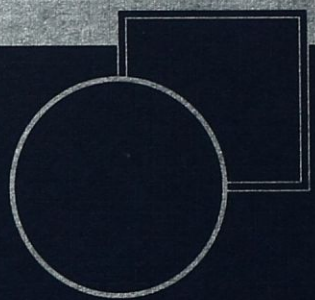
Lower Division Education in the University of California



University of California
Task Force Report
June 1986

LOWER DIVISION EDUCATION

IN THE UNIVERSITY OF CALIFORNIA

A Report from the Task Force on Lower Division Education

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June 1986

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TASK FORCE ON LOWER DIVISION EDUCATION IN THE UNIVERSITY OF CALIFORNIA

The Task Force on Lower Division Education was charged to review the University's mission to teach lower division students; the nature and quality of the lower division curriculum; the quality of teaching and learning; and the quality of academic support services. The final report of the Task Force presents their review against the backdrop of widespread national concern with the quality of undergraduate education and the current Legislative review of the Master Plan for Higher Education. It frames its analyses and recommendations in the particular contexts of the contemporary historical situation of the State of California and the University of California. And finally it embeds its analyses and recommendations in a developmental portrait of the lower division student which requires that curricular and other educational experiences be assessed at least in part according to how well they foster intellectual and personal development of those transitional years from adolescence to adulthood.

Anxious to insure that the recommendations in its report do not fall — as David Hume once complained about one of his philosophical treatises — "still-born from the press," the Task Force employs three strategies: to limit the number of diagnoses and recommendations to the few considered the most salient; to endeavor to make the diagnoses and recommendations as specific as possible; and to observe the limits of budgetary and institutional realities in generating recommendations.

The report makes clear at the outset that lower division education has been from the beginning, an essential ingredient in the educational mission of the University of California. Despite this role, the lower division is something of a neglected child in terms of information gathered, attention paid, and critical review given to it. The Task Force calls for measures to rectify this neglect.

In its review of the quality of teaching and learning, the Task Force found that teaching in the University of California must be assessed in the context of the other missions of the University and in the context of the resources available for it. The Task Force examines the roles of the several types of instructional faculty: Academic Senate faculty, non-Senate or temporary faculty, and teaching assistants. It also reviews the reasons for what it defines as the three-tiered approach to instruction at the University. A legitimate and positive place for each type of faculty member is noted, but the Task Force found current arrangements wanting in some respects for each category. In particular, it calls for augmented review of faculty teaching; better review and evaluation, and fuller incorporation of temporary

faculty into the educational life of the University; and improved recruitment, training, supervision, and evaluation of teaching assistants.

With respect to reforming curricula and programs, the freshman-sophomore seminar is seen as an exceptionally valuable resource in the educational life of the University. Educational experiences in the seminar setting have a positive impact on students' learning, student-faculty relations, advising, the relations between research and teaching, and on integrating the lower division student into an environment that can be experienced as confusing or unwelcoming. The Task Force recommends a significant expansion of freshman-sophomore programs and other, complementary kinds of lower division courses.

The Task Force also reviewed the problems associated with transferring to the University from community and State University campuses as they relate to lower division and general education. A significant, but now declining, number of students enrolled in the University experience their lower division years in institutions other than the University, mainly on community college and State University campuses. The transfer of qualified students from these sectors to the University is an essential part of the Master Plan. In this connection, the Task Force recommends the following with respect to three facilitative measures: (a) continued discussion and investigation of the California Articulation Numbering System; (b) the development of a general education transfer core curriculum; (c) development of reciprocity arrangements among campuses of the University which honor a range of lower division general education courses taken on other campuses. In connection with these three measures, the Task Force recommends that campuses make special efforts to develop programs of general education at the upper division.

Two of the most profound changes affecting the state and the University are (a) the increasing internationalization of the world — its growing interdependence along economic, political, and cultural lines; California, with its pivotal economic and geographic situation, is in the center of this process; and (b) the increasing diversification of the state's population along racial, ethnic, and cultural lines. The Task Force recommends that the University respond aggressively and creatively to these two sets of changes in its educational and research programs.

Finally, in a look at the larger picture of knowledge, including the major and lower division education, the Task Force notes that the late twentieth century has witnessed a spiralling of knowledge that is increasingly technical, specialized, and fragmented. These developments have raised questions, if not posed threats to the general mission of the University by tilting it in the direction of vocationalism, specialization, and science at the expense of liberal arts and humanistic learning. The Task Force identifies some ways of confronting these challenges, and recommends that they occupy a salient place in the University of California's long term agenda.

A complete list of recommendations, by category, follows.

Reforming Curricula and Programs

(1) Campuses should institute and expand freshman-sophomore seminars, or functionally equivalent educational processes that constitute a chance for lower division students to interact with ladder-rank faculty in a small classroom setting.

(2) Campuses should develop and extend general education courses of an integrative or synthetic character in both their lower and upper divisions.

(3) Campuses should develop curricular change and other policies that enhance the international, multicultural, and global learning experiences of students.

Improving the Quality of Teaching

(4) Departments of colleges and schools should assign their most brilliant and effective teaching faculty, regardless of title and rank, to large, introductory lower division courses.

(5) Faculty evaluation should be improved, making internal peer review more systematic, and including teaching effectiveness on the agendas of external reviewing bodies.

(6) Mechanisms should be developed for the more systematic selection, review, and evaluation of temporary faculty, and for their better incorporation into the educational life of the campus.

(7) Teaching assistants whose native language is not English should be required to pass the oral TOEFL examination.

(8) Campuses should review and improve mechanisms for the training, supervision, and evaluation of teaching assistants, especially at the departmental level.

Improving Educational Continuity

(9) Colleges and schools should seek more flexible ways of adapting the numbers of courses and sections available at the lower division, so that students will be able to take these during the first two years.

(10) The University of California, at appropriate levels of faculty and administrative responsibility, should work toward developing and improving: (a) articulation of specific courses with institutions from other segments, especially on a regional basis; (b) a selective

common core of general education courses that, if taken at a specified level of performance in the other segments, would satisfy the general education requirements of the University of California campuses; (c) reciprocity among campuses with respect to curricular requirements that will meet the general education requirements on all campuses.

Improving Information and Quality Control

(11) The University and the campuses should secure more extensive and more nearly comparable information on the educational roles of different categories of instructors.

(12) Colleges and schools, as well as campus and systemwide administrations, should develop mechanisms for periodic and systematic review of the quality of lower division education.

Reaffirming the General Mission of the University

(13) As a long-term matter, the University and its several campuses should continue to observe the changing balance of its educational emphases — disciplinary balance, the balance between vocational and liberal education emphases, the balance among lower division, upper division, and graduate education — in the light of the shifting character of knowledge in society.

FINAL REPORT

In carrying out its mission during the past nine months, this task force has proceeded on the understanding, long established in the University, that it is valuable — essential, rather — to review periodically all programs and procedures with an eye to their excellence and their effectiveness. During the task force's lifetime, however, two developments were proceeding simultaneously — one national and one at the state level — which had a direct bearing on our special task.

The first development had to do with the widespread concern in recent years about the quality of undergraduate education in the nation's colleges and universities. This concern was expressed early in 1985 in the appearance of three national reports, all critical of current collegiate arrangements. The three reports were sponsored by the National Endowment of the Humanities, the National Institute of Education, and the Association of American Colleges. The three reports along with several others had a very large press, and apparently stimulated many reform efforts around the nation.

The second development was the initiation of a major review of the Master Plan for Higher Education by the California Legislature. The Master Plan has been California's guiding framework for a quarter of a century. The legislative review is giving great emphasis to lower division education, the only function shared by all three segments of California's system of higher education. The members of the task force regard our own self-examination as in keeping with the purposes of the state's review, and hope that it will be helpful both to the Commission for the Review of the Master Plan for Higher Education and to the Legislature.

In a progress report submitted in February of this year, the task force concentrated on the national reports, reviewing them in the light of recent experiences on the campuses of the University. Each campus and several groups in the systemwide Academic Senate were asked to respond to the reports. By and large, their responses, while acknowledging much of value in those reports, did not share their gloominess. The main reason for this was that every campus of the University had undertaken recent and significant improvements in their undergraduate programs. Many of these improvements, moreover, were along lines called for by the three reports, and nearly all had been initiated before the appearance of the reports. At the same time, the campus responses voiced continuing concern over many aspects of undergraduate education, such as faculty–student relations, the role of temporary faculty and teaching assistants, and substantive inadequacies in areas such as multicultural education.

At the conclusion of its progress report, the task force determined that it would not be profitable to carry on deliberations at the very general level evident in the national

reports. Instead, we thought it best to frame our work in the context of the situation of the University of California itself, in the State of California, in the late twentieth century. In that connection we identified a number of contextual features within which we live:

- The University of California is in the State of California, receives its basic support from the people of California, and is committed to serve the people of California.

- The State of California is becoming increasingly heterogeneous in racial and ethnic composition as well as in cultural and political orientations; and the University of California is experiencing the same with respect to faculty and student composition.

- The University of California is in a *system* of higher education, with three public segments governed by the Master Plan.

- The University of California is a multicampus system, with different histories, cultures, community contexts, and graduate–undergraduate and professional–arts and science mixtures.

- The University of California has risen to a position of national and international leadership among universities.

- The University of California has among its missions a heavy involvement in research and graduate training.

- In modern times, knowledge has increased dramatically, and in the process has become more specialized and fragmented.

Everything we have to say about lower division education has to take one or more of these contextual features — or exigencies, if you will — into account, because every one of them affects lower division work of the University in some way. In some cases these exigencies appear to constitute assets for lower division education; in some cases they appear to constitute diversions from it. In either event they pull the University in different, sometimes conflicting directions, forever threatening to create imbalances; and our diagnoses and recommendations are made in relation to these points of tension.

The Mission of the Lower Division in the University of California

From the beginning the University has included a two-year lower division experience as part of its undergraduate education, meant to bring students into the collegiate world and

to preoccupy them from approximately age 18 to approximately age 20. Though the mix of missions for these years — and the precise salience of each — has changed continuously, the first two years have been asked over time to accomplish the following sorts of things:

- To develop further certain general skills (writing, language, mathematical, analytic) that are essential for mastery and meaningful discourse in the world of higher learning.

- To provide students with some exposure to a range of traditions of knowledge — that is, with some intellectual breadth — before more specialized studies begin.

- To contribute to the development of critical abilities and critical minds.

- To contribute to a liberal education: to expose students from diverse economic and cultural backgrounds to the great ideas, concepts, and events that have shaped our culture (often stated in terms of the Western heritage) as preparation for life-long discourse in the company of educated people.

- To contribute to the understanding of the fundamental ideas and concepts on which society is founded, as part of preparation for responsible citizenship; to increase students' tolerance for ambiguity and diversity.

- To provide a common educational experience which serves to define institutional and peer group identification and affiliation.

- To initiate that especially important phase of personal development and attainment of independence associated with the first two years away from the parental home.

In recent decades a new and especially important challenge has arisen; this has to do with the increasing racial, ethnic, and cultural heterogeneity of the population of the State of California, including our students and faculty. The challenge for education is: what are the most creative ways to come to terms with and reap advantages from this heterogeneity?

A moment's reflection on this mix of missions reveals that they are not exclusively in the domain of the lower division but are shared in important measure with those educational years that precede and follow it. It is also evident that these missions overlap with those of general education as a whole. So, while the task force will be as faithful as possible to adhering to lower division concerns in this report, much of what we say cannot be divorced either from concerns with the collegiate experience as a whole or from broader concerns with general education.

The Lower Division Experience

The Lower Division Years. The first thing to note about the lower division years is that they typically occur within a narrow band of the life-span of students — roughly between the ages of 17 or 18 and the early 20s.[1] These are years, moreover, that developmental psychologists and others would now describe as falling in that transition between adolescence and young adulthood. And at the risk of some oversimplification, it is possible to identify several issues that confront college-attending students in this age-range.

One main theme is coming to terms with the increase in independence, autonomy, choice, and greater freedom from authority that comes with moving from the parental home and taking greater responsibility for dealing with one's life. Within the context of this increased freedom, however, is a second, almost contrasting theme of the narrowing of life's choices through a process of progressive commitment. In contrast to the adolescent years, where the motif is one of experimentation, of trying on all sorts of clothes, the college years move students toward firmer commitments, of wearing the clothes for a time. There is pressure to think about where to go to college; pressure to decide on a major; pressure to think about one career rather than another; pressure to sort out one's political and moral attitudes; and pressure to form affective and sexual ties which may not yet imply full exclusiveness, fidelity, or permanence, but certainly imply a movement in those directions, in contrast to the adolescent pattern. And in each of these commitments, the issue of whether one will succeed or fail is always present.

These themes imply that the post-adolescent years will involve some turbulence, as students work out competitive relations with parents, siblings, and peers in this period of self-realization; as they work through their attitudes toward authority; as they deal with anxiety and guilt resulting from separation from past attachments and the establishment of new ones; as they struggle to sort out and solidify their own identity in a more inclusive context of cultural diversity; and as they deal with the combination of exhilaration associated with their new commitments and successes and with sadness over foregone opportunities that come with commitment. Above all these years imply a casting about for new ideas, new perspectives, new models to identify with, and new ways to order one's life plans.

It can be argued that an ideally conceived college or university ought to comprise, among other things, an arena which permits if not encourages the most creative possible resolution of the issues just identified. It might also be argued that many arrangements found in the collegiate years are actually geared to that end. The first years of college are typically a period of balance between requirements and choice, giving the student a mixture of constraint and freedom. It is a period that calls for commitment in terms of choice of specialization, preparation for specific kinds of further academic or professional training, or preparation for a specific career path after college, but at the same time leaves the freedom to make those choices in large part to the student. Moreover, the collegiate years provide

a multiplicity of voluntary communities—residential, extracurricular, athletic, academic, political, and life-style—in which students can find their most comfortable niches.

The structure of academic authority is also relevant from this point of view. In one respect faculty members are definite authorities. They render judgments about students' academic performance and potential that are virtually beyond appeal; and the faculty are the ultimate gate-keepers for students' academic certification. At the same time the faculty role has a benign aspect. Faculty members are removed from disciplining students for behavior outside academic performance; and it is generally expected that the faculty member will be interested in helping students to learn and to grow. (Two images still survive, though in somewhat eroded form: the image of the eccentric professor who is too abstractly removed even to notice students but is nonetheless a model of a person absorbed in the world of knowledge; and the image of Mr. Chips, who so loves the students that he cares only about the cultivation of their minds and their futures.) And faculty members often become powerful role models or mentors who profoundly shape choices that turn students in one direction or another for later life.

Curricular Experiences. In a way, then, the great challenge to the University in the lower division — and to a degree, in the total collegiate experience — is to make most fruitful the match between students' intellectual and personal development on the one hand and their collegiate experience on the other. This ideal has to be striven for, however, both in the context of the general intellectual missions of the lower division, sketched above, and in the context of the larger exigencies facing the University, also sketched above. In regarding the realities of the lower division experience, then — insofar as we could fathom them — the task force found an unclear picture with respect to realizing the lower division challenge. What do students typically experience during the first two years?

On the curricular side, there is sometimes not much room for maneuvering for many students in these years. From the very beginning students on all campuses must think in terms of planning their curriculum to take into account a variety of requirements:

- University requirements. All baccalaureate degrees must comprise a total number of quarter or semester units, and students must have some acquaintance with American history (either a high school course sequence or university course) and a minimum proficiency in English composition (the Subject A requirement).

- Breadth or general education requirements, which specify courses (which sometimes can be waived by passing an examination) in reading and composition, quantitative reasoning, foreign language, and a spread of work in the natural sciences, life sciences, social sciences, and humanities.

- Departmental major requirements. Many departments require students to take a set of classes emphasizing fundamental skills before beginning the departmental curriculum. Students wishing to major in engineering, environmental design, economics, physics, chemistry, and other science must take beginning calculus; a major in a language often must take courses in another language as well; theater arts departments often require a number of prerequisites; and growing numbers of departments have begun to require a computing background.

What kinds of courses do lower division students typically take? The task force found no systemwide evidence on this matter, so our initial response to that question is that we really do not know. However, we did obtain a profile of the kinds of courses lower division students on the Berkeley campus take. On that campus there are 600 lower division courses, which give a great deal of potential choice. But in practice students concentrate their lower division choices on a very limited set of courses. The 34 most widely-taken courses grant fully half of all student credit hours for freshmen and sophomores, while the 79 most popular courses grant fully three-quarters of student credit hours. The 79 courses fall in four general categories: (1) introductory mathematics and physical science courses; (2) reading and composition courses; (3) introductory language courses (French, Spanish, German, Italian); and (4) large survey courses in different disciplines (anthropology, biology, economics, philosophy, and psychology, for example). The last category comprises a diversity of substantive courses which introduce students to new areas of scholarship by giving an overview of the problems, methods, and findings of each major discipline. These survey courses are often taken to satisfy breadth requirements or to serve as samplers for prospective majors.

The most widely taken courses on all campuses have two general formats. The first is classes or sections of 20 or 30 students which engage in discussion, drill, and tutorial; these include mainly classes in reading and composition, foreign language, and physical education. The second is large lecture classes — ranging from 200 to 800 students — which are typically supplemented by small discussion groups or laboratories of 20 to 30 students each.

The fact that relatively few courses prove to be heavily populated should not disguise another problem of the lower division. A combination of limited resources supplied to departments and the unavailability of appropriate classroom space conspire to make many important classes unavailable to students when they want to take them. On most campuses many students each year are unable to take Subject A (a remedial basic writing skills course); and in the case of many breadth and prerequisite courses — courses like introductory English, economics, psychology, political science, biology, statistics, and computer science — literally hundreds of students are routinely denied classes needed to move toward upper division work. Each term is a scramble, with students struggling to get into courses they want or need. This widespread hit-and-miss effect makes it virtually impossible for many lower division students to work even a semblance of intellectual coherence into their academic program. In some under-provided courses, such as introductory

English, departments give priority to students who have not been able to take the course earlier — juniors and seniors — but this yields fewer places for freshmen and sophomores, many of whom must wait. This works toward defeating the main purpose of such courses — to develop basic skills and provide introductory surveys *early* in the collegiate years so that students benefit from these in subsequent, more advanced work.

We have mentioned the sparseness of reliable and systematic information on the problems of class size, patterns of courses taken, and course sequencing. We recommend that campuses collect and make available information of this sort, even though such aggregated statistics do not provide direct measures of the quality of instruction. The task force believes, however, that the problem runs deeper than the lack of information. The main reason for the lack is that traditionally universities pay relatively little attention to the lower division experience as an entity, and on our campuses there are few mechanisms in place for systematic review.

As a general rule, faculties make a point of reviewing many parts of their enterprise, under the guiding assumption that reviewing is a fundamental ingredient in quality control and improvement. Faculty members review one another endlessly; special committees external to graduate programs review these programs every several years; colleges and schools assess their undergraduate majors from time to time. The task force finds, however, no similar efforts made at either the systemwide or campus levels to assess the lower division experience as such. These years tend to fall between the departmental cracks, as it were. Yet campuses, colleges, and schools have or can readily create mechanisms such as periodically activated faculty review committees to carry out this function.

Such reviews could raise questions about balance and imbalance of curricular emphases in the lower division years; about who teaches there and how; what kinds of texts are used; about what kinds of examinations are given; how much and what kind of writing is assigned; what courses are demanded but not offered in sufficient numbers for freshmen and sophomores; what kind of supervision and evaluation of teaching assistants is done. The recent year-long effort of the major college divisions on the UCLA campus — sciences, social sciences, and humanities — to assess some of these kinds of questions for review at a May 1986 retreat is an exemplary step, and might serve as a starting point for more general, periodic reviews. In any event the task force recommends this kind of regular surveillance and review, which would serve as an important part of the effort to make the experiences of the Universiity of California's lower division more orderly, and would constitute a needed element in the general effort to maintain and improve those educational years.

We now move to some more focused diagnoses and recommendations. We proceed in an order of ascending generality. First, we will ask about the present state of intellectual resources available for the lower division — who teaches and how? Second, we put forward

a recommendation for the lower division years — the idea of the freshman-sophomore seminars — to which we attach major importance. Third, we turn to the relations between general education in the lower division years and general education throughout the collegiate experience. In this connection we will take up two timely topics: (a) the problem of curricular transfer between the other segments of California's higher education system and the University; and (b) the problem of reciprocity *among* the campuses of the University with respect to general education and other requirements. Fourth, we identify two major contextual changes affecting California — we call these increasing internationalization and increasing diversification — and make several recommendations about the best educational responses to these changes. And finally, we raise a most important issue: intellectual balance in the undergraduate years, including the lower division. This will be a very general discussion, intended to set a long-term agenda for reform rather than generate specific, short-term recommendations.

Who Teaches and How?

General Background. The people of California, through their elected representatives, have made the historical choice to provide a University that is mandated:

(a) to provide a baccalaurate education for relatively *large numbers* of young people in the state; this commitment, while involving selection of students on the basis of academic performance or credentials, nevertheless contrasts with the educational philosophy of smaller, extremely selective private institutions (e.g., Oxford, Harvard, Swarthmore);

(b) to provide for the *highest quality* undergraduate education for its students, or, in the words of the Master Plan, to "strive for excellence";

(c) to provide this education at a *reasonable cost*, a cost which the people of California and the students who benefit from it can be expected to bear;

(d) to combine this undergraduate education with *additional responsibilties* for graduate education, professional training, and research, and to strive for excellence in these areas as well.

If all these requirements are honored, then the University faces a series of constraints that determine, in large part, simultaneously what it cannot do and what it must do. Given the commitment to numbers, the University simply cannot afford the more favorable student-faculty ratios found in the selective private institutions. In fact, the ratio of students to faculty is now funded at 17.61:1 in the University of California. This contrasts, for example, with Stanford's student faculty-ratio of 13.24:1. (If our ratio were brought down to Stanford's, this would mean an additional 2,372 new FTE faculty positions at

a cost of $170 million annually [2] to the State of California, not including new offices, laboratories, and other facilities.) These ratios tell us, among other things, that given comparable teaching responsibilities, the size of classes at the University must be larger, on the average, than at institutions like Stanford.

Another feature of the University of California's situation is that if it is to strive for excellence in undergraduate and graduate education and professional training and research on the part of its faculty, then to secure such a faculty involves high costs because in the competitive market of American higher education dozens if not scores of other institutions strive for the same excellence, and will make the best possible bids for talent. This problem is intensified in our state because of high housing costs. This fact of the market — that faculties are expensive if they are to be excellent — also contributes to the difficulty of lowering the University's student-faculty ratio.

Types of Instructional Staff. In part but not entirely because of these exigencies, the University of California has evolved a rather complex, three-tiered teaching system. The first is the Academic Senate itself, which bears final responsibility for instruction at the graduate, upper division, and lower division levels, as well as the instruction that takes place in conducting and supervising research. In addition, two special classes of teaching personnel ancillary to the Senate faculty have evolved: non-Senate instructional staff (also called temporary faculty); and teaching assistants, who are graduate students who serve as supplementary teachers in courses offered by faculty.

In assessing the roles of these several types of instructors, the task force found itself repeatedly hobbled by the absence of good information. We found, for example, that few campuses maintain any centralized data on the percentages of courses taught and student credit units offered as between Senate and non-Senate faculty. Where such data exist, moreover, they are seldom comparable with data — where they exist — on other campuses. The information on the responsibilities of teaching assistants is also incomplete and unsystematic. For this reason, the task force believes that information of the following sorts should be periodically and systematically compiled: the respective roles of ladder and temporary faculty, the status of teaching assistant training and evaluation, and class size by campus as between upper division and lower division. Such information will be helpful; but as we argue below, as such it may not yield direct evidence about the quality of teaching at the lower division and elsewhere.

Despite the deficiencies in data, we can make a few general points about who teaches and why in the University of California. First, who teaches lower division students? The responsibility for lower division education, as with all of undergraduate education, rests with the permanent faculty of the University. However, in any given year, the faculty of the University is composed of approximately 34 percent temporary faculty, some of whom play a role in the lower division curriculum. Contrary to popular belief, however, the largest

proportion of our temporary faculty are employed to teach upper division and graduate courses.

Why do we use temporary faculty? First, campuses are required by Office of the President policy to reserve 10 percent of their total number of available faculty to ensure flexibility to meet new program demands and shifts in enrollments. Campuses actually reserve more, nearer to 15 percent. We need temporary faculty to meet these new program demands and enrollment shifts. Second, we need temporary faculty to replace faculty on leave (i.e., sabbaticals or other academically-related leaves) and to fill temporary positions during periods of recruitment for permanent faculty. Approximately 40 percent of our temporary faculty are hired for these two purposes. Third, temporary faculty are hired to teach in those areas of instruction which do not require research expertise (i.e., elementary English composition and elementary foreign language). Fifteen percent of our temporary faculty are employed to teach these kinds of courses. In addition, some 3 percent of the temporary faculty teach remedial courses. It is in these areas of elementary and remedial coursework that lower division students are most likely to be taught by temporary faculty. Fourth, temporary faculty are employed because they have expertise in particular fields; for example, practicing engineers and architects or a violinist from a symphony orchestra. These specialists make up some 26 percent of our pool of temporary faculty. Finally, some 7 percent of the temporary faculty are employed on campuses with no available FTE and the remaining 19 percent are employed for reasons connected with instructional needs that could not be met by ladder faculty.

What role do temporary faculty play in the lower division curriculum? Those temporary faculty who teach lower division students are largely found in a particular subset of courses including elementary courses in reading and composition, foreign language, and elementary math.

In addition to temporary faculty, graduate students employed as teaching assistants play an important role in the lower division curriculum. There are two reasons for employing graduate students as teaching assistants. The first is to provide undergraduates — lower division students in particular — with the small classroom experience as a supplement to the large lecture experience, which is the primary learning environment for most lower division students. The second reason is that the experience of serving as a teaching assistant provides important training for the graduate student who is moving toward a college teaching career.

What do graduate students contribute as teaching assistants? For the most part, they teach discussion and recitation sections in lecture courses. In addition, graduate students teach some of the elementary courses such as reading and composition, compensatory math, and foreign language. In all cases teaching assistants serve under the supervision of a faculty member. The faculty member has ultimate responsibility for the course; the graduate student may provide some or all of the instruction.

The task force is mindful that shifts in the allocation of resources at the lower division are not trivial. The teaching of English composition provides an example. Thirty years ago, baccaulaureate education usually included a full year of instruction in composition. In the 1960s composition requirements were generally reduced to a single semester or quarter, and various ways to pass the composition requirement without enrollment were permitted. A calculation for one campus shows that reinstitution of a full-year, mandatory composition course would require approximately 60 full-time equivalent faculty members at a cost of from $1.5 to $1.8 million annually, depending on the level of instructors assigned. Since elementary instruction in composition is not typically assigned to ladder faculty members, the resource base is the non-ladder faculty budget in the college responsible for most lower division instruction in composition. The college has approximately $2.25 million available for non-ladder instruction, of which $180,000 is now committed to instruction in elementary composition. To meet the costs of a year's mandatory instruction would require almost three-fourths of the total budget, leaving very little for instruction in elementary calculus, foreign languages, and other subjects. The moral of this calculation is that even marginal changes at the lower division are likely to have a strong impact on the current distribution of instructional resources.

By and large, the task force finds the general reasons for the mix of Academic Senate faculty, non-Senate faculty, and teaching assistants to be both legitimate and necessary. So the main question is not whether the University makes use of ancillary teaching personnel; that question would appear to be beyond debate, given the legitimate research functions of the faculty, given the general budgetary limitations on the University, and given the unreality of the idea that enough additional resources might be available so that all teaching could be done by regular faculty.

The Evaluation of Quality in Teaching. The main question, rather, is *how* the University makes use of ancillary personnel. This question deals not so much with the overall numbers or assignments of the three classes of instructors but with their impact on the quality of education in the University. On this question we have virtually no systematic evidence. On the impressionistic side we can report a din of voices reporting anecdotal evidence of the most contradictory sort: that temporary faculty are ill-trained and cannot teach effectively; that they are more committed than regular faculty and teach more effectively; that the best teaching assistants are better teachers than most faculty; that teaching assistants are ill-prepared in their subject matter and often cannot communicate in English; that the faculty controls teaching but the others really teach; and so on. In reacting to these assertions, the task force experienced a feeling of frustration and helplessness. Even if we regarded every such report as true — or even if every one were true in some unknown measure — we still would not have satisfactory evidence on the issue of quality.

The quality of teaching is difficult to measure. We typically use several measures, all of them indirect or in other ways unsatisfactory. The most common measure is student opinion, reflecting their assessment of the teacher's effectiveness and their level of satisfaction

with the teacher and the course. This measure is limited, however, because "satisfaction" may reflect experience of educational growth, pleasure at a good grade, appreciation of a difficult course, appreciation of an easy course, or entertainment — perhaps some mix of all of these. Students' evaluations differ, too, according to whether they are in college, have just graduated, or have been alumni for a number of years. Faculty evaluations of their own and others' teaching are subject to similar ambiguities. There are also various "output" measures, such as retention rates, graduation rates, and subsequent career success rates. These are also imperfect. For an institution not to retain or graduate some students sometimes means that these students have moved on, perhaps, to another institution; and for students who are retained, graduate, or succeed later, it cannot be known how much precollege experiences, collegiate experiences, and general personal maturation during the college years, respectively, figure in these outcomes. We have, finally, various measures of "quality" of a faculty — polls among other faculty, research grants generated by faculty, etc. — but these usually reflect quality of research rather than teaching.

The task force's conclusion on this count is that any effort to measure educational quality must rest on multiple measures, including repeated — perhaps yearly — self-assessments of students as to their general status and progress in the educational institution, above and beyond their reactions to particular courses and particular administrative situations. Beyond this general point, however, we can venture a few observations about the use, review, and evaluation of quality of Senate faculty, non-Senate faculty, and teaching assistants.

With respect to Senate faculty teaching at the lower division, we believe that campuses will make the greatest gains by assigning their very strongest teachers to large introductory courses. With respect to teaching effectiveness any campus will have a diversity of talents. Some faculty are brilliant, inspiring, intellectual leaders; some are able but not exceptional; and some seem to find their greatest strengths elsewhere in research and administration. The job for department chairs, deans, and colleges is to identify the very best teachers and entice or direct them into teaching the large introductory courses on as regular a basis as possible. It is not difficult to identify the most effective teachers; most departments and schools can do this on the basis of student evaluations and on accumulated reputations. Special consideration for undertaking these lower division assignments should be made in calculating faculty members' other teaching obligations as well as their general departmental responsibilities, giving recognition to the fact that the effective teaching of large introductory courses — including the effective incorporation of teaching assistants in them — is an especially demanding experience.

We also believe that the evaluation of faculty performance can be better than it is. As indicated, most measures now rest on periodically administered end-of-course questionnaires at the undergraduate level, as well as the testimony of some graduate students. While efforts to improve this kind of evidence should continue, the task force envisions some additional means of evaluation.

Legend has it that in an earlier age in Harvard's history department, no faculty member could be promoted to tenure until every one of his colleagues had attended at least one of his lectures. It was not a specific lecture, moreover, but one which the colleagues attended at liberty. Colleagues were also asked to report to the chairman on the quality of the teacher they observed, and this subject became a matter for collective discussion at the decisive faculty meeting. The task force suspects that this kind of arrangement, in full dress, may not be the exact idea for our time, but some variant would have much to recommend it. For one thing, it would provide evaluative information on teaching that is now virtually lacking; for another, the process would operate as a very powerful form of quality control, encouraging as it would both preparation and organization of course materials; and, not least, it would mean repeated dialogues among colleagues not only about particular teachers but about the ethic and art of teaching, thus helping to bring that subject more self-consciously into the academic culture than it now is.

There is no reason, furthermore, why the criteria of teaching effectiveness should not be raised explicitly in the periodic *external* reviews of departments' introductory and upper division offerings. The question of program effectiveness of the major is frequently brought up in such reviews, but it is usually addressed by looking at prerequisites called for, course sequences, and course coverage. The question of how and how well the faculty teaches this curriculum is not often asked, but the task force sees no good reason why it should not be always asked.

With respect to non-Senate faculty, we found that, while practices vary widely, the evaluation and review of temporary faculty is, by and large, very casual when compared with that of Senate faculty members. The decision to hire is often solely that of a departmental chair, with no consultation with colleagues; the supporting materials submitted are often scant; the reviews by deans and personnel committees are often perfunctory; and once in place, the temporary appointee often teaches the course or courses without significant interaction with other faculty.

The task force recommends that the review and evaluation of non-Senate faculty be strengthened. We do not have a certain blueprint, but recommend the following kinds of measures:

- Campus committees on academic personnel — or perhaps some subcommittee — should formulate more systematic guidelines for appointment of temporary faculty than now exist; these guidelines would include specifications of materials to be submitted by department chairs as evidence of teaching effectiveness.

- Campus committees on academic personnel — or again, perhaps some subcommittee — should themselves develop more thorough and systematic procedures for evaluating temporary personnel.

- At the termination of appointments of one year or less, department chairs should submit to their deans a report evaluating the teaching effectiveness of the temporary appointee. For those holding longer term appointments, periodic evaluations should be submitted, and these should be reviewed by deans and personnel committees before reappointment and/or advancement.

Such measures, we believe, would not only yield better evidence of the quality of teaching of temporary personnel, but would provide a mechanism to enhance that quality through more selective recruitment and review.

The task force also notes that the situation of teaching assistants often falls short of fulfilling the official descriptions of their roles. Recent surveys on the Berkeley and Davis campuses have revealed that teaching assistants become fully responsible for teaching as much as 30 percent of lower division courses, mainly in elementary writing and introductory language instruction.[3] The somewhat stark figure raises questions about the selection, training, supervision, and evaluation of teaching assistants.

With respect to selection, the most relevant criteria are that the teaching assistant has adequate command of the subject matter, potential or demonstrated teaching ability, and command of both spoken and written English. Again, while practices vary widely among and within campuses, the surveys show that recruitment and allocation procedures do not assure that these criteria are applied systematically. A primary concern involves those instructors for whom English is a second language. In a 1979 study conducted by the Associated Students Office of Academic Affairs, on the Davis campus, 32.6 percent of the undergraduates surveyed agreed that their "TA's lack of fluency in English adversely affected their performance in section."[4] It has been claimed that language problems of teaching assistants constitute the most frequent single complaint among undergraduate students.[5] In many cases the problem of dialect or accent is more nearly at the core of the problem than the teaching assistant's knowledge of the English language itself. The task force recognizes the seriousness of this problem and recommends that graduate divisions on all campuses require, as a precondition for appointment to a teaching assistantship, that all students pass the oral TOEFL examination over and above the written TOEFL examination required for admission. In some cases this may require that graduate students enroll in one or more courses in English as a Second Language before their classroom teaching begins.

Most University of California campuses conduct campuswide orientation programs for teaching assistants. These programs offer general information on topics such as the roles and responsibilities of a teaching assistant, policies and procedures for employment, campus teaching/learning resources, addressing the needs of special-care students, and conducting the first class meeting. Such programs last from two hours to two days, and usually are given before classes begin. In addition, department-specific TA programs provide detailed information to TA's about specific courses and about pedagogy. Some of these programs

attempt to cover specific teaching skills such as lecturing, leading class discussions, conducting lab sessions, designing examinations, grading, selecting textbooks, and organizing course content.

Information concerning the extent and effectiveness of such programs, however, it not uniformly available because they are sometimes decentralized. The task force is aware that for a number of years resources have been made available for training teaching assistants, and graduate divisions and other units have functioned continuously and well in administering these programs. One problem with such programs, however, is that departmental participation in these programs is usually voluntary, and some departments take no advantage of them and may even develop training programs of their own. In other cases such programs are brief and superficial, and lack any follow-up. The task force recommends that graduate divisions and departments take an inventory of graduate teaching assistant training programs, and make efforts to institute effective training programs for all graduate students who are appointed to those positions. Campuses should review the degree and quality of departmental TA training on a regular basis. Where structures exist for this purpose, they should be supported, and where they do not, they should be developed.

Supervision and evaluation of teaching assistants are also areas of concern. The surveys show that a significant proportion of teaching assistants are not supervised at all; in other cases the supervision is only perfunctory. The most common form of evaluation is the standard written, end-of-course student survey, which is a useful but incomplete method. Some departments conduct *in situ* evaluations of teaching assistants; others encourage appraisal through videotape playback, possibly with supervisor consultation. Like supervision, evaluation is also often casual and unsystematic, despite some notable exceptions. In light of this situation, the task force recommends that all faculty who teach courses in which teaching assistants are employed be required to submit a report to the departmental chair at the end of the course evaluating each teaching assistant, indicating the evidence used in this evaluation, and describing how the teaching assistants were supervised. These reports should become a regular part of the faculty member's teaching record.

The task force's most general conclusions with respect to both temporary faculty and teaching assistants, then, are that they are a necessary part of the educational system at the University of California for the foreseeable future; that they both constitute bases for augmenting the quality of education; and they ought to be raised from their present status of relative neglect or casualness, given more systematic review and quality control, and thereby integrated better into the University's educational enterprise.

The Idea of the Freshman-Sophomore Seminar

Background. One of the recurring apprehensions voiced by those concerned with undergraduate education — particularly at the lower division — is that students are brought together in very large classes, and that these do not constitute a very satisfactory setting for learning. The reasons frequently given for this are that students are forced into a passive mode of learning, have only remote one-way contact with the faculty member who lectures, have little opportunity to sharpen verbal and writing skills, and that many students become cynical and alienated in these situations. The task force wishes to make a number of observations on this issue. The first is that the arithmetic of existing student-faculty ratios in a university like the University of California literally dictates that many classes be large, so they are an inevitable part of the educational scene unless we envision a massive increase in resources. Even institutions with richer student-faculty ratios — Harvard, Stanford, and Yale, for example — have very large lecture courses in which teaching assistants or teaching fellows are employed. The task force does not accept it as a truism, moreover, that large lecture classes are necessarily dull, passive experiences without educational merit. All of us, in reviewing our own college years, can recall really inspiring teachers whose force of reasoning, mental acuity, or personal charisma created moving, enduring educational experiences for us, even in large lecture settings. In addition, the proper use of teaching assistants — by proper we mean well-chosen, well-trained, and well-coordinated with the lecturer — can add a dimension of intimacy and give-and-take in small discussion sections.

At the same time the task force is aware that if a freshman or sophomore student is enrolled in virtually nothing other than large lecture courses that are not particularly related to one another, this is not conducive to integrating the student into the intellectual life of the campus. One of the core recommendations we make in this connection is that campuses generalize the idea of the freshman-sophomore seminar and strive to assure that at least half of the incoming freshman class is exposed to such an experience.

The Seminar and Its Advantages. The idea of the freshman-sophomore seminar is not new. The Santa Barbara campus initiated a modest program of such seminars in 1974, and a few survive as parts of honors programs. They have been regular parts of the Berkeley curriculum for several years, even though they are limited in number (only about 15 percent of the freshman class can take a seminar and sophomores are virtually excluded.) On the Los Angeles campus in addition to the Honors Program, about 30 seminars are offered each year by faculty from the 11 professional schools, and freshmen and sophomores are especially recruited for them. A handful of departmentally-sponsored freshman seminars are also offered. In all, about 45 seminars are now available and efforts are being made to double that number in the next few years. The Santa Cruz core interdisciplinary program, the lower division honors program on the San Diego campus, and the honors seminar in the humanities program on the Irvine campus are other examples of small-classroom experiences for lower division students. Our recommendation is that these kinds of courses be made more widely available on more campuses.

The kind of course we have in mind involves a small (about 15) class taught by a ladder faculty member, in which the focus is on a central issue in the faculty member's area of research or more general scholarly commitments. Taken together these courses would cover a diverse set of disciplines and subjects. The task force believes such courses have special value in the lower division of the University of California. Among their advantages are the following:

- They provide an opportunity for close, intense intellectual exchange between faculty and students. Reports from faculty who have taught them suggest that their value is as great for faculty as it is for students. Offering these courses revitalizes and dramatically reintroduces many faculty to the intellectual and personal joy of teaching enthusiastic, articulate, and thoughtful young men and women. The gain for the student in these seminars comes from regular and active association, intellectual and personal, with a scholar, and sharing in the in-depth investigation and appreciation of what for both scholar and student is an intriguing subject matter.

- They provide an opportunity for similar interchange among students which is difficult to attain in the large lecture setting and with dispersed residential arrangements. We regard the seminar as an especially valuable setting for students with very diverse economic, ethnic, racial, religious, and educational backgrounds to mix it up with one another in common intellectual pursuits in their early undergraduate years. The seminar is also a good setting for the formation of enduring friendships.

- Small seminars, usually requiring significant writing assignments and weekly discussions of core readings, can do far more than large lecture courses to sharpen the writing, verbal, and critical reasoning skills of students. If this happens early in the undergraduate's career, the enhanced basic skills can bring benefits in many other courses and academic settings.

- Small seminars are an effective way of orienting first-year students to what is often a foreign and competitive setting on a university campus. Before settling into the college years many students experience a great deal of anxiety about where they will ultimately swim in the big pond, and the opportunity for participating actively in an intimate education experience is a fruitful way of channeling these feelings and integrating the students into meaningful groups. The factors that affect student retention in the lower division are numerous and not fully understood, but this kind of academic experience would certainly be a positive factor.

- Small seminars provide a setting in which the most effective kind of faculty advising can take place. The task force is cognizant that, particularly in the lower division, much of the detailed advising on courses, requirements, etc., is best left to a cadre of professional advisors responsible for student services. The kind of advice and support that faculty could provide in these small seminar settings concerns the students' struggles with

their larger commitments — their choice of a major, preparation for a career, and so on. Ideally, faculty members who teach a small cadre of students in their freshman and sophomore year could serve as informal advisors to students, through their collegiate years.

- The small seminar also serves as a vehicle for the faculty member to link his or her research with teaching. We see great value in having some of the seminars flowing directly from faculty members' research; even relatively specialized research topics can be brought alive if they are pursued in the context of the larger intellectual issues the research raises.

- The kind of give-and-take in the seminar settings has value for what is described as the development of students' citizenship values. The dominant theme of these seminars is cooperative exploration of ideas, with the accompanying development of respect for the ideas of others.

These advantages offer a strong rationale for giving high priority to seminars in the lower division. In recommending their expansion, the task force is mindful that this would not be without cost. To accommodate half of an entering freshman class of 3,000 would require 100 seminars. The task force envisions some relatively low-cost means that can contribute towards the total resources required to expand these offerings. Large departments with many courses might seek to give some of the less popular regular courses somewhat less often, thus freeing faculty for seminars. Also, intelligent and productive employment of emeriti — for those campuses that have significant numbers of them — can be envisioned. Those emeriti who are still active and engaged, and who would be willing to return to one freshman-sophomore seminar per year, could bring their decades of experience into the lower division classroom. Honoraria should be given to participating emeriti. (It should be noted that the certainty of mounting rates of faculty retirement in the 1990s makes the idea of emeriti participation even more feasible.) Ultimately, however, because of the very small size of these classes, offering them on the scale envisioned does raise the question of new faculty resources to support them. Our expectation is that if programs of this sort begin to develop successfully, administrators and legislatures will target them as meriting high priority in making funds available for new programs.

We have developed our thoughts on the freshman-sophomore seminar at some length because such a mechanism appears to have many links with potentially positive features of the lower division experience. At the same time, we do not want to put the idea forth mindlessly or as some sort of monolith. We realize that it is very difficult at present for some campuses — especially those feeling the crunch of recent rapid increases in enrollment — to free any resources to initiate a seminar program. We also realize that there are other, complementary course arrangements that might work toward the same end. One idea to be considered is for campuses to develop one or more interdisciplinary freshman courses which would be large, to be sure, but, if staffed by a number of excellent faculty and a

larger than normal cadre of selected teaching assistants, would provide a kind of shared civic and intellectual experience for freshmen and serve as a focus for their interest and indentification. The most extreme version of this are the Western Civilization courses once required for all students on the Columbia and Stanford campuses; we recommend neither that special content nor the feature of requiring such a course of every student — both seem to be out of touch with present times — but point to it as one model. Another model is the former "Social Sciences 2" course in the Harvard postwar general education program, which, while not required, was taken by large numbers, proved intellectually inspiring, and generated a kind of "Soc Sci 2" subculture for many Harvard undergraduates. Still another model would be for campuses to devise one general, interdisciplinary course for the physical sciences, life sciences, social sciences, and humanities, and make that course a prerequisite for majoring in *any* department in each of those areas.

The alternatives we have brought forward have in common the objective of adding an increment of intellectual intensity, involvement in, and integration into the lower division years while at the same time attempting to stay within the bounds of reality with respect to resources required.

The University, the Other Sectors, and General Education

The Background and the Problems. The inclusion of the lower division on the University of California's general campuses has always enjoyed a general legitimacy. On only a few occasions in its history have educators and others argued that the lower division should *not* be a part of the University. The subject was raised in 1959 by the Master Plan Survey Team (the group charged with writing the Master Plan). The Team advanced no reasons for eliminating the lower division and gave three reasons for continuing it: (a) as a scholarly institution the University has a long tradition of taking students from the freshman level through graduate work; (b) the University cannot build academic majors without lower division offerings; and (c) doctoral students require teaching internships, and lower division teaching is a proper setting for these.

In 1967, the Coordinating Council for Higher Education (the forerunner of the California Postsecondary Education Commission) prepared a report on the subject, responding to a Senate concurrent resolution asking for a study of the "desirability and feasibility of eliminating lower division programs at selected campuses of the University of California and the California State Colleges." This report concluded that the elimination of lower division programs *was* feasible, arguing that instruction in the lower division was comparable in "comprehension and quality" in the community colleges, that transfer to the upper division from community colleges was easily facilitated, and that the cost of lower division education is less in community colleges than in the other segments. The Council also saw this elimination as a way of augmenting graduate instruction and research on University campuses, and foresaw a "new and dynamic" type of university that would offer primarily upper division and graduate instruction. The Council called upon the University and the California State Colleges to consider such a model in their planning.

In responding, both segments strongly opposed eliminating the lower division. The University in particular argued that all campuses should be general campuses offering programs at all collegiate levels (while at the same time ensuring transfer). It argued further that lower division students derive benefit from their association with advanced students and with faculty members teaching at advanced levels. In the end the Council adopted the report but recommended no concrete action, and the issue of elimination received no further serious consideration at that time or subsequently.

While acknowledging this historical stability, we call attention to a special peculiarity of California's system of higher education: it provides for the possibility that many students who receive a collegiate education will experience the lower division years in an institution different from the one from which they experience the upper division years and graduate. We refer of course to the provision of the transfer function — transfer of qualified community college graduates to the other two segments, and transfers between the California State University System and the University of California. This is a key feature of the Master Plan for Higher Education that not only preserves a distinct differentiation of functions among the segments and provides for ascending levels of selectivity in admissions policy among them but also provides an opportunity to move on for those who, for whatever reasons, entered and successfully completed their work in a community college or state university.

In recent years, however, the flow of transfers to the University of California appears to have shrunk considerably. From a record high of 8,193 community college transfers in 1973, the figure dropped to 5,428 in 1980 and to 4,931 in 1985. This phenomenon has caused wide concern among educational and political leaders and has led some to question the viability of the functioning of the Master Plan. The issue of transfer has been high on the agenda of the Commission for the Review of the Master Plan for Higher Education.

Unravelling the causes of this decline is much more difficult than noticing it. Certainly one factor has been the national trend toward the proliferation of vocational programs in the community colleges, with the consequence that the increasing numbers of students who enter those programs do not elect the kinds of academic courses that would qualify them to transfer. Among other factors that might be responsible, the Commission for the Review of the Master Plan noted the following: "decreased numbers of high school graduates; increased drop-out rates for ethnic minorities; student underpreparation for college-level work; inadequate student financial aid; and the increasing proportion of UC- and CSU-eligible students entering those segments as freshmen."[6]

Whatever the exact mix of factors, some attention has focused on what are perceived as curricular and administrative obstacles to transfer on the part of the University of California. Among these are the uncertainty of what courses taken at the community college level will qualify as general education, prerequisite, or major courses; inadequacy of dissemination of that kind of information when it exists; and imposition of additional lower division requirements on transfer students after they arrive at the University. The task force is uncertain as to the salience of these problems among all other factors affecting

transfer, but we certainly encourage steps on the University's part to facilitate the transfer of qualified students.

Suggested Reforms. In connection with that facilitation, three types of arrangements have been initiated or are recommended:

(1) The California Articulation Numbering System (CAN), which is composed of written agreements between two or more institutions to accept a completed course on a sending campus to meet a specific course requirement on a receiving campus. An example would be an agreement approved by appropriate faculty members at the Santa Barbara campus to accept Santa Barbara City College's freshman calculus course in lieu of taking freshman calculus. Such agreements, if made on a wide scale and adequately publicized, increase the potential transfer student's ability to plan his or her curriculum and to be assured that fewer curricular surprises and disappointments would be waiting after he or she enters the University.

(2) As a more ambitious project, the Commission for the Review of the Master Plan has proposed that the governing boards of the three segments, in consultation with faculty, develop a general education transfer core curriculum which, with the courses required for specific majors, would insure "transfer to the University of California or the California State University systems upon successful completion of the appropriate courses and maintenance of the requisite grade point average."[7] The anticipated advantages of such a curriculum would be much the same as those of the CAN system — to publicize the uniform conditions for transfer throughout the segments and in the secondary school system, thereby facilitating preparation for and making the transfer process easier and more certain.

(3) With respect to the University itself, it has been suggested that the various campuses honor one another's general education requirements. The most extreme version of this idea would be to assume that any given campus's general education requirements have been met if a student transferring from any other campus of the University has met them there. The advantage of this arrangement would be to facilitate the modest level of transfer from one University campus to another and to assure that a community college or CSU student who (a) has met the general education requirements of the targeted University campus, (b) fails to be admitted to that campus but, (c) is admitted to another University campus, will not have additional course requirements imposed.

Evaluation of the Reforms. The task force finds merit and promise in all three of these measures but is skeptical about the wholesale adoption of any of them. With respect to the CAN system, the Academic Council of the Systemwide Academic Senate passed a resolution in December 1985, urging "the Office of the President to take such actions as are needed appropriate to expand the articulation efforts of the University of California"; it also foresaw continuing faculty involvement in this process. In an accompanying report, however, the Council wondered how important the factor of students' confusion over the

transferability of courses actually is in the transfer process; noted the complexity of the process because of the diversity of breadth requirements and nonuniformity of requirements for majors between and within campuses; and pointed out the substantial cost and increased workload on faculty and staff entailed by the process. We might add that in order to be effective, articulation contracts cannot be simply one-time-and-forever agreements but must be periodically reviewed as campuses in all three segments revise their courses continuously.

For these reasons the task force believes that the most productive (and cost-effective) attack on the articulation process is at the regional level and that it would be wasteful to attempt to secure all-inclusive articulation agreements. Most transfers occur within distinct regions, and the main "feeder" institutions can be identified easily; only a trickle of students will be found transferring from, say, Columbia Community College, to, say, the Riverside campus. Insofar as these regional articulation systems can be consolidated and expanded, they will have at least two distinct advantages: to reduce confusion, disappointment, and course repetition, and thereby indeed facilitate transfer; and to afford a University campus input to the quality of community college instruction as courses are reviewed prior to executing or renewing articulation contracts. The task force also recognizes the importance of the systematic dissemination of articulation agreements to the campuses of the other segments and ultimately to the potential transfer students, and for that reason it encourages the University's efforts to improve communication through programs such as ASSIST, the Articulation System Stimulating Interinstitutional Student Transfer.

The idea of a single common core curriculum is more complex. Responding to that idea in January 1986, the Academic Council concluded that the idea of "identifying lower divisional general education curricula that would be acceptable to four-year segments of higher education" is "a straightforward idea that deserves serious attention." But it also warned against attempting to attain too great uniformity across the board.

The task force recognizes that there are several versions of an idea of a common core curriculum and that some are more acceptable and/or promising than others. The strongest version seems to be that implied by the language of the Commission to Review the Master Plan, which calls for a uniform package containing general education courses as well as courses required for specific majors that would be universally transferrable. Such a proposal raises several practical objections and one major objection in principle. It seems a fantasy to believe that such an inclusive common core could be found acceptable by all the departments and faculties of all eight participating University campuses, all 19 state university campuses, and all 121 community college campuses. Even if that prospect could be envisioned, it would call for an endless, gargantuan, and conflict-ridden effort on the part of faculties to reach that end. More important in our minds, however, is that the effort would work toward an intellectual standardization and rigidity that is out of keeping with the mission of institutions of higher education, which includes the imperative to maximize responsiveness, change, and innovation in the creation and transmission of knowledge.

We do see value, however, in a more modest version of the idea. Instead of being as comprehensive as that of the Commission to Review the Master Plan, a uniform set of UC transfer requirements could be more like a "core of a core," that is, a limited and more easily agreed-upon list. For example, a uniform set of transfer requirements could have as its primary objectives the development of the students' (a) understanding of the principal branches of knowledge, (b) general academic skills, and (c) preparation for upper division study. An illustrative set of transfer general education requirements might involve the following one-year sequences:

- English composition
- Mathematics
- Humanities
- Social science
- Natural science
- Foreign language.

Students who complete this set of courses at a specific level of performance would be considered to have satisfied fully the principal lower division general education requirements of a University of California school or college. At the same time individual University campuses would maintain the freedom to require additional special courses (e.g., Western Civilization, Contemporary Social Issues, Computer Literacy, etc.) that they regard as especially important. In addition, transfer students would still be held responsible for any lower division major requirements not completed in the community college. Both the additional special lower division courses and the lower division major requirements might, however, be a matter of course articulation agreements.

The advantages of this example — and the task force presents it as only an example — is that the requirements are general, straightforward, and easy to understand. They are not dependent on detailed and extensive articulation agreements. They do not restrict the flexibility or creativity of the community colleges to develop additional kinds of courses for their students who plan to transfer to the University. They do not imply a complete uniformity of lower division requirements on the part of individual University campuses. And in terms of breadth of disciplinary study, the illustration compares favorably with lower division general education requirements of most University schools and colleges.

With respect to reciprocity arrangements among campuses, the task force believes that these also merit development. In April of 1986, the Chair of the Academic Council ex-

pressed its collective sentiment when she wrote to the heads of all divisions of the Senate, asking them to explore the idea in their Committees on Educational Policy and elsewhere. On June 16th, the Academic Council passed a resolution calling for representatives of campus Committees on Educational Policy and others with expertise to convene to seek common ground for reciprocity among UC campuses with respect to general breadth requirements. In this area of reciprocity the task force underscores again the notion of a "core of a core" that would constitute the basis for campuses simultaneously honoring one another's general educational requirements, and safeguarding the traditions of diversity and uniqueness in missions and perspectives of each campus.

General Education Through the Four Collegiate Years. One of the complaints voiced in the national reports was that a very high proportion of courses that constitute "general education" (writing, composition, language, breadth requirements, interdisciplinary courses) are concentrated in the first two years of college. The task force shares this concern; furthermore, the prospects for developing some kind of common core curriculum and of instituting reciprocity arrangements among campuses with respect to lower division general education simultaneously raise the issue of general education in the upper division years.

Traditionally, much curricular planning and emphasis appears to have rested on a kind of implicit two-stage model of educational development, the stages corresponding roughly with the lower division and the upper division. The first stage, assuming a relatively fresh, uneducated, and uncommitted student, works on these qualities by imparting new information, assuring a breadth of exposure to many branches of knowledge and learning, and "liberalizing" the student by plumbing new depths of meaning and significance of knowledge heretofore unappreciated. The second stage narrows commitment (to a "major," usually), where the premium is more on mastering an analytic mode: learning the peculiarities of one kind of disciplined thought system or another, and coming to use it to solve certain problems and generate insights and explanations. Curricular application of this model yields the concentration of the "general" and the "liberal" at the lower division.

The task force appreciates this model but finds it on the brittle side; good education would seem to entail a simultaneous mix among all the elements — acquainting, broadening, and analyzing. Beyond this point, we would also like to posit a kind of third stage, which involves those processes that have been described variously as integration, synthesis, and global learning. Here the stress is on relationships among discrete bits of knowledge and analysis which have not been appreciated before. This kind of thinking, moreover, would seem logically to come late in an educational process, because it rests on an accumulation of a great deal of intellectual experience of the other kinds. In the past some educational institutions have included a major capstone course — usually world history or some variant — as a senior experience meant, if not to tie everything together, then to provide the student a general framework for organizing much of what has been learned. The task force finds much of value in the idea of general, synthetic courses of instruction late in the collegiate years.

In line with this reasoning, the task force recommends that University campuses develop general education courses and programs at their *upper* divisions. We have already mentioned the value of general, synthetic courses at the lower division as complements to lower division seminars. In addition, campuses should consider developing courses that might serve as capstones for juniors and seniors. We have in mind, for example, courses with international, multicultural, or global themes; interdisciplinary courses centering on intellectual and social problems; and courses synthesizing a number of analytical techniques in logic, mathematics, and computer sciences. Such courses not only have intrinsic educational value in themselves but also are an avenue for each campus, with its own outlooks and strengths, to express its individuality.

The task force recommends, then, selective and deliberate developments along four lines simultaneously: course articulation, a limited core general education curriculum, reciprocity among campuses on general education requirements, and upper division synthesizing or capstone courses. Mechanisms for these developments also suggest themselves. The mechanisms for faculty involvement in course articulation agreements are already in place, and existing ways of making these agreements generally known should be expanded. The development of reciprocity arrangements is a matter for the Academic Senate and its divisions. The development of upper division general education courses is the responsibility of the schools and colleges of the individual campuses. As for a core curriculum, initiative for this might appropriately be assigned to the Intersegmental Committee of the Academic Senates, or a similar body made up of representatives from all three segments. The Intersegmental Committee has already made progress in preparing statements that lay out the competencies expected of secondary school students who intend to go to college. The task of developing some kind of core transfer curriculum involves a similar task. Final responsibility for any plan for general education requirements, however, would rest with the Academic Senates and administrations of the three segments, in accordance with the ways that curricular authority has been delegated in each.

The Themes of Internationalization and Diversification

Two Lines of Change. The task force is cognizant of and shares the conviction that what might be called the "increasing internationalization of the world" is — in its many facets — the most profound movement affecting civilization in the last half of the twentieth century. We are also convinced that this theme ought to occupy a most salient place in the enterprise of higher education in general, and in the mission of the University of California in particular, in the decades to come.

Internationalization, as the task force understands it, refers to the following kinds of developments: (1) the internationalization of world production, as manifested by the penetration of multinational corporations into the world economy; (2) the internationalization of world finance, as manifested by the increasing importance of quasi-public and private financial institutions in the world economy; (3) the internationalization of labor, as multinational corporations penetrate into host countries' labor forces and as international migration continues; (4) the internationalization of politics, including not only the

superpower relations but also the spread of local conflicts throughout the world and the sensitization of almost every part of the world to international tensions; (5) the internationalization of culture, including popular culture, but also involving new languages of interaction that develop when nations deal with one another in ever more complicated terms; (6) the internationalization of scholarship, as manifested by the diffusion of research results, international collaboration in research, and exchange programs for faculty and students.

The process of internationalization has been pervasive and profound; it is difficult not to believe, moreover, that a further increase in the interdependency among nations — on all the dimensions noted — will occur in the decades to come. Furthermore, this process itself has posed a deep challenge to our knowledge and understanding of the economic, political, and social world. Most political thinking and most of the relevant academic disciplines have rested on the assumption that the basic unit of social life is the discrete nation, society, or culture. The fact is, however, that the twin phenomena of internationalization and interdependency are rendering this fundamental premise questionable and demand novel ways of thinking, analyzing, and understanding.

To come closer to home, it is evident that the State of California has and will inevitably play a pivotal role in these developments. As many have pointed out, this state is a major nation in its own right, from the standpoint of wealth and trading potential. And it is strategically located, from the geographical and cultural points of view. Along with the rest of the United States, California bears a strong orientation to European civilization; but California is also oriented — historically, geographically, economically, and culturally — to the Asian and Latin American worlds in ways that most of the United States is not.

It also seems inevitable that the University of California will play a leading role in this large historical process. It is an institution that has risen to a position of national and international leadership, and those who look forward fully expect it to play a central role in conducting research on, increasing understanding of, and training those who will be leaders in the new world scene.

Observers of the internationalization process have pointed out the ways in which it works toward the standardization and homogenization of the world, particularly from the cultural point of view. At the local level, however, the process may make for greater diversification and heterogeneity. The State of California is a prime example of this latter effect. A combination of migration and differential birth rates among ethnic groups has produced historical trends that now make California a truly multicultural and multilingual society. These trends, too, are certain to accelerate during the coming decades to the point where those we now designate as minorities will constitute a majority.

This ethnic, racial, and cultural diversity has found its way into the University's student population, by dint of demography and by dint of affirmative action and outreach

programs. This process also promises to continue. We may expect an increasing heterogeneity of faculty as well, as more minorities work their way through the higher education system and enter the reservoir of qualified candidates from which faculties are selected. There is no aspect of life in the state — political, economic, cultural, residential — that is not being affected by these trends toward diversification. Certainly the educational life of the University of California is affected. Our assumptions about the commonality of motivation, outlooks, and commitment of students and faculty grow increasingly unrealistic; and the challenge to provide educational experiences that are simultaneously meaningful, broadening, and integrating are enormous.

University Responses to These Changes. The task force recommends that the University of California give special stress to the twin themes of internationalization and diversification in its educational mission. This effort cannot, however, be conceived of in narrow terms but must be pursued on many fronts. In keeping with our special assignment, we mention curricular responses first.

Both internationalization and diversification make the world more complex and difficult to comprehend; they call for new approaches to understanding the complex forces affecting our society and our lives and for new approaches to understanding heterogeneity. For this reason we recommend that courses offered be interdisciplinary and have a comparative, multicultural, or global dimension. Examples of such courses are the following:

- World history
- The United States and the world in the twentieth century
- Technology and cultural change
- Economic development and international inequality
- The global economy
- World literary traditions
- World religious and philosophical traditions
- The idea of "system" in international relations
- Human and cultural diversity
- Cultural heterogeneity and political life

– The history and contemporary situation of minorities in American life.

The task force does not feel it appropriate to go into detail with respect to where and how such courses ought to be located in students' careers, whether they should be required or optional, and the like. General, interdisciplinary lower division courses on human and cultural diversity or on the international system seem timely and valuable. Certainly the internationalization and diversification themes are appropriate for freshman-sophomore seminars. Other courses of a more comprehensive, synthetic character might be offered later in the undergraduate years. Whatever the pattern that different campuses work out, the task force urges that major efforts of some sort be undertaken with respect to the themes of internationalization and diversification, since these themes are so relevant to the kind of world in which students in this generation will later be living.

Curricular efforts are only one prong of the kind of multipronged response that is called for. The task force envisions a number of other kinds of priorities under the heading of internationalization and diversification:

- To augment research and training in academic areas involving these themes. The new school of international relations on the San Diego campus is one kind of model, but the themes could also be given high priority on the agendas of organized research units (for example, institutes and centers for international studies and the area studies programs on all campuses). Relevant academic departments and professional schools could keep the same themes in mind as substantial numbers of retiring faculty are replaced in the coming decades.

- To develop language instruction in areas that have heretofore been relatively minor, particularly Asian languages, to augment training of language teachers to be placed in secondary schools and community colleges, and to work further toward assuring that those who do not have English as a first language experience only minimal academic suffering from that fact.

- To augment existing programs of international exchange of students and faculty even further, making certain that these programs have an element of reciprocity with other nations.

A precondition for any success of the measures proposed is that the University make every effort to accelerate those efforts and programs that will assure that the composition of all our constitutencies — faculty, administration, students, staff — itself becomes and remains heterogeneous. We have had enough experience with affirmative action programs in the past two decades to be aware of the constant danger of their erosion. The task force has no sure solution in mind on this matter but acknowledges that increased effort and resources are needed on many fronts: reducing barriers to interest, application, and admissions; establishing relations with schools, parents, and communities; reducing the

disadvantages of students once they have arrived; searching effectively in the academic market; and constantly striving to make our educational environment a welcoming one.

The Larger Picture: Knowledge, the Major, and the Lower Division

The Changing Character of Knowledge. The most fundamental questions to ask about the character of a collegiate education are (1) what is the character of the knowledge to be imparted and capacities to be developed? (2) through what modes — courses, tutorials, independent study, etc. — is this achieved?

With respect to the first question, we first take note of a series of trends that have truly revolutionized the state of knowledge in the twentieth century:

- The "knowledge explosion" has continued to accelerate. We have seen dramatic *increases* in the quantity and quality of our knowledge about nature, the organism, the person, society, and culture, as reflected in advances in research in all the disciplines and in interdisciplinary endeavors. We are making simultaneous strides through computerization, sophisticated retrieval systems, and other strategies, to make available and master what we know, but such is the pace of change that even these constitute something of a rearguard battle.

- Knowledge has become increasingly *technical.* The development of new knowledge involves new modes of thought, new problems, new types of facts, and new relations between facts. In many cases, words are not available in the vernacular to conceptualize this new knowledge — or when they are, they are not sufficiently precise. New languages — both verbal and mathematical — have to be invented. In addition, unfamiliar paradigms and models have been created, and sophisticated and complicated statistical and computational techniques have been applied. On occasion, the development of neologisms, technical precision, and abstractness gets out of hand, and the resulting jargon obscures rather than facilitates the expression of knowledge. As a result of all these tendencies, new knowledge has become more technical and therefore less accessible to the layperson. To become educated in a field, moreover, a student must master more technical material than ever before. These facts are virtually self-evident with respect to the physical and life sciences — physics, chemistry, genetics, botany, etc. The social sciences have become vastly more technical as well. Economic theory, resting more and more on mathematical expression, is perhaps the obvious example, but the analysis of kinship matrices and linguistic structures by anthropologists and the analysis of intergenerational mobility by sociologists are equally as technical. In history and in many humanities fields — literary criticism and fine arts, for example — analysis still rests mainly on the use of language, but discourse in those areas too, is frequently abstract and complicated.

- Knowledge has become increasingly *specialized.* As knowledge has advanced, disciplines have tended to develop subdisciplines within themselves (molecular biology,

inorganic chemistry, medical sociology, medical anthropology, historical demography). The greater specialization of knowledge is also shown in the proliferation of courses in college catalogues. As a result of this trend, it becomes increasingly difficult for any type of scholar to claim a general knowledge of his or her field. And for the student, acquaintance with — to say nothing of mastery of — any discipline requires more extensive study than ever before.

- As a result, knowledge has become more *fragmented.* As knowledge becomes compartmentalized into disciplines and subdisciplines, it becomes more difficult to relate parts to one another because of noncomparable problems posed, languages and models generated, and explanations given. It also becomes more difficult to synthesize — to relate discrete bodies of knowledge to some larger and more significant dimensions of understanding.

An inevitable consequence of these trends, especially in the sciences and social sciences, has been the decline of the humanistic impulse as well as the increasing isolation of these disciplines from the "grand ideas" of religion, natural philosophy, and moral and political philosophy from which many of the disciplines were spawned. (By "humanistic impulse" we mean the assessment of knowledge in terms of its meaning for the natural, moral, and spiritual aspects of the human condition.) Consider, for example, the fate of "political theory" in political science. In the not too distant past, political theory dealt mainly with the nature of the state, the proper balance between the duties owed the state by the citizens and the freedoms owed the citizen by the state, the nature of sovereignty, and the like. Over the past several decades, as the scientific impulse swept through political science, this emphasis on political theory was overshadowed by a preoccupation with more technical and morally more neutral social science theory.

It might be remarked that the overshadowing of the humanistic impulse is not limited to the sciences. Humanism may be on the decline in the humanities as well. Note, for example, how the ascension of formal logic and metaphysics in the twentieth century has eclipsed the ancient philosophical concerns with ethics, aesthetics, the philosophy of religion, and some aspects of political philosophy. Note also the development of highly technical modes of artistic, literary, and musical criticism in the humanities and the tendency of that kind of technical analysis to intrude upon the exploration of the broader human implications of the cultural creations under study.

Turning to the second question, the major modes for imparting and developing knowledge remain the course of instruction offered by academic departments or schools, and clusters of these courses ("the major"), also offered by academic departments. A course occupies approximately one-quarter of a student's academic efforts during a given term. The major is variable, occupying between one-fourth and two-thirds of a student's four-year program. The lower division experience typically involves taking a number of introductory courses in different disciplines to gain "breadth," one of which may introduce the student to his or her ultimate major. The major consists of one or more introductory courses at the lower division (with perhaps some prerequisites from other departments, such as

mathematics or statistics), and a cluster of more advanced and specialized courses at the upper division level.

In all these matters the department remains at the center of things. Some campuses have made efforts to undercut that dominance — for example, the effort to give salience to colleges on the Santa Cruz and San Diego campuses, and the interdisciplinary "group" principle in the School of Social Sciences on the Irvine campus. But in all cases the departmental principle reemerges, and introductory disciplinary offerings and majors are made available. In the case of special "group majors" — for example, the Political Economy of Industrial Societies major on the Berkeley campus — the organizational basis of the major is not by discipline, but virtually every one of the courses that make up the package for the major is offered by discipline-based academic departments.

Educational Consequences and Challenges. Given the changes in the nature of knowledge we have described, and given the dominance of the departmental vehicle, we recognize that at the present time it is difficult to introduce a student to an academic discipline, and it is difficult to fashion a major that gives an undergraduate a comprehensive or integrated grasp of the intellectual substance, style, and method of a field of study. The disciplines themselves are large and specialized, and if the undergraduate elects to touch many facets of a field lightly, he or she may emerge with only a fragmented appreciation of the intellectual core of the field and may be only superficially acquainted with small ranges of its theory and empirical knowledge. In such a case he or she has not received a very valuable "general education," even in the major. If the student elects to probe more deeply into one aspect of the discipline, he or she will emerge preoccupied with the technical issues that are the concern of the subject matter chosen. In this case, too, a nonspecialized education in the major is not attained. Furthermore, because most teachers are likely to have devoted most of their energies to conducting specialized research and to giving specialized courses in the field, the undergraduate is not likely to receive much assistance from them in any attempt he or she might make to gain some general sense of — much less to synthesize — the major.

Years ago Joseph Tussman vividly characterized this tension between the specialized pursuit of knowledge and the search for synthesis and integration as a "conflict between the university and the college":

> The university is a collection of highly trained specialists who work with skill, persistence, and devotion. Its success is beyond question, but it pays the price of its success. The price is specialization, and it supports two unsympathetic jibes: the individual specialized scholar may find that with Oedipus, the pursuit of knowledge leads to impairment of vision; and, the community of scholars, speaking its special tongues, has suffered the fate of Babel.
>
> [Those] who are the university are also, however, [those] who are the college. But the liberal arts college is a different enterprise. It does not assault or extend the frontiers of knowledge. It has a different mission. It cultivates human understanding. The mind of the person, not the

body of knowledge, is its central concern . . . The university for multiplicity and knowledge; the college for unity and understanding.

The college is everywhere in retreat, fighting a dispirited rearguard action against the triumphant university. The upper-division, dominated by departmental cognitive interests, has become, in spirit, a preparatory run at the graduate school, increasingly professional. Only the lower division remains outside the departmental fold. . .[8]

Even the last assertion is not really correct, for most of the introductory work in the lower division is given by departments.

One fundamental kind of "tilt" now institutionalized in the university, then, is that toward specialization at the expense of synthetic knowledge. A related tilt, seen in places though not everywhere, is that toward specialization at the expense of breadth. Faculty who design and teach a major are keenly aware of how little of their disciplines can be covered within the span of a major. The corresponding tendency is for some majors to expand, and this is at the expense of breadth. Perhaps the most extreme case of this is in the undergraduate professional schools, of which engineering is the most frequently cited illustration. Unlike many subjects that involve many years of postgraduate study, engineering education is organized in such a way that students enter professional ranks immediately after receiving the bachelor's degree. There is great pressure to include sufficient mathematics and physical sciences and to cover a significant range of engineering courses — often in fields in which recent technological progress and advances in knowledge are enormous. A survey of catalogues for the University of California campuses has shown that "engineering majors tend to have fewer breadth requirements."[9]

One proposal for undergraduate professional programs is that they be extended beyond the four collegiate years to permit two full years of liberal education.[10] (In a 1984 survey, more than one-third of a sample of electrical engineers expressed the opinion that four years was not adequate for training electrical engineers.[11]) The task force does not recommend this solution unilaterally. We are aware of the significant cost considerations involved in adding a fifth year to the collegiate experience for many students; and we are aware that some attempted five-year programs have failed because students continued to choose other available four-year options. Nevertheless, we regard the "breadth problem" for undergraduate professional schools to be severe; and we urge campus faculties and administrations to seek ways to improve the liberal education components of those programs without sacrificing their professional quality.

We cannot conclude this discussion of intellectual balance without pointing to a final "tilt" — that toward the physical and life sciences and away from the humanities and, to some degree, the social sciences. The sources of this tilt are to be found, in the long run, in the great faith that Americans have placed in science and its applications, and their long-standing skepticism toward "impractical" subjects such as the arts and humanities.[12] In

recent years this emphasis has risen to greater salience, as the United States has experienced extreme economic competition from other nations and as science and technology have been singled out as major weapons in this struggle. Whatever the sources, the pressure has resulted in an uneven flow of resources into the scientific side of the university: scientists receive differentially higher salaries than others; they have much greater access to external research funds, which means, among other things, salary supplements and less teaching; high-tech bonds float among voters, while bonds for art museums, auditoriums, and libraries do not. The point of this observation is not to question the importance of scientific endeavor, but to point out that a chronic drift in this direction threatens to skew the historical mission of the university as a comprehensive seat of research, teaching, and learning in all fields.

This discussion of balance raises fundamental questions about the structure of our system of collegiate education — including the lower division. The problems identified, moreover, do not lend themselves to incremental, short-term tinkering with the system. Mindful of this, the task force expresses its conviction that these issues are among the most salient facing the university in the late twentieth century and that they should constitute major items in its long-term agenda. Among the general lines of change that might be contemplated in relation to the issue of balance are the following:

- Academic departments should not be the only agencies to introduce students to their fields in the lower division; such courses could also be offered by interdisciplinary teams, in order to increase the probability that the general implications of specialized knowledge be stressed.

- Courses should be problem-oriented as well as discipline-oriented, and focus on such topics as bureaucracy and freedom, the fate of democracy in large industrial societies, and the political implications of ethnic and cultural heterogeneity.

- Selected undergraduate professional programs should be transformed into five-year baccalaurate programs or into master's degree programs.

- Some righting of a major imbalance should be attempted by infusing new resources into teaching and research in the humanities and social sciences.

- Traditional "colleges of arts and sciences" should be further decentralized, so that clusters of departments be made responsible for synthetic lower and upper division offerings that are more appropriate for undergraduates than are the quasi-postgraduate courses that now constitute many undergraduate majors.

- Serious questions should be raised as to whether the traditional "liberal arts" emphasis should continue to be the basic model for undergraduate education; as the dynamics of

knowledge change make this model increasingly difficult to realize, new models might be sought.

We trust that the faculties and administrators of our University will not lose sight of this larger picture — even of its somewhat revolutionary implications — as they continue to strive for excellence in the face of continuing and bewildering changes in their historical situation.

Conclusion and Recommendations

Early in its work the task force noted that many reports of the general description of this one wind up saying many of the same things: they cover the waterfront of educational experiences of faculty and students; they urge that good teaching be better rewarded; they call for increased participation in the educational process on the part of students; they call for more faculty involvement in advising; and they rue the decline of liberal education. We also noted that from the standpoint of their effects on the real educational world, such reports fall — as David Hume complained about one of his philosophical treatises — "still-born from the press." Anxious to avoid both these effects, the task force decided on three strategies: (a) to limit the number of our diagnoses and recommendations to the few that we considered the most salient; (b) to make these diagnoses and recommendations as specific as possible; and (c) to observe the limits of budgetary and institutional realities in generating recommendations. In keeping with the spirit of these strategies, we advance the following summary recommendations, listing them by category:

Reforming Curricula and Programs

(1) Campuses should institute and expand freshman-sophomore seminars, or functionally equivalent educational processes that constitute a chance for lower division students to interact with ladder-rank faculty in a small classroom setting.

(2) Campuses should develop and extend general education courses of an integrative or synthetic character in both their lower and upper divisions.

(3) Campuses should develop curricular change and other policies that enhance the international, multicultural, and global learning experiences of students.

Improving the Quality of Teaching

(4) Departments of colleges and schools should assign their most brilliant and effective teaching faculty, regardless of title and rank, to large, introductory lower division courses.

(5) Faculty evaluation should be improved, making internal peer review more systematic and including teaching effectiveness on the agendas of external reviewing bodies.

(6) Mechanisms should be developed for the more systematic selection, review, and evaluation of temporary faculty, and for their better incorporation into the educational life of the campus.

(7) Teaching assistants whose native language is not English should be required to pass the oral TOEFL examination.

(8) Campuses should review and improve mechanisms for the training, supervision, and evaluation of teaching assistants, especially at the departmental level.

Improving Educational Continuity

(9) Colleges and schools should seek more flexible ways of adapting the numbers of courses and sections available at the lower division, so that students will be able to take these during the first two years.

(10) The University of California, at appropriate levels of faculty and administrative responsibility, should work toward developing and improving: (a) articulation of specific courses with institutions from other segments, especially on a regional basis; (b) a selective common core of general education courses that, if taken at a specified level of performance in the other segments, would satisfy the general education requirements of the University of California campuses; (c) reciprocity among campuses with respect to curricular requirements that will meet the general education requirements on all campuses.

Improving information and quality control

(11) The University and the campuses should secure more extensive and more nearly comparable information on the educational roles of different categories of instructors.

(12) Colleges and schools, as well as campus and systemwide administrations, should develop mechanisms for periodic and systematic review of the quality of lower division education.

Reaffirming the General Mission of the University

(13) As a long-term matter, the University and its several campuses should continue to observe the changing balance of its educational emphases — disciplinary balance, the balance between vocational and liberal education emphases, the balance among lower

division, upper division, and graduate education — in the light of the shifting character of knowledge in society.

Notes

[1] This statement is less nearly true than it once was. In recent times, a higher rate of "stopping out" before college, and entering or reentering college after working, attending to family obligations, serving in the military, etc., for a period has resulted in greater dispersion of age levels among college students.

[2] This figure obtained from the University of California, Office of the President, includes faculty salaries and benefits plus instructional support (salaries of administrative, clerical, and technical personnel and office and instructional supplies and equipment).

[3] *Survey of TA's at UCD: 1984 Results — First Summary*, prepared by the Teaching Resources Center, UC Davis; *Report on TA Training at UC Davis, 1980-81*, prepared by the Teaching Resources Center, UC Davis; *Teaching at Berkeley*, University of California, Berkeley, Fall 1985.

[4] *Report on TA Training at UC Davis, 1980-81*, p. 8.

[5] See "Let's Talk It Over," *Newsweek*, December 1985, pp. 43-44.

[6] Commission for the Review of the Master Plan for Higher Education, *The Challenge of Change* (Sacramento, March 1986), p. 8.

[7] *The Challenge of Change*, p. 8.

[8] Joseph Tussman, *Experiment at Berkeley* (New York: Oxford University Press, 1969), pp. xiii-xiv.

[9] Academic Senate, "General Education in the University of California," July 1984.

[10] Mortimer Report.

[11] Harris poll, reported in *IEE Spectrum*, June 1984, pp. 128-32.

[12] Henry Nash Smith, "The Humanities in the Multiversity," in Neil J. Smelser and Gabriel Almond (eds.), *Public Higher Education in California* (Berkeley and Los Angeles: University of California Press, 1974), pp. 209-220.

Appendix A October 1985

CHARGE TO THE TASK FORCE ON LOWER DIVISION EDUCATION

The Task Force is to undertake a broad review of lower division education in the University of California, including the University's mission to teach lower division students, the nature of the lower division curriculum, the types of courses offered, enrollments in these courses, staffing patterns, academic support services, and such other issues as the Task Force considers important in assessing the overall quality of lower division education. As part of this review, the Task Force will consider the findings of reports prepared by the campuses in response to three recent reports on undergraduate education. (These reports are to be completed in December.)

In the course of its deliberations, the Task Force should consider the following issues and make recommendations where appropriate:

1. The nature of the University's mission in lower division education.

   — What is the importance of lower division education to the University's teaching mission?

   — Are the resources devoted to lower division education appropriate?

2. The nature and quality of the lower division curriculum.

   — Are the campuses' current general education requirements adequate? Should there be a common lower division curriculum for the University as a whole? For each campus?

   — What should be the balance between courses taken to fulfill general education requirements and those taken as prerequisites for the major?

   — Are current procedures for periodic review of the curriculum adequate?

3. The quality of teaching and learning.

   — Are courses needed for general education requirements and prerequisites for the major available to all freshman and sophomore students in the proper sequence? How do campuses respond to changes in student demand?

— What is the optimum balance among types of courses — i.e., seminars, lectures — for the student's first two years in the University? Is an appropriate balance of courses available to all students?

— Who teaches lower division courses? What is the appropriate balance between full-time/part-time, tenure-track/non-tenure-track?

— What is the appropriate role for teaching assistants? Are TA's adequately trained and supervised?

— Should lower division students have greater opportunities to work with senior faculty? If so, how might this be accomplished?

— How should learning be assessed?

— How can high-quality teaching be recognized and rewarded? Are current practices sufficient?

4. Academic support services (academic advising and learning skills programs)

— Should there be Universitywide objectives for advising lower division students?

— How is academic advising handled on the campuses? What is the faculty's role? Is the advising system effective?

— What is the role of learning skills programs, such as tutoring, in educating lower division students? Are these programs effective?

The Task Force is expected to submit a preliminary report to Vice President Frazer in February 1986 and a final report, including recommendations, in June 1986.

Appendix B February 28, 1986

PROGRESS REPORT

TASK FORCE ON LOWER DIVISION EDUCATION IN THE UNIVERSITY OF CALIFORNIA

The final report of this task force is to be submitted in June 1986. In this preliminary statement, developed midway in our work, we have three objectives: first, to indicate the contexts in which our assignment is undertaken; second, to give a very brief and general account of recent efforts on the various campuses with respect to improving general education; and third, to lay out the directions of our current thinking, and thereby specifying the criteria we have in mind for framing the final report.

Context

In the most general sense, the task force is proceeding on the principle, long established in the University, that it is valuable — essential, rather — to review periodically all programs and procedures with an eye to their excellence and their effectiveness. At this time, however, two developments are under way — one national and one at the state level — which have direct bearing on our task

The first is an apparently widespread concern with the quality of undergraduate education in the nation's colleges and universities. This concern manifested itself a year or so ago in the appearance of three reports, all critical. One was sponsored by the National Endowment of the Humanities, and entitled *To Reclaim a Legacy: A Report on the Humanities in Higher Education.* Another, sponsored by the National Institute of Education, was called *Involvement in Learning: Realizing the Potential of Higher Education.* The third was sponsored by the Association of American Colleges, and went under the name of *Integrity in the College Curriculum: A Report to the Academic Community.* (They are referred to, respectively, as the Bennett report, the Mortimer report, and the Curtis report after the person who chaired the commission preparing each: William J. Bennett, now Secretary of Education; Kenneth P. Mortimer of Pennsylvania State University; and Mark H. Curtis, President of the American Association of Colleges.) These three reports — along with several others — had a very large press, and apparently stimulated a vast number of reform efforts around the nation.

Coincidentally, the California Legislature has initiated a major review, the second of its kind, of the Master Plan for Higher Education, which has been this state's guiding framework for a quarter-century. That effort is also at a midway stage. The legislative

review is giving understandably great emphasis to lower division education, the only function shared by all three segments of California's system of higher education. The members of the task force regard our own self-examination as in keeping with the purposes of the state's review, and hope that it will be helpful to both the Commission for the Review of the Master Plan for Higher Education and to the Legislature.

The National Reports

The national reports, considered together, constitute a multi-pronged attack on the current state of undergraduate education in America, and an equally multi-pronged reform program. General negative indictments abound in these reports; they refer to the "chronic paralysis" of faculties, the "unhappy disarray" of undergraduate curricula, the "loss of integrity" of the bachelor's degree, "diminished vision," "majoring in narrow specialties," professionalization and vocationalization, the failure of distribution requirements to yield a general education, a "vacuum of educational leadership," and "a failure of nerve and faith on the part of many college faculties and administrators." The list of charges could go on almost without end. And while some of them are not well documented — and are, in any event, too sweeping and unqualified — the very fact that so many educational and other leaders would append their names to these kinds of charges is in itself cause for concern.

When it comes to recommendations for revitalization of undergraduate education, the reports take several different directions. Focusing on the humanities, the Bennett report seeks to restore many kinds of knowledge traditionally stressed, such as the origins and development of Western civilization in all its institutional and cultural aspects, the reading of masterworks of literature, the understanding of ideas and debates in the history of philosophy, and proficiency in a foreign language. It also adds familiarity with at least one non-Western culture or civilization and the history of science and technology. The report argues further that humanities education should extend through the entire four years of college (at present most of it is found in the first two years), and deplores disciplinary overspecialization in undergraduate teaching. The broadest aim of a revitalized core curriculum in the humanities is to assure that "all students . . . know a common culture rooted in civilization's lasting vision, its shared ideals and aspirations, and its heritage."

The Mortimer report focuses less on the content of undergraduate education and more on the modes in which it can be made effective. Great stress is laid on student involvement, fostered by such mechanisms as involving students in faculty research projects, small discussion groups, in-class presentations and debates, more faculty-student contact, improved counseling, and forming purposive learning communities. The report also calls for the improvement of the assessment of students' work, providing feedback, and giving greater weight to excellent teaching in assessing academics' careers. Some of the Mortimer committee's recommendations would call for substantial reallocation and augmentation of resources — for example, the suggestions that faculty and other resources be shifted to teaching first- and second-year students to improve retention, and that all bachelor's degree recipients receive at least two full years of liberal education (thus extending professional

programs such as engineering to more than four years). Finally, like the Bennett report, the Mortimer report calls for breadth and interdisciplinary emphases in liberal education.

The Curtis report also plays down any specific content of undergraduate education, in that it rejects the idea that a coherent undergraduate education can be constructed on the basis of requiring courses from a number of disciplines. Rather, it focuses on "methods and processes, modes of access to understanding and judgment that should inform all study." Many of those items that are listed in the report's "minimum required curriculum" stress skills and modes of inquiry such as logical thinking, critical analysis, literacy, understanding of numerical data, and study in depth. Moving closer to content, the Curtis report also calls for the development of historical consciousness, the nurturing of values through general study, knowledge of science and appreciation of the arts, and international and multicultural experiences. These skills and experiences would seldom be taught in discipline-based courses but would be a program focusing on what happens to students when they study subjects and take courses. In common with other reports, the Curtis report is concerned with improving the quality of undergraduate study and teaching, and to this end they call for intensified review of teachers, courses, and programs, as well as the self-conscious incorporation of training for teaching in graduate programs.

Campus Responses to the Reports

We now give a brief account of recent and ongoing activities of the various campuses in the University with respect to some of the themes and recommendations of the national reports. We base this account on two sources of information: a comprehensive report on "General Education in the University of California," prepared by the Academic Senate and submitted to the Board of Regents in the summer of 1984; and individual campus responses to a memorandum sent by the Senior Vice President-Academic Affairs on March 8, 1985, requesting each to respond to the three national reports in relation to their own campus experiences.

In general the campuses took the three national reports very seriously and found much of value in them. Among the themes that seemed to resonate most consistently with campus administrations and faculties were the reports' concern with overstructured and demanding majors which pose a threat to breadth and liberal education; the Mortimer report's concern with assuring the continuous evaluation of undergraduate programs; the eclipse of humanistic studies by increasing stress on technical and vocational study; the constant struggle to maintain a productive balance between teaching and research emphases on university campuses such as our own; and the problematical character of lower division education, especially the freshman year.

At the same time, the reports drew some negative reactions as well. Some commented that they were mainly restatements of values and goals that periodically emerge, exhaust themselves, submerge, and then re-emerge over the generations in the writings of educational leaders. Some commented on the same confusing and contradictory messages

emerging from the reports. Still others criticized the reports for assigning too much blame to the colleges and universities themselves; with respect to the presumed overstress on the technical and vocational, for example, the main pressure for this appears to have come in the form of demands in the wider society to which colleges and universities have accommodated. Other criticisms were more specific. Several believed that the Bennett committee report's more or less exclusive focus on the status of the study of Western civilization was probably not applicable to our campuses' ethnically and culturally diverse undergraduate populations. And some pointed to the lack of regard for the point of view of the sciences, except for some attention given in the Curtis report.

By far the most common theme found in the responses, however, was that none of the campuses shared the gloominess and the dire diagnoses manifested in the national reports. Many commented on this negative aura and explicitly said it did not apply to the mood or situation on their campuses. The main reason they did not share the pessimism, moreover, is that they felt that their ongoing efforts in undergraduate education, including the lower division — most of it initiated well before the appearance of the reports — were improving the educational situations on their campuses along precisely the lines called for by some of the recommendations in the national reports. We found evidence of intense discussion, study, and reform on *every* University of California campus. The following constitutes a sample:

- The response from the Santa Cruz campus pointed out a very close correspondence between many of the national reports' recommendations and their initial Academic Plan issued in 1965. Efforts to implement that plan, including recent changes in curriculum and general education requirements, work in the same directions.

- The Davis campus, beginning in 1978, undertook a wholesale reform of its general education requirements, with the program set in place in 1984. While giving some emphasis to substantive knowledge, the Davis reforms called for the mastery of intellectual skills and methods of inquiry, and in that way presaged the main emphases of the Curtis report.

- After a four-year review, the Berkeley campus strengthened its general education breadth requirements, and similar reforms were effected in the following two or three years at Irvine, Riverside, Los Angeles, Davis, Santa Barbara, Santa Cruz, and San Diego.

- The report from the Santa Barbara campus listed the nine foci of the recommendations of the Curtis report in one column, and listed their own general education requirements for course and other activities on another; there was almost one-to-one correspondence.

- The College system on the San Diego campus has long been regarded as an effective countervailing influence on departmentalization and over-specialization; the same can

be said of the interdisciplinary campus programs on the Irvine campus (School of Social Sciences, Program in Social Ecology, Women's Studies, the Humanities Core Course).

- In 1980 the Berkeley campus appointed a Vice Chancellor for Undergraduate Affairs, and in 1982 the College of Letters and Science created a Special Division of Freshman and Sophomore Studies; a program of freshman and sophomore seminars was initiated and has developed a lower division course on Western Civilization.

- The Los Angeles campus also upgraded administrative responsibility to undergraduate education by elevating its highest position (Provost) to the Chancellor level. UCLA held two major conferences on undergraduate education in 1985, producing recommendations on liberal arts education, quality of teaching, the learning environment, administrative arrangements, and English composition and foreign languages. Two additional major conferences are scheduled for 1986.

Heartening as the task force found these campus responses, we would not like to leave the impression that the several campuses of the University of California are completely self-satisfied with their recent efforts in general education. Many efforts at reform and problem-solving are still being initiated on many fronts, and administrators and faculty frankly spoke of areas of continuing concern if not distress, as well as challenges on the horizon. The following items appeared to recur most frequently in the campus responses:

- New challenges of enrollment growth for undergraduate programs; this is now acute on the San Diego and Irvine campuses, but may be experienced elsewhere in the future.

- The inadequacy of opportunities for international and multi-cultural experience, including language instruction; this problem promises to intensify in the future, as the cultural and ethnic diversity of the state and its campuses increases.

- The appropriate role of large lecture courses at the lower division, and the availability of alternative forms of instruction and experience.

- The role of temporary faculty in lower division instruction, and the possibility of increasing the involvement of ladder faculty, including senior distinguished professors; closely related, the inadequacy of incentives and rewards for good undergraduate teaching.

- The quality of teaching evaluation, with some suggestions that peer evaluation, as well as students' course evaluations, should be taken into account.

- The training and use of teaching assistants; and their preparation for future teaching.

- The status of advising of students, particularly at the lower division level; more particularly, the role of faculty in advising.

- The adequacy of writing and foreign language instruction.

- The limitations of relying on the addition of traditional "courses" as the only way of realizing important educational objectives.

The campus reports, then, constitute a balance between pride in specific accomplishments in undergraduate education and a strong undercurrent of continuing dissatisfaction and desire for further reform. That combination seems to constitute the right atmosphere for continuing change.

The Reports and the University of California

One instructive lesson derived from reading these reports and the campuses' responses is that it is ill-advised to think of "general education" as something unitary in meaning. Rather, its objectives, when specified, appear to be multiple, diverse, and perhaps competing. The task force was able to extract at least the following goals of general education from the reports:

- Acquisition of basic skills of writing, logic, and argumentation in all fields of learning (language, quantitative skills, etc.).

- Acquisition of ways of thinking (historical consciousness), modes of inquiry (study in depth), and tools of investigation (statistical tools) to facilitate intelligent reflection and disciplined thought and analysis.

- Familiarity with common subject matter or themes that represent valuable aspects of human history and civilization (history of Western civilization, history of world civilization, the experiences of minorities in society).

- Study of multi-disciplinary problems or issues (ecological problems, inequality in society, science and public policy, ideas of good and evil in contemporary literature and art).

- Breadth; exposure to different traditions of learning in physical sciences, life sciences, social sciences, arts, and humanities.

- Experience with some *method* of teaching and learning (tutorial, small seminar, participatory learning, close contact with faculty) that will yield a particularly intense, valuable, and enduring educational experience.

Because of this diversity, to read the three reports at one sitting is a somewhat dizzying experience. They do seem to reach some level of agreement about the nature of the sad state of undergraduate education, but with respect to recommendations, they go off in so many different directions that the reader wonders whether anything like consensus about the optimum road to reform can be reached. Another confusing impression gained in reading the reports is that every single one of their dozens of recommendations can be legitimately defended and endowed with positive value on one absolute basis or another. It is very difficult to generate arguments against any of them. By the same token, it is difficult to establish priorities among them, to decide which recommendation or subset of recommendations is better than another. And finally, the reader is likely to be unsettled by the fact that most of the recommendations are put forward as general principles which are widely if not universally applicable. We suspect, on the contrary, that what goes under the name of general education is variable from one context to another, and changes over time, and that the assessment of the value and effectiveness of programs must rely in part on a knowledge of context as well as on abstract judgments about what is generally desirable.

Faced with these perplexities, the task force decided not to enter into a continuing dialogue about the general state of undergraduate education and its general remedies. For the reasons indicated, we would find this difficult to do, and if done, probably not enlightening. We decided, rather, to examine lower division education — and simultaneously, many issues of general education, since much of it is concentrated in those two years — *in the context of the institution of the University of California, in the State of California, in the late twentieth century.*

What are some of these contextual features? We have not completed our analysis as yet, but it appears essential to take at least the following into account:

- The University of California has among its missions a heavy involvement in research and graduate training.

- In modern times knowledge has increased dramatically, and in the process has become more specialized and fragmented.

- Upper division study is dominated by a commitment to a "major."

- The University of California is in the State of California, receives its basic support from the people of California, and is committed to serve the people of California.

- The University of California has risen to a position of national and international leadership among universities.

- The University of Califoria is in a *system* of higher education, with three segments governed by the Master Plan.

- The University of California is a multi-campus system, with different histories, cultures, community contexts, and graduate-undergraduate and professional-arts and science mixtures.

- The State of California is becoming increasingly heterogeneous in racial and ethnic composition as well as cultural and political orientations; and the University of California is experiencing the same with respect to faculty and student composition.

These features are contextual "givens" that simultaneously set limits and provide opportunities for lower division education.

We had laid out these contextual features in the form of a list. But they are more than a simple list of exigencies, each of which must be attended to as we shape our educational missions and procedures. They pull the University in different, sometimes conflicting directions, and for that reason constitute a source of continuous tension within it. For example, one primary motivation of the faculty is to address national and international communities of scholars by conducting and publishing research of the highest quality. Can this be maximized without coming into conflict or eroding the faculty's equally legitimate obligation to educate an increasingly heterogeneous population of California's youth?

To take another example, the faculty finds many of its rewards by speaking in special languages to professional colleagues in special academic disciplines. Is this disciplinary focus compatible with the aims of the general education of students, however variously these might be defined? Or, finally, the interests of many faculty and students call for instrumental, tunnel-vision specialization of the educational enterprise. Is this compatible with the equally legitimate pursuit of general knowledge relating to the issues of human civilization in general?

The task force believes that the answers to all three of those questions can be neither totally negative nor totally positive and for that reason they must continue to command our attention. The questions clearly indicate that the University is faced with multiple, sometimes conflicting missions, and to pursue some slights others. Yet this fundamental fact is frequently not taken into account as we fashion our educational arrangements. Too often, we believe, educational policy reflects a denial of this tension and constitutes an uneasy, only semi-conscious, lowest-common-denominator compromise among conflicting goals. Recognizing this makes the assignment of the task force more difficult. As it continues its work, it will have to make some decisions about the relative priority of these missions, and how they ought to be arrayed and combined creatively if the University is to do the best it can to maximize the aims of general education and the value of the lower division experience.