studies Program. For the first time, a student may graduate from the Institute without necessarily affiliating with any of the conventional options or majors; rather, the student works out an undergraduate course of study with the advice and supervision of a three-man faculty committee. Such programs may involve particular combinations of existing courses but may also have a substantial component of independent research or specially arranged tutorial sessions. The program allows the individual student to propose courses that

The Committee recognized that its report would be an opportunity to give our new president some indication of faculty views and concerns.

may fall outside ordinary course offerings in order to accommodate his particular program of study or research. It is expected that during the fall term three undergraduates will be pursuing courses of study towards the BS degree under this Independent Studies Program.

In 1971 a new applied physics option became available to both undergraduate and graduate students. This is a program that cuts across conventional divisional lines with a group of faculty drawn from the divisions of physics, engineering and applied science, chemistry and chemical engineering, and geology. Graduate programs in environmental engineering science are now available, again cutting across divisional lines to permit close interaction among engineers, scientists, and social scientists.

The Aims and Goals Committee called for a review of the Institute's association with the Jet Propulsion Laboratory. This request was unfortunately misunderstood by some who apparently felt that the Committee held the belief that the result of such review would inevitably carry negative connotations. This was not the intention, and in actual fact such a review has taken place with generally beneficial results. There has been a significant increase in the number of research programs carried on jointly by JPL staff members and Institute faculty members. This without a doubt has been fostered significantly by substantial research funds made available both through the Director's office at JPL and from the President's office at the Institute. Other beneficial changes have taken place. Students and faculty from the campus may now come and go freely on the JPL grounds, with minimal identification procedures. Last year the faculty formally passed new rules for the first time permitting programs of study on the campus by Laboratory staff members.

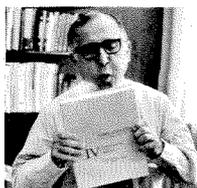
The Committee was perhaps perceptive in anticipating some of the problems of our society and its impingement upon our educational institutions. "We foresee the possibility that a new type of national and international crisis (environmental degradation, for example) may require of Caltech something beyond a mere expression of opinion. In such a case, the Institute consonant with its widened sense of social responsibility may wish to involve itself more actively by sponsoring a major problem-solving venture analogous to the Institute's World War II activities." And, of course, the Institute has now made such a com-

mitment in the form of the newly created Environmental Quality Laboratory. That group is at the present time nothing like the size of the World War II programs. Nevertheless, the birth of EQL clearly signals readiness on the part of the Institute's administration and faculty to devote some portion of our resources to problems of current great social concern.

Suppose for a moment we invert the process and ask what effect the Aims and Goals Committee activity might have had upon its members. The answer is obvious. We now have two dozen or so members of our faculty who are considerably better informed and more perceptive to the real problems of the Institute, both present and those that will be forthcoming. And that awareness has surely spread out among the faculty, both as a result of the Committee's report and perhaps more importantly from ongoing dialogue with those faculty members who served as Committee members.

I am sure that all members of the Committee felt at times that the chairman had driven them unmercifully and unreasonably toward the publication of a final report. I would guess that, by now, most members of the Committee and perhaps even many of the faculty in general are thankful and pleased that a report was published. There seems no doubt that the document did help to focus community attention on certain classes of problems. Furthermore, we recognized this as an opportunity to give our new president, Harold Brown, some indication of faculty views and concerns on a wide range of topics.

On the other hand, it was said a number of times during Committee deliberations that the Aims and Goals Committee would have served a significant purpose even if it had never issued a single memorandum, much less published the extensive report it did. This assessment was based on the feeling that this group of individuals, amount-



ing to almost 10 percent of our total faculty, which spent close to two years working together on institutional introspection could not help but develop some new understanding and appreciation of the problems of our university. Furthermore, the very process of inquiry carried out by that Committee affected large segments of the campus, causing individuals and groups to think out their role in the structure of things at the Institute in order to be able to respond intelligently to the request of the Aims and Goals Committee for information.

Enough time has passed now that a curious bit of history has become glaringly evident about the Committee members as individuals. A striking number of participants in the Aims and Goals Committee activities have subsequently assumed significant administrative positions, either at Caltech or at other institutions. The original Committee was scrupulously constructed so as to include no administrative officers. However, over the past four years 14 of us have succumbed to administrative assignments. At the Institute in the areas of general administration, faculty, and student affairs, there are currently some 24 administrative positions; during the present academic year, 13 are filled by former members of the Aims and Goals Committee. Every man can have his own reaction to such statistics, but it is hard for me to escape the conclusion that the Aims and Goals Committee activity had a profound effect on many of its members. Almost all former members of the Committee have become influential in campus affairs, and many have responded to requests to assist with Institute administration.

Administrative involvement may or may not be judged significant. However, an informed commitment to the affairs of the Institute by a group constituting 10 percent of its faculty takes on an importance that will loom large many years after the Aims and Goals Committee, its activities, and its reports are forgotten.

An Afterword: A story with a moral?

Once upon a time (June 1967) the chairman of the faculty appointed a committee to study the aims and goals of the Institute. The chairman of the faculty (Professor Jesse Greenstein) was very wise, for he appointed to that committee no faculty members holding any administrative position at the Institute. The Committee labored and produced a report. Copies of that report now gather dust in many offices on the campus, and the Committee has long since been disbanded. However, four years later, members of that Committee have yielded in large number to requests to assume administrative positions either at Caltech or other institutions. Note the record of recent or current (in italics) positions held by members of that Committee.

- Norman H. Brooks—*Academic Officer for Environmental Engineering Science*
- Robert F. Christy—*Executive Officer for Physics; Chairman of Faculty; Provost*
- Julian D. Cole—*Chairman, Department of Mechanics and Structures, University of California at Los Angeles*
- Robert S. Edgar—*Provost, Kresge College, University of California at Santa Cruz*
- Roy W. Gould—*Assistant Director, Controlled Thermonuclear Research, Atomic Energy Commission*
- George S. Hammond—*Chairman, Division of Chemistry and Chemical Engineering*
- George W. Housner—*Chairman of the Faculty*
- Robert A. Huttenback—*Dean of Students; Acting Chairman, Division of the Humanities and Social Sciences*
- Wilhelmus A. J. Luxemburg—*Executive Officer for Mathematics*
- Cornelius J. Pings—*Vice Provost; Dean of Graduate Studies; Executive Officer for Chemical Engineering*
- Robert L. Sinsheimer—*Chairman, Division of Biology*
- David R. Smith—*Master, Student Houses*
- Gerald B. Whitham—*Executive Officer for Applied Mathematics*
- Robert Woodbury—*Dean of Students, University of Massachusetts*

So far the following members of the Committee have had the will power or good judgment to avoid such duties: Fred C. Anson, John F. Benton, Harry B. Gray, Floyd B. Humphrey, Herbert B. Keller, Thomas J. Lauritsen, Frederick B. Thompson, Rochus E. Vogt.

The moral of this tale is left as an exercise to be worked out by the reader.