

CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
San Luis Obispo, California 93407  
ACADEMIC SENATE

FILE COPY

Academic Senate  
Executive Committee Agenda  
October 27, 1992  
UU 220 3:00-5:00 p.m.

<u>Member</u>	<u>Dept</u>	<u>Member</u>	<u>Dept</u>
Andre, Barbara	StLf&Actvs	Mueller, Wesley	CropSci
Andrews, Charles	Actg	Mori, Barbara	SocSci
Botwin, Michael	ArchEngr	Russell, Craig (Secty)	Music
Brown, Ronald	Physics	Vilkitis, James	NRM
Burgunder, Lee	BusAdm	Wilson, Jack (C)	MechEngr
Dana, Charles	CompSci	<b>Copies:</b> Warren Baker	
Gamble, Lynne (VC)	Library	Glenn Irvin	
Gooden, Reginald	PoliSci	Patricia Mulligan	
Kersten, Timothy	Economics	Howard West	
Koob, Robert	VPAA	ASI representatives	

- I. Minutes:
- II. Communication(s) and Announcement(s):
- III. Reports:
  - A. Academic Senate Chair
  - B. President's Office
  - C. Vice President for Academic Affairs' Office
  - D. Statewide Senators
- IV. Consent Agenda:
- V. Business Item(s):
- VI. Discussion:
  - A. Information Systems
  - B. The state's economic crisis and the future of higher education:
    1. "Universities: Health Through Responsibility" [PLEASE READ THIS] (pp. 2-17).
    2. Project DELTA, distance learning, and other forms of instructional technology.
    3. What can we do to prepare for future budget cuts?
      - a. are faculty aware of what's coming?
      - b. what can the Senate do beyond what it's already doing?
        - (1) short-term (between now and February 1)?
        - (2) long-term?
  - C. Charge to the Academic Senate Budget Committee (p. 18).
  - D. How can we create a more effective Senate with less "red tape"?
- VII. Adjournment:

Received from:  
Barry Munitz, Chancellor

**RECEIVED**

OCT 8 1992

Academic Senate

Phillip A. Griffiths  
Director  
Institute for Advanced Study  
(609) 734-8200

UNIVERSITIES: HEALTH THROUGH RESPONSIBILITY

by Phillip A. Griffiths

"Here is the reality, plain and simple. Our ivory tower is under siege. People are questioning our mission and questioning who we are. They claim we cost too much, spend carelessly, teach poorly, plan myopically, and when we are questioned, we act defensively."

So said Thomas H. Kean, former Governor of New Jersey and now President of Drew University, in a recent speech to educators as reported in The New York Times.

His is a responsible and involved voice in the chorus of criticism and concern about our nation's universities. Although some of the other criticism is visceral and ill-informed, it merits our attention and constructive response--otherwise we risk further marginalizing and ultimately weakening our magnificent research university system. Speaking from the personal perspective of one who

has been a faculty member and a university administrator but is now outside the system, I will examine some of the issues in the current debate and pose some suggestions for how they may be addressed.

\* \* \* \*

Recently, I was testifying before the House Appropriations Subcommittee regarding the budget request of the National Science Foundation (NSF). Instead of the usual polite and somewhat proforma exercise, I was sharply questioned in a way that exemplified some of the current public attitude towards universities.

The Representatives had linked three bits of information that were buried in the supporting materials--the request for more NSF supported postdocs in mathematics in response to the current employment crisis for fresh Ph.D.s; the statistic that 40% of entry level mathematics courses in four-year colleges and universities are taught by non-faculty; and one of the multitude of reports deploring the quality of instruction in basic math courses--and grilled me as to why the universities didn't hire unemployed Ph.D.s for teaching these courses, thus improving the level of teaching and providing post-doctorate jobs. Their point was that the scientific community should not always be looking to the government to solve its problems and that the universities were failing to meet their responsibilities.

Elsewhere there is a somewhat different mode of discussion. "American scholars have drifted away from reality and talk only to themselves. They ignore the society of which they are a part and have contempt for the solution of practical and policy problems." Whose words? An irate congressman sniffing out fraud and waste of government appropriated money? A pundit divining general public opinion? Perhaps a group of parents and students, upset over the steadily escalating cost of higher education? Though all of the above groups have joined in the current discourse on the state of the American university system, this excerpt comes from a recent report on funding for higher education by foundations, a group of institutions that has traditionally been very supportive of universities. Why this cynical reevaluation of our university system, not only by the press and the public, but even by the philanthropic agencies and the government?

Changes taking place both in public perception and in the appropriations committees on Capitol Hill warn of a possibly imminent decay of our university system, the greatest in the world. The debate is a reflection of increased skepticism towards pillar societal institutions in general. Universities, more so than corporations and congress, have been sheltered over the last 40 years by a government and nation consumed with the technological defense requirements of the cold war. This is no longer the case. The government/academic partnership in support of basic research which has served so well for a half-century is under the stress of change. There is real concern for how our great university system

will adapt to changed circumstances of financial support from all major sources, not only the federal government.

Several high-level studies, such as the current one by the President's Council of Advisors on Science and Technology (PCAST), are concerned with the "health" of the research universities. I share both a great respect for the predominance of our universities and also a major concern about their health, but I firmly believe that universities will only be able to address issues of health if they first meet their responsibilities to society. And I feel that these responsibilities can only be met if they are defined, not only narrowly by the academy itself but also in the context of relevant factors in the world around them. Therefore, the first step in the process of reconciliation between universities and the nation is for faculty and administrators to come down from their ivory towers and listen to what the public is saying.

The public perceives that our great universities are failing to meet their responsibilities. One level of concern deals with the perceived inability of universities to manage their own affairs. The most obvious cases of this are the Dingell Committee's investigations of fraud at various universities and the Ivy League price-fixing question. And unlike corporations, universities are not used to dealing with such a curious mix of accountability and harassment.

Another aspect of universities' management of their affairs concerns the relevance of much of the scholarship being done. An oft-quoted statistic is that only two to three percent of published articles are ever cited by other scholars, suggesting that much of the work is irrelevant even to the academic community



itself. And when a scholarly issue does reach the public, it is often a fractious debate over "political correctness" or "multi-culturalism."

A perhaps more fundamental concern involves the way the academy is handling the education of undergraduate students. The existing reward structure has skewed the balance between research and teaching, and like the corporation that ignores the needs of its customers and Congress which fails to listen to its constituencies, universities are seen as neglecting their contract with students. And the teaching that is done is "too academic"—with insufficient emphasis on synthesis and practice rather than on depth in a particular area and theory.

Similarly, universities are seen as failing to fulfill their contract with society as a whole: children fail to learn despite our schools of education; urban society continues to decay despite our schools of social work; health care costs continue to rise despite our medical schools; and our economic position continues to deteriorate despite our business and engineering schools. Universities are not seen as substantially helping with such problems, and in some cases they are seen as being part of the problem. For example, in the acrimonious congressional questioning of MIT's role in the transfer of federally supported research to the Japanese, it has been asked whether our universities are actually providing our competitors a free ride on our basic research.

In addition to the perception that universities do not have their houses in order and are not meeting their responsibilities, they face severe financial problems. For most of this century the cost of higher education has annually risen two percent faster than the consumer price index, but this differential must now

be closed as the major sources of funding are likely to remain flat or even diminish. Universities have of course had to set priorities and make choices, but until now this has occurred in the context of increasing resources. As recently publicized events at universities as diverse as Yale and San Diego State show, academic institutions with their tradition of consensual governance are ill equipped to make the hard choices necessary to adapt to shrinking budgets while maintaining excellence in selected areas.

The government, which is the primary source of research funds, will be curtailing the amount it spends on defense research, and only a very small percentage of this will be diverted into other forms of scholarship. Since the second World War, the federal establishment has understood that today's basic research was necessary to create tomorrow's weapons and has been able to maintain a longer term perspective on research. Recently a high-ranking official in the Department of Defense observed that "the basic research of the 60's led to development in the 70's and production in the 80's resulting in the technology used in Desert Storm." Maintaining academic health has been a strategic imperative, but with the national focus shifting from defense to economic competitiveness, the environment and health, federal agencies are directing their dollars into areas such as high-performance computing, global change and biotechnology, where the nation can expect prompt and applicable results. The country has no industrial policy, no semi-autonomous economic body comparable to the defense establishment, and since the corporate sector does not have a long

time horizon the result will be less long-term patronage of our basic research system.

This is clearly stated by Sherwood Boehlert, a senior Republican representative on the House Science, Space and Technology Committee, in a recent letter to The New York Times: "... while the United States has been collecting Nobels, the Japanese have been collecting markets." The implication is that support for science which is "removed from practical questions or inventions" is a luxury that must take second place to science that directly generates new wealth.

Equally as clear is the lead sentence in the recommendation of the Senate Committee on Appropriations for funding the NSF for the coming fiscal year: "While recognizing the role the Foundation has played in establishing U.S. leadership in basic research over the past 40 years, the committee believes that the new world order requires the Foundation take a more activist role in transferring the results of basic research from the academic community into the market place." The ensuing text then goes on to outline what amounts to a redirection of the NSF towards "making the Nation's academic research infrastructure more accessible to those endeavoring to build America's technology base and improve U.S. economic competitiveness."

In addition to government-supported research funding, other major financial sources are tuition for private universities and state funds for public schools, both of which have lost elasticity. State governments, due to severe financial constraints, have drastically cut higher education budgets and are



demanding more to show for what is appropriated. The elite private universities have reached the limit of students' ability to pay. All universities will also be asked to do more--more teaching, more economically relevant research, more visible good for the larger society--with less.

Other sources of funding such as endowment income and private philanthropy will be constrained in the coming decade. An erratic stock and bond market threaten to impact the total value and earnings of endowment and investment portfolios. Our major foundations, sources of the crucial marginal capital that allowed universities to experiment and innovate, will find it difficult to maintain past commitments and at the same time commit support for important new programs.

Also, more than one observer has recently commented that the nature of foundation management has changed. With foundation trustees increasingly from the corporate world and program officers having an average tenure of five to seven years, the thinking at most foundations has become increasingly oriented to short-term topical issues with defined objectives. Long-term intellectual inquiry has been sacrificed to project oriented research.

How should the universities change in order to meet their societal responsibilities and the requirements of the new funding environment? In fact, should they change or remain aloof from more temporal concerns? What must they do to retain (or some would say restore) their freedom of action? It is the view of many that they will either adapt or decline. I believe they will have to change to stay the same. Above all they will have to streamline and differentiate

their missions. From bloated administrations, to a curriculum that has lost coherence and focus, to a diffused mission of trying to be all things to all people, universities are clearly overextended. All but a few are going to have to downsize, and in order to avoid the situation of an ebbing tide lowering all boats, schools must chart their own courses—pick out what they are doing well and focus on it.

Universities now basically compete with each other "department by department," each one seeking to move ahead in the decadal National Research Council (NRC) rankings of graduate departments. These rankings are based primarily on reputational surveys by faculty in the particular disciplines (thus, academic chemists rate chemistry departments, etc.) It is an internal, peer evaluation system and is remarkably good at what it does, much superior to the various popularity contests run by the media. But it does not adequately take into account the educational "products" of departments, only the research products which are easier to evaluate. The appraisal is not wrong, it is just too narrow.

In my own field of mathematics, whereas fifty years ago there were about a half-dozen research and Ph.D. granting departments, now there are well over a hundred such departments, all wanting to have research stars on the faculty and compete with Harvard and Berkeley for graduate students. In response to the feeling that Ph.D. training had become too narrowly focussed, a recent study of graduate mathematics programs by the NRC strongly recommended differentiation of mission and gave a few existing examples of such models. For instance, some should continue to train mathematicians to do research in pure

mathematics; others should train mathematicians to teach in four-year colleges; still others should train mathematicians to do the engineering-oriented applied math required by industry; and finally others should train mathematicians in the application of mathematics to the other sciences perhaps giving only joint degrees, such as mathematics and chemistry.

Differentiation would help force open the rewards system's currently narrow frame of reference, facilitate a return to teaching, and allow for more effective use of dwindling resources.

Another suggested change is an internal restructuring to reflect current trends towards the realignment of disciplines and the integration of knowledge. Universities are now constructed departmentally, a system useful for organizational reasons and for representing the complexity of knowledge, but which artificially compartmentalizes academia.

To greatly oversimplify, during much of this century the disciplines developed internally, independently of each other and not in relation to the "application" of this knowledge. The disciplinary professional associations resembled medieval guilds; reproducing oneself through the training of graduate students was our apprentice system. And the reward structure and loyalty of faculty was in the discipline instead of the institution (I admit to having been guilty of this.)

This had many positive benefits--the frontiers of disciplinary knowledge were greatly pushed forward. But the world of knowledge doesn't neatly organize into disciplines. There is a feeling now that "integration of knowledge" is

happening but that our institutional structures present barriers to this. Practical problems such as the environment, a reasonably priced and accessible health care program, and competitive manufacturing are all "systems problems" that need synchronous combination of specialties in many areas. We face the situation that integration of structure needs to follow an integration of knowledge, and universities need to adapt their traditional structures in response

Trends in government funding indicate a parallel shift. "Interagency initiatives," research projects that are supported by several different federal agencies, are gaining support in the science policy establishment. These projects focus on a general topic or theme. Many of these topics reflect the shift to economic competitiveness, health and environmental concerns driving our research system. These projects are by definition interdisciplinary and provide an opportunity as well as impetus for a restructuring of the university academic system.

Another step that can be taken is to integrate the professional schools into the university, especially the undergraduate colleges. Faculty in business, medical, law and divinity schools have much to offer undergraduates and in my experience welcome such opportunities. But the internal financial structure of universities too often creates artificial barriers between the wealthier professional schools and the undergraduate colleges.

Administrative downsizing is also important. It has been my observation that it is quite easy for an administrator to become captured by staff. Leaders too often lose touch with the everyday life of their institutions because of the

proliferation of accountants, lawyers, public relations specialists and the other components of a bureaucracy. Granted, some of this is due to the excesses and intricacies of federal regulation, but as put gently by the recent report of the Faculty Senate Committee on Education and Scholarship at Stanford, "It is our collective experience that the [administrative] system produces rewards, through higher salaries and promotions, for staff who supervise other staff, and thereby acts as an incentive for expansion as a way to advancement."

As the world-standard-setting position of our major corporations such as General Motors and IBM has been challenged and eroded, they and other top-heavy major corporations have had to vigorously reinvent themselves into organizations which can respond faster and more effectively. For example, five years ago IBM had only 43% of its employees involved in "direct tasks" like designing, manufacturing, servicing and selling of IBM products. Today, that number is 57%, a phenomenal shift for such a short time.

American universities remain the world leaders, but they face a similar challenge in the coming decade. The question now is how to foment the differentiation, integration and streamlining processes needed. It would seem that the kind of management that is going to be necessary for this is orthogonal to the existing consensual governance system and to the "Noah's Ark" culture of universities (two of everything). Somehow universities must find a way to reconcile the best corporate management principles (efficiency, adaptability, customer orientation) with academic culture and academic freedom. They are



going to have to become more productive, which means increased teaching loads and simplified curricula.

As always, it will be a question of leadership, but not in the corporate sense. As currently conceived the office of university president has become a nearly impossible job, as the rising turnover rate illustrates. Presidents are expected to respond to an absurd number of constituencies: trustees, federal and state government officials, local communities, foundation officers, potential donors, sports fans, students, parents, and faculty.

It has been the experience of myself and many others that faculties which are kept involved in the resource allocation process are much more receptive to change and sometimes will even initiate painful though necessary changes themselves. Therefore, the cultivation of a dialogue with and between faculty is an imperative for the reform process.

The first step for the academic leadership is to frame the issues and clearly document the need for required economies (faculty are ever suspicious of the "shell games" of university financial officers). They must establish parameters within which resolution of the problems can occur and then engage the faculty in an ongoing discussion. These parameters are based on a finite amount of money with which to teach a defined number of students and must be established with a great deal of intelligence and care.

Presidents and provosts should recognize that their main "constituency" is their faculty and students, not the alumni, not the media, not the federal r&d agencies, not the foundations and corporations, and certainly not the supporters

of their athletic teams. Above all, the administration must provide guidance to their faculty, must clearly articulate the challenges, options, and parameters for the institution and involve the faculty in a discussion of priorities.

A faculty must be flexible in adapting to challenges, must adopt an institutional rather than solely a departmental or disciplinary view, and must make a real commitment to undergraduate education. This is well illustrated by the Stanford Faculty Senate Committee report: "Stanford must become more agile in responding to new challenges and changing priorities. We much encourage and reward creative thinking, innovation, initiative and responsible risk-taking." The report goes on to express real concern about improving undergraduate education at a time of declining resources, stating that: "Effective advocacy for undergraduate education must move beyond powers of moral persuasion and rest upon real sources of influence including the budget." In other words, dollars should be used to implement the priority of undergraduate education.

Recent episodes where administrative efforts to consolidate and/or eliminate weaker units have met faculty resistance do not lead one to be sanguine about faculty's readiness to make choices that may ultimately be good for the institution. Moreover, tenured faculty remain the one large professional group which has no formal accountability. Since increased responsibility and productivity of universities ultimately rests with the faculty, some change in the prevailing culture will be required.

I also think that trustees have generally been too benevolent in their oversight. They need to press their institution to define and differentiate its mission; streamline its administration and define the parameters within which the administration and faculty must operate. Too often Trustees' main contact is with senior staff and not faculty -- even more than presidents and provosts, they run the risk of being captured by upper-level administration. And, as with corporate boards, they have been too short-sighted and have failed to push their institutions to make the necessary tough choices.

Together faculty, trustees and administrators will have to address the issue of productivity. With the increased emphasis on scholarship and with the increased size and complexity of universities requiring more faculty committees, teaching loads have decreased. The question is not whether most faculty work 60 hours per week, but rather if sufficient time and effort is devoted to undergraduate education as opposed to administration or perhaps more pleasurable scholarly activity. Far better for universities to address this issue pro-actively than to have "solutions" imposed by economic factors or by state legislators.

Finally, I do hope that the public as well as our legislatures will support our universities, truly the crown jewels of our nation, during this period of evaluation and transition. Universities will either emerge from this decade leaner, more focused on teaching, more socially relevant, and able to do fewer things better; or they will further erode their sources of support and end up weaker. Clark Kerr once observed that universities are remarkably stable,

conservative institutions—75 out of 100 institutions in existence since 1600 are universities. In fact, although it seems that higher education is always in a state of crisis, it would be wrong to say that these are "normal times of stress." The institutions that emerge strong in 2000 will be those that clearly define and differentiate their missions; are able to meet their responsibilities in education and service; downsize administration and focus on academic program; and do the above with faculty support and consensus.

....

Phillip A. Griffiths is Director of the Institute for Advanced Study. Before assuming this position, Dr. Griffiths served as Dwight Parker Robinson Professor of Mathematics at Harvard University and as Provost and James B. Duke Professor of Mathematics at Duke University. He is a member of the National Science Board, a former Chair of the Board on Mathematical Sciences of the National Research Council and is the current Chair of the Council's Commission on Physical Sciences, Mathematics and Applications.

State of California

California Polytechnic State University  
San Luis Obispo, California 93407

## MEMORANDUM

Date: October 20, 1992

Copies: Warren Baker  
Robert Koob  
Frank Lebens

To: Ed Carnegie, Chair  
Academic Senate Budget Committee

From: Jack D. Wilson, Chair  
Academic Senate

Subject: Budget Committee Charge

The following charge to the Budget Committee is based on consultation between you and me and within the committee itself. The Budget Committee is charged with: (1) reviewing program change proposals and proposals for new programs for their impact on budgets, (2) being involved in all campus budget decisions, where appropriate, such as the use of lottery funds, (3) acting in consultation with the administration on university-wide budget decisions, (4) being a resource to ascertain the costs of implementing a change from the quarter to the semester system so as to help the campus make the decision as to whether or not it wants to change, (5) development of a budget planning strategy for the future for the distribution of instructional resources, and (6) determining the history (if possible) of resource allocations among Academic Affairs, Business Affairs, Student Affairs, and Information Systems.

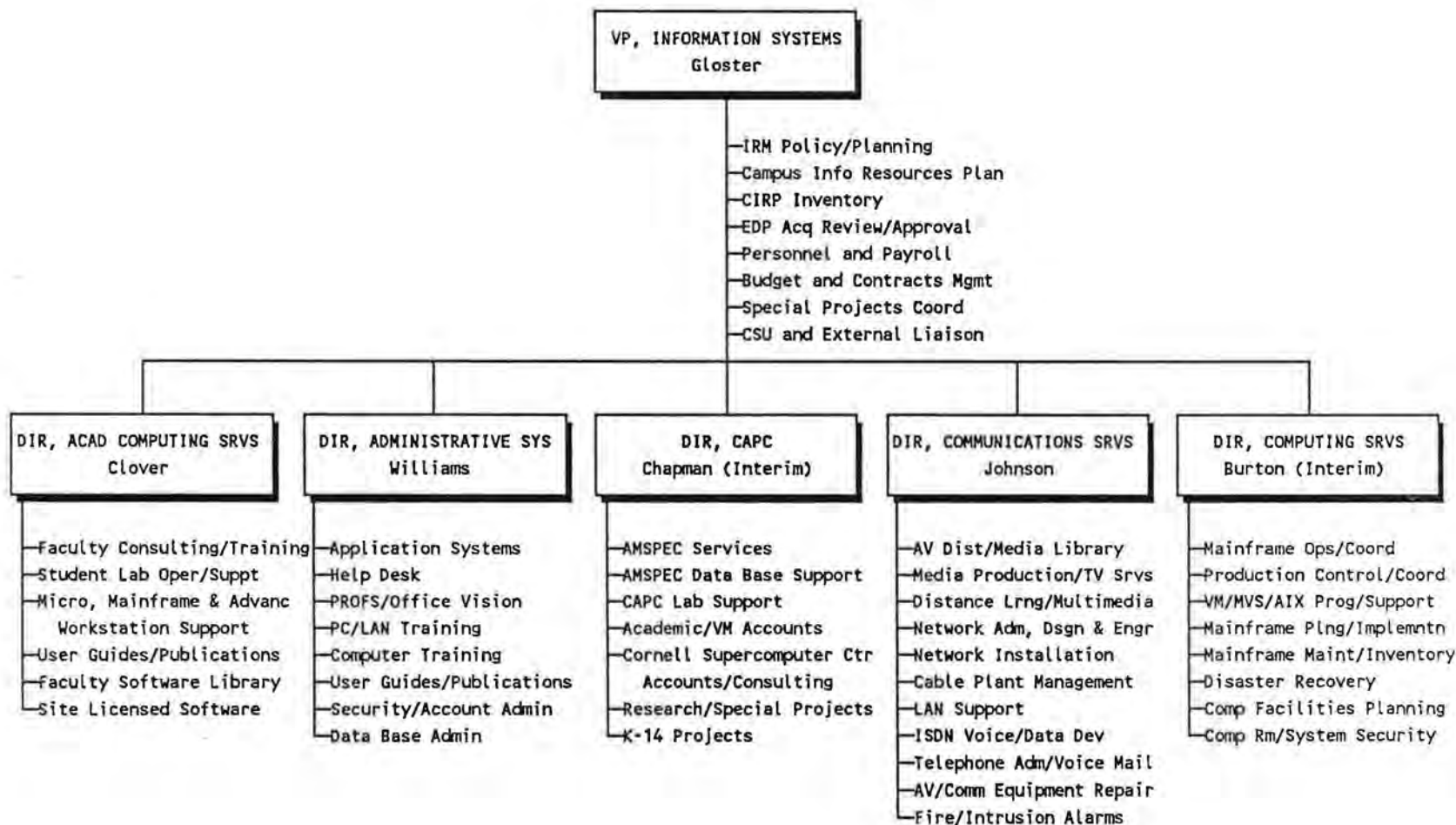
This is obviously a tall order. Let me know how I can help.



CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
SAN LUIS OBISPO, CALIFORNIA

October 1992

INFORMATION SYSTEMS



Info - Exec 10-27-92

Final - Exec 10 27 92

Adopted:

ACADEMIC SENATE  
OF  
CALIFORNIA POLYTECHNIC STATE UNIVERSITY  
San Luis Obispo, California

AS- -92/  
RESOLUTION TO  
CENSURE PRESIDENT BAKER

- WHEREAS, The CSU system has a formal policy and a set of formal procedures for discontinuance of academic programs; and
- WHEREAS, This policy requires that a proposal for discontinuance be prepared and submitted to the Academic Senate for review; and
- WHEREAS, This proposal has not yet been provided; and
- WHEREAS, Numerous written and oral comments have been made by the Cal Poly administration to indicate that in fact the Home Economics and Engineering Technology programs will be discontinued; and
- WHEREAS, The CSU policy states "the President shall not take any administrative action leading to the de facto or official discontinuation of an academic program before the Chancellor has commented on the [discontinuance] proposal"; therefore, be it
- RESOLVED: That the Academic Senate of California Polytechnic State University censure President Baker for blatantly violating due process with regard to the discontinuance of two academic programs on its campus.

Proposed By: Michael Botwin  
Date: October 20, 1992



**RECEIVED**

**OCT 16 1992**

**Academic Senate**

May 19, 1992

Dear :

The California State University system is in the midst of a budget crisis which has presented difficult choices to each campus. Cal Poly's budget has been seriously eroded for the current year, and the picture looks at least as bleak for 1992-93.

Rather than continuing to weaken all programs within the University by implementing across-the-board cuts, a University decision has been made to phase out the departments of Home Economics and Engineering Technology. Because you have been admitted to Cal Poly for the 1992 Fall quarter in Engineering Technology, you will be seriously affected by this decision. If you choose to go ahead with your enrollment at Cal Poly in Engineering Technology, you must be advised of the following:

- ♦ Once you receive your formal letter of admission advising you that you are eligible to register, contact The School of Engineering Advisement Center as soon as possible in order to set up a plan of study. The phone number is (805) 756-1461.
- ♦ You would be expected to complete all major and prerequisite courses within three years.
- ♦ You would need to take your major courses when offered without the flexibility that would exist for most students in terms of repeating courses, having a selection of electives, etc.
- ♦ Your progress would be closely monitored for progress towards degree completion.

For all of the reasons listed above, we strongly advise you to consider an option other than attending Cal Poly as a freshman in Engineering Technology.

We understand that this is frustrating and disappointing, but we would like to assist you in making the best of a difficult situation. Please circle one of the options below, sign and date it, and return this letter to the Admissions Office by May 31, 1992.

1. I wish to enroll at Cal Poly in Engineering Technology under the 1992-94 catalog.
2. Please redirect my application to another CSU campus offering Engineering Technology. I have completed and signed the enclosed redirection form.
3. I still wish to attend Cal Poly, San Luis Obispo, beginning in the 1992 Fall quarter, but I would like to choose a new major (with the exception of Art or Music). Please change my major to \_\_\_\_\_. I understand you will review my application to determine if my qualifications are appropriate for my new major.
4. I will attend another university.

---

Signature

---

Date

Cal Poly, along with the other CSU campuses, is working hard to mitigate the budget crisis; however, it is a difficult struggle--one which is exacting sacrifices from virtually every segment of the campus community. We sincerely regret the disappointment and inconvenience this may cause you and your family, and hope that you are able to come to a decision which will best serve your educational needs.

If we can assist you in any way, please call (805) 756-2311, inform the operator that you are an incoming freshman in Engineering Technology for the 1992 Fall quarter, and ask for an Admissions Associate.

Sincerely,

James L. Maraviglia  
Director of Admissions

Encl.  
/freshet

1-min - Exec 10-27-92 A

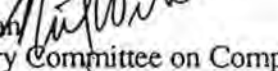
**California Polytechnic State University  
San Luis Obispo, California  
Department of Computer Science**

**Memorandum**

4/30/92

**To :** Vice-President Robert Koob  
Chairman IRMPPC

**Cc:** President Baker  
Vice-President Gloster

**From :** Neil Webre, Chairman   
Instructional Advisory Committee on Computing

**Subject :** IACC Recommendation on Moving Academic Computing Services to Academic Affairs

The IACC response to your request for its opinion on moving Academic Computing Services to Academic Affairs is attached. It is a recommendation for a comprehensive move that the committee hopes would go a long way toward solving some of the chronic problems that we have had and that are so frustrating. The recommendation was developed at a series of three meeting of the IACC over a span of two weeks. It was passed by a unanimous vote of the committee.



# Cal Poly

## Instructional Advisory Committee on Computing

### RECOMMENDATION

April 29, 1992

Vice-President Koob has asked the IACC for its advice concerning a possible move of ACS from Information Systems to Academic Affairs in order to solve a number of problems concerning instructional and research computing support on campus.

The reorganization of Information Systems carried out last year and the creation of the Instructional Computing and Operations (ICO) division under Professor Art Chapman has substantially increased the responsiveness of IS to the problems of instructional and research computing. The IACC would like to express its appreciation of and support for Professor Art Chapman and Dr. Bob Clover and their staffs for the excellent work. In Dr. Clover's case, the fact that service and outreach have substantially improved is extraordinary in view of the fact that this was done with himself, a secretary, and only three technical staff members.

We see the critical problems as the following:

- (1) There are serious problems with communication and coordination between Academic Computing Services and the administrative levels of the academic units (deans and department chairs) due to the need to cross organization boundaries at the Vice-President level.
- (2) There is, and probably always will be, an inherent conflict between the needs of instructional/research computing and university administrative computing.
- (3) The academic community has, as it stated last year, lost confidence in the Vice-President of Information System's ability to understand and respond to academic computing needs.
- (4) Academic computing is growing rapidly on campus and the resources of the support organization (ICO) are not adequate. Three and one-half technical staff members support the entire faculty and student body.

The IACC, after discussions within the academic community, recommends the following course of action.

**Move all instructional and research computing support, including its staff and staff positions, hardware, software, and funding out of Information Systems and form an Instructional and Research Computing Support (IRCS) organization whose director reports to the Vice-President of Academic Affairs and Senior Vice-President.**

We recommend that this organization consist of at least the following:

**Staff:**

All personnel and positions currently assigned to Academic Computing Support (approximately eight positions).

All personnel and positions currently assigned to CAPC/AMSPEC (approximately eight positions plus student assistants)

All systems programmers currently providing AIX and VM support (four positions plus student assistants).

One hardware technician (in the past, an ACS position was transferred to Technical Services and trained in Macintosh repair at ACS expense)

**Hardware and Software:**

All computer systems and software for which ACS or AMSPEC/CAPC is currently responsible.

**Funds:**

The IRMPPC should determine an equitable division of the funding (and positions) and recommend it to the President. It is especially important that the "contributions" of both ACS and AMSPEC/CAPC to the IBM 3090 be assigned to those organizations.

We feel that these changes would effectively solve the first three problems, and form the basis for progress in solving the fourth. The IACC feels that such a move would be the best course of action at this time to solve the problems outlined above.

We would expect that the new IRCS organization to fulfill its contractual obligations for the IBM 3090 mainframe. While networks of distributed servers and workstations are the most likely future for academic computing, AMSPEC/CAPC, and ACS to a limited extent, would probably participate at a reduced level in future mainframe upgrades.

**Background and Discussion:**

Even in ideal circumstances, it is not clear where computing user support personnel should reside organizationally. Should they be in the organization that operates the computing and communications resource, or in the organization of the users? We currently place them in the former. It is not working well.

If ACS is to move to Academic Affairs, then this committee feels in the strongest terms that it cannot move in isolation. All instructional computing support must be moved along with all personnel and resources that are due to it. The relationship between AMSPEC/CAPC and ACS has been close and beneficial to both. They should not be separated.

The personnel should include not only user support staff, but also systems support staff. As instructional computing continues its development of distributed systems, it is vital, especially given the lack of support by Informations Systems in the past for such systems, that it have the personnel to manage those systems. ACS currently has no staff members assigned to it who are classified as system programmers to support its distributed networks of advanced workstations and servers - systems that have in total several times the processing power of the IBM 3090 mainframe.

It has become clear that the systems programmers are naturally most responsive to the organization in which they reside. In addition, with the advent of distributed systems, we need a pool of systems programmers who can be flexibly assigned to service a variety of systems. For these reasons, the systems programmers working on academic systems should be assigned to the new organization, and we recommend that those working on administrative operating systems should report to the Director of Administrative Systems, even though for the present, all will continue to work on the IBM 3090/400 mainframe. The IBM 3090 is being operated essentially as two IBM 3090/200's, so the interaction between the academic and administrative systems groups is minimal.

ACS has three technical staff members trying to support the computing (and often the communications) needs of the more than 15,000 students and faculty. They are strained beyond their limits. There are three vacant ACS staff positions, but one is a temporary position, and hiring for the other two is frozen due to budget cuts. In contrast, the End User Support organization of IS which supports a far smaller number of administrative users, has 7 technical staff members. There are 10 other technical staff members supporting on-campus administrative computing. These are the kind of imbalances that contribute to faculty dissatisfaction and the conclusion that the Vice President of Information Systems is not committed to the support of instructional computing. If hiring is to remain frozen, we recommend that two staff members of Administrative Systems' End User Support who have the necessary skills be temporarily assigned to ACS until funds for filling the ACS positions become available.

Much of the instructional computing on campus is provided by departments and schools through local workstation laboratories. Support for these labs was seriously deficient prior to the budget cuts. It will be non-existent after the cuts. This committee knows of no instructional lab that has maintenance contracts. Systems programming support is haphazard, often being provided by dedicated faculty members. Software among the labs varies widely, with the same platforms having different software to do the same job, and the software that is common varies in version and release levels. These problems markedly reduce the utilization of the existing labs. The lack of support for these labs has been the one of the most persistent, important, and intractable problem of instructional computing. We feel that while our proposed action does not, in itself, mean more resources for academic computing, it would provide a closer relationship among the groups involved and more flexibility in choosing strategies for dealing with the problems.

It is also the feeling of this committee that cooperation with the Kennedy Library would be enhanced by this proposed move.

The IACC intends that these changes result in a more proactive role for IRCS and greater integration of computing in the instructional process.

## Some observations on instructional usage of the 3090 mainframe

N Webre  
Campus Instructional Computing Coordinator  
March, 1992

- **UNIX is clearly the system of choice for instructional users who use advanced computing.**  
*UNIX?*
  - 5,500 on-campus AIX accounts ?
  - 150 on-campus VM (Academic) accounts
  - Approximately 50 advanced workstations/minicomputers all running UNIX.
- **Gains with AIX and the 3090**
  - Establishment of UNIX as THE advanced computing standard.
  - Increased efficiency of the systems programming staff.
  - Increased inter-operability of IS/School/Department systems.
  - Served a large number of users with central UNIX services.
  - Placed Cal Poly for the first time in the mainstream of system evolution and instructional computing development on other campuses.
- **Problems with AIX and the 3090**
  - AIX/370 still has a very small software base. Only 8% of AIX applications have been ported to it, compared with 82% available on the R6000. Developers have no plans for porting due to the small number of such systems in use.
  - The small software base has resulted in a much narrower user group on campus than would have been the case if more applications had been available.
  - The performance of the TCF cluster has been poor. Inter-cluster communications seriously degrades performance. The PS/2's, which carry a large part of the processing load, are only 3 MIP machines.

Dr. Webre  
3/20/92  
AIX support  
UNIX?

- Systems support is time consuming, due largely to the PS/2's.

we are using that in a mode that allows multiple users per PS/2).

- Some important and highly utilized software packages are full of bugs and the suppliers refuse to update them due to the small AIX/370 market.
- AIX was delivered one year late, and IBM is abandoning it shortly in favor of the OSF compatible AIX/ESA.
- Generally, AIX is tolerated rather than enthusiastically supported by users.

#### • Observations

- IBM has failed with AIX/370 and the 3090/PS/2 cluster.
- Instructional computing is paying a high price (1/3 of the support) for a mainframe of which it uses about 25% of the processing power and 5% of the disk space.
- Alternatives (from IBM, HP, Sun, DEC, and others) that are competitive in power and at much lower cost have become available within the last year.
- We are obligated for the payments for the mainframe for another 2.5 years.
- The mainframe has been a success for Administrative computing and for AMSPEC.
- The role of the mainframe is changing from a primary computing resource to a background database- and file-server, as well as a front end to the R6000's (Cornell).
- There are serious unsolved problems in computing at the school and department levels, particularly in funding microcomputer labs.
- It is likely that, in any future upgrades of the mainframe, campus instructional computing would choose to become a customer rather than a partner.



## IRM IBM\_Costs

	A	B	C	D
1		IBM 3090 Costs	Campus Instructional	
3	91-92			
4	3090-200 Payment	\$803,000	\$233,000	
5	3090-200 Maintenance	\$220,000	\$73,333	
6	3090-200 Loan	\$150,000	\$50,000	
7				
8	Total	\$1,173,000	\$356,333	
9				
10	92-93			
11	3090-200 Payment	\$803,000	\$233,000	
12	3090-200 Maintenance	\$300,000	\$100,000	
13	3090-200 Loan	\$150,000	\$50,000	
14				
15	Total	\$1,253,000	\$383,000	

# IRM\_Faculty\_Stats

Faculty Workstations by School - June 91							
Workstations							
SCHOOL	POS	TERM	TC	REV	TOTAL	POS	PERC
SAED	96	5	48	1	54		56%
SAGR	120	1	109	1	111		93%
SBUS	73	0	60	1	61		84%
SENG	149	3	184	18	205		138%
SLA	183	0	105	0	105		57%
SPSE	103	2	61	0	63		61%
SSM	159	1	108	1	110		69%
UCTE	31	1	9	0	10		32%
STORAGE*	0	8	53	5	66		
OTHER**	27	1	73	1	75		278%
	941	22	810	28	860		91%
* Units in ACS for repair and redistribution							
** ACS, Library, Disabled Student Services, MEP, etc.							
Connectivity							
<ul style="list-style-type: none"> <li>As of June, 91 an estimated 60% of faculty members with workstations were connected via LAN's, terminal servers, and ISDN</li> <li>Currently we estimate that the number of faculty connections is 75 to 80% of the number of faculty positions.</li> <li>Some faculty members have workstations but no connections, and some have connections but no workstation.</li> <li>Connectivity is a hodgepodge of terminal servers, LAN's, and ISDN</li> <li>There is currently only one building on campus wired to Comm. Services standards - FOB East. Two - Engr. West and Business (new) - are expected to be wired to standards soon.</li> </ul>							

## IRM\_Sys\_compare

	A	B	C	D	E	F	G	H	I
1	System Comparison of the 3090 Mainframe and two UNIX servers								
2									
3		MIPS	Processors	Memory	Disk Storage	Data Channels	Disk Avg	Cost	Maint/
4				(Min/Max)	(Min/Max)	(Thruput/Ch.)	Seek	to CP	Year
5									
6	IBM 3090/200	50	2	128 MB	140 GB	32	15 milllsec	\$1,500,000	\$150,000
7				(??/256MB)	(Large)	(3 or 4.5 MB/Sec)			
8									
9	IBM R6000/560	89	1	128 MB	2.5 GB	1 (Bus)	11 milllsec	\$50,000	\$6,000
10				(64/512 MB)	0.8/2.5 GB	160 MB/Sec			
11									
12	Sun 690MP/140	91	4	128 MB	2.6 GB	1 (Bus)	12 milllsec	\$35,000	\$10,000
13				(64/640 MB)	(??/62 GB)	(80 MB/Sec)			
14									
15	For it's 5,500 users, AIX								
16		• currently uses 7 GB of disk space on the 3090 - 5% of the total							
17		• currently uses 10.3 GB of disk space on the PS/2's							

Miss - Exec 10.27.92

# Memo:

RECEIVED

To: Members of the Executive Committee

Date: October 25, 1992

OCT 26 1992

Academic Senate

Andre, Barbara	StLf&Actvs
Andrews, Charles	Actg
Botwin, Michael	ArchEng
Brown, Ron	Physics
Dana, Charles	CompSci
Gamble, Lynne (VC)	Library
Gooden, Reginald	PoliSci
Kersten, Tim	Econ
Mori, Barbara	SocSci
Mueller, Wesley	CropSci
Peach, David	Mgtmt
Vilkitis, James	NRM
Wilson, Jack (C)	MechEng

## Copies:

Koob, Robert	VPAA
Camuso, Margaret	Senate Staff
Conway, Jim (CFA)	Speech
Baker, Warren	President

From: Russell, Craig (Sec) Music

CHR

Subject: Proposed Motion of Censure of the President

Due to the gravity of the issues that are to be discussed next Tuesday, I felt it necessary to dig through my minutes from the past year and supply you with any relevant material that I might find. I am sending excerpted minutes with this cover letter. I suggest you give attention to Baker's and Koob's letters of May 11.

After carefully reading through the documents from last year, several things seem clear to me :

- 1) the President and Academic Vice President *repeatedly* asked the Senate for any input regarding program review and for advice regarding appropriate procedures to be used in the decision-making process;
- 2) the Senate was agonizingly slow in its response to all of those requests. In most cases, we are still at it;
- 3) the Senate was clearly informed of all crises as they were developing and was told why abnormal exigencies necessitated "unusual" decision-making procedures;
- 4) faculty input was incorporated via PACBRA, Long-Range Planning, Personnel Policies, and Budget Committees; and
- 5) the Senate made no concrete suggestions or formal complaints to the administration expressing displeasure with the way that program decisions were being made.

In short, we were repeatedly asked by the administration for advice—and we failed to do so in a timely manner. We dropped the ball. Now, after the fact, we are on the verge of passing the buck and the blame on to the administration. I feel a motion of censure is not only unjustified, it is needlessly divisive. If we have our disagreements with a decision or a procedure, let us debate our views, come to a consensus, and then firmly, clearly and dispassionately articulate those views. I firmly believe that a thoughtful and constructive approach to problem-solving will be more successful than a divisive and combative one. We should be concentrating our energies on ideas, not indictments.

## Chronology of Statements & Actions

### 1991

Sept. 24 Koob asks the Executive Committee to help establish a priority of programs on campus. [We provided no program evaluation until mid-July.] Koob states:

There aren't sufficient resources to sustain all present programs. We may be closing programs that are the best in California but have the lowest priority on our campus. It is the Academic Senate that is to establish a process to review and prioritize programs on an ongoing basis. The Senate will decide, as much as possible, what the priority of programs are on this campus. The Academic Senate is asked to prepare its recommendations for the coming year before April 1992 and to periodically update its recommendations. If the Senate makes its wishes known, funds will be deployed in accordance. If not, budgetary decisions will be made without Senate input. [See the minutes for the Executive Committee, Sept. 24, p. 1, Item III. C.]

The minutes continue:

M.Botwin asked if cutting programs was obligatory or would "cutting back and trimming" be acceptable? Vice President Koob responded that reductions were acceptable. The Senate chooses.

Nov. 20 First meeting of the Ad Hoc Committee for Program Review Criteria. [See minutes for Nov. 19, p. 3, Item VI.]

### 1992

Jan. 14 Koob informs the Executive Committee that he is consulting with the Budget Committee and the Program Review Committee to help obtain advise on decisions. He states:

The Senate, through its Budget Committee and Program Review Committee, has embarked on gathering information that will help advise the process this year. We have asked the academic and administrative units to have their proposals ready by March. We could then be able to propose to the campus and president a budget around April 1 which would give us time to review it. The attempt is to minimize the upset, concern, and lowering of morale that goes with uncertainty. The April deadline will allow for substitute proposals to be put forward and to put rumors to bed early. M.Shelton observed that it would be appropriate for the President to send an open letter to the campus on this topic. J.Murphy added that the President should reinforce in his letter that we have a responsibility to plan and that a plan is only that—it is not fixed in concrete but can be modified and changed. In response to D. Peach's question as to whether the cuts will be vertical or horizontal, Koob stated that the Senate and the schools will decide. It is entirely possible that a school that has got 95% of last year's budget may not be funded back at 100% even when we receive additional funds. [See the minutes for Jan. 14, p. 3, item III.B.]

Jan. 28 First reading of the proposed Academic Review Criteria before the Academic Senate. [See agenda for Jan. 28 Senate meeting, pp. 10-27.]

Jan. 29 Koob releases his first "Status Report" to the entire campus community.



Feb. 12 Koob releases to the campus his second "Status Report" titled "Administrative Budget Process." He clearly explains the budgetary problems confronting us and articulates how decisions will be made. He repeatedly invites responses from the campus community and structures his decision-making process. He states:

We might expect to get information from the following sources:

- \* administrative review—Deans and Managers;
- \* program review—Academic Senate;
- \* working conditions—bargaining units;
- \* adequacy of services—student government;
- \* goals of Cal Poly—strategic plan.

He continues by clarifying the channels for collecting input from all the various constituencies. [Note: he is asking here, once again, for program review: we did not submit a program review until mid-July. He also is looking for our "strategic plan"—which we are still debating at the present time.]

Feb. 25 Andrews and the Budget Committee are working on a way to format the material to submit to the administration and to the Executive Committee. [See item VI.C. in the minutes for Feb. 25, p. 5, "Charge to the Academic Senate Budget Committee.]"

Also, Koob explains his philosophy on balancing impacted and non-impacted programs. He explains that demand is an issue relating to funding of programs. The minutes read:

J. Murphy asked what Koob's long-term plans were for balancing impacted and non-impacted programs. Koob responded that low applicants will cause programs to shrink. This process is self-correcting. A program will shrink until demand starts to go up—at some point it will reach equilibrium. [Minutes for Feb. 25, p. 2, item V.E.]

April 14 Koob is asked if there will be faculty input before layoffs are made. The minutes for the Senate, April 14, item III.C. read:

P. Murphy: So we don't know about possible faculty layoffs until later this summer?  
Koob: That's a decision the President will have to make. If he should decide that the number of positions we can sustain under our most profitable budget is fewer than the number we have, in order to minimize the total number of layoffs, the decision would have to be made prior to May 15. So, again, we are caught in a very unrealistic time schedule. . . . Harris: Is there any input the faculty may have before May 15?  
Koob: I've been urging that the faculty provide us with guidance as to what they would like this university to look like. In fact the Senate Chair provided a time schedule to the Senate to provide information with respect to program structure to indicate where strengths and weaknesses were thought to be. That's the kind of guidance that the administration needs. It would be very nice to have some representative statement from this body regarding this. Without this information, the President will have to make judgements based on his own experience, the recommendations provided by the deans, and/or through committees of the Senate which have taken a position on this matter. So far, no indication of what should be done has been received from the Academic Senate. Andrews: Last week a charge was sent by me to the Budget, Long-Range Planning, and Personnel Policies Committees to look at making recommendations to the Senate regarding how the cuts should occur if we had a five percent reduction in budget.

Gooden: Has administration come to a philosophy as to how to make the cuts?  
Koob: Not yet. I have been meeting regularly with the Deans' Council to establish some philosophy. But whatever cuts will have to be made in this year will have to be

done for budgetary reasons. Cuts due to budgetary reasons have a series of rules associated with them. They are not program discontinuances. They are the unfunding of activities. Then if the Senate chose at a later time to keep such activities cut, then it can propose that we discontinue the program which is a different set of procedures. If this happened, additional notifications would go out to make permanent any layoffs taken for budgetary reasons. It's a two-step process. It is my preference to identify those programs which are unlikely to be brought back in the future before any funding decisions are made. That is why I would like to have the faculty's view of what Cal Poly's future is supposed to look like as soon as possible.

Botwin: Shouldn't administration bring to the Senate's attention those areas they feel are areas of weakness for the Senate's recommendations? Koob: Administration is here primarily to manage resources. The primary function of the faculty is to shape the curriculum. If faculty had a composite view of what they felt were the strengths and weaknesses of Cal Poly's curriculum, this information would be valuable in guiding the decisions of administration. Everyone must take care of their primary areas of responsibility and work as a team.

May 5 Koob explains why planning for possible cuts is necessitated. See the minutes for the Academic Senate, May 5, p. 2, top third of page.

Koob explains that the administration *has* been sensitive to faculty input. He discusses the funding of athletics and the reasons for continuing to make some limited hires during a budget crisis. See the minutes, p. 3.

Koob pleads for input from the Senate. He states:

"I need to remind this group that when information came forward from the faculty program review process, administration was extraordinarily sensitive to that. Last year, the recommendations of the faculty task force were followed dollar for dollar in the profile that was submitted, with the exception of Athletics where the cut made was 28 percent instead of 50 percent. We asked sincerely for help in making those kinds of decisions this year. When this faculty, in whatever form, is willing to put on the table, information about programs, administration will use that information to guide decisions. Any kind of budget reductions have to be congruent with academic decisions." (See the minutes, p. 3)

May 11 President Baker sends to Charlie Andrews, the Chair of the Academic Senate, a memorandum titled "REVIEW." It was distributed to the Executive Committee on their meeting of May 12. Appended to Baker's letter is Koob's letter to Baker dated May 11 and titled "Departmental Budget Reductions." [See the appended letters.] In their letters, Baker and Koob spell out in detail the reasoning behind the decision-making process and the decision itself to phase out support for Home Economics and Engineering Technology.

Baker states:

"I am requesting that Vice President Koob, along with the Academic Senate, begin the process for discontinuation of programs to review this decision (Administrative Bulletin 81-5) and report the findings to me not later than the end of Fall Quarter 1992.

I am requesting that you review the process that led to this decision and make suggestions on how it might be improved if similar actions need to be taken in the future.

I would welcome suggestions the Senate might make . . ."

- May 21 Koob asks the PR&IC to have its suggestions ready by July 15 "which the administration will use in making decisions regarding additional vertical cuts in programs." [See the minutes for the Executive Committee, May 21, p.1.]
- May 30 Baker releases his document to the campus, *1991-1992 Budget Report*.
- June 8 The PR&IC requests review materials from department heads and chairs for the review process.
- June 22 The PR&IC begins to meet with department heads and chairs.
- July 16 The PR&IC report is finally forwarded to the administration via the Executive Committee. [Koob requested the information on Sept. 24, 1991. It took us nearly 10 months.]