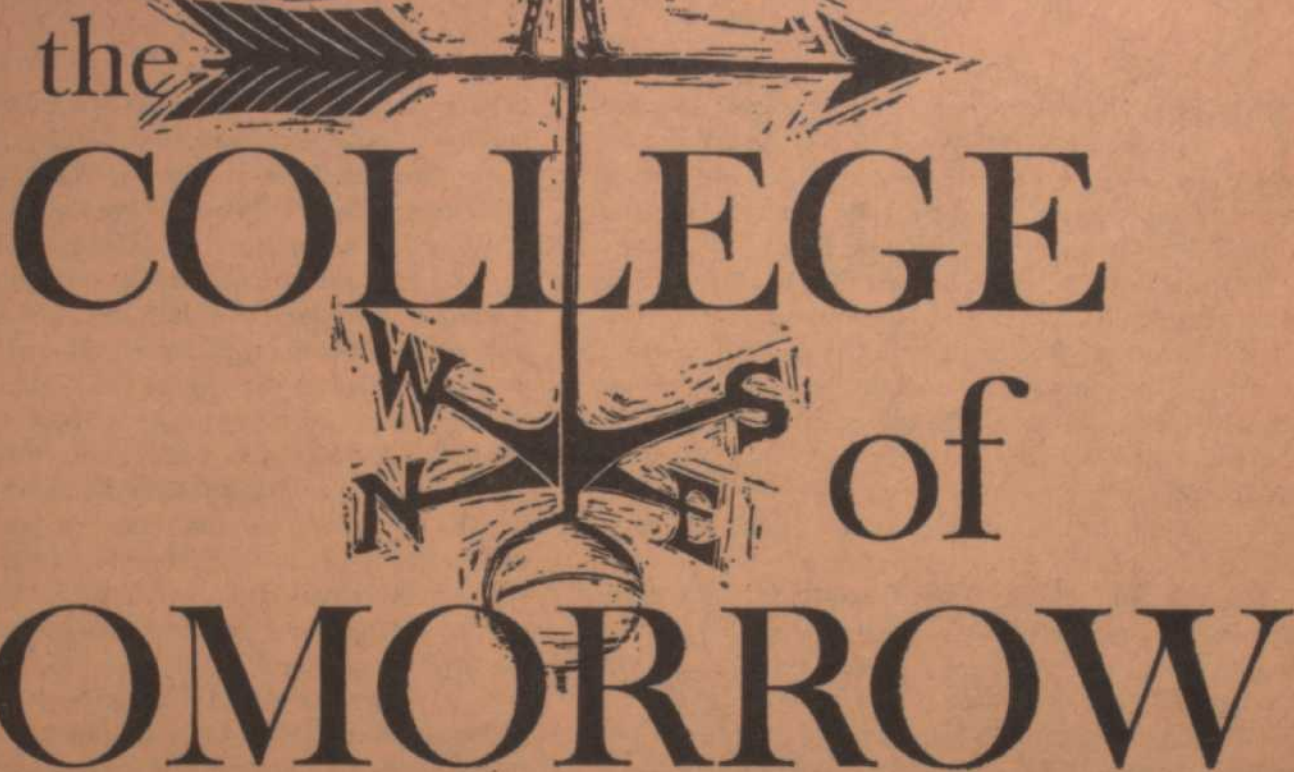


Who will go to college—and where?
What will they find?
Who will teach them?
Will they graduate?
What will college have done for them?
Who will pay—and how?



the
COLLEGE
of
TOMORROW

“WILL MY CHILDREN GET INTO COLLEGE?”
The question haunts most parents. Here is the answer:

Yes . . .

- ▶ If they graduate from high school or preparatory school with something better than a “scrape-by” record.
- ▶ If they apply to the college or university that is right for them—aiming their sights (and their application forms) neither too high nor too low, but with an individuality and precision made possible by sound guidance both in school and in their home.
- ▶ If America’s colleges and universities can find the resources to carry out their plans to meet the huge demand for higher education that is certain to exist in this country for years to come.

The *ifs* surrounding your children and the college of tomorrow are matters of concern to everyone involved—to parents, to children, to alumni and alumnae (whatever their parental status), and to the nation’s educators. But resolving them is by no means being left to chance.

- ▶ The colleges know what they must do, if they are to

meet the needs of your children and others of your children’s generation. Their planning is well beyond the hand-wringing stage.

- ▶ The colleges know the likely cost of putting their plans into effect. They know this cost, both in money and in manpower, will be staggering. But most of them are already embarked upon finding the means of meeting it.
- ▶ Governments—local, state, and federal—are also deeply involved in educational planning and financing. Some parts of the country are far ahead of others. But no region is without its planners and its doers in this field.
- ▶ Public demand—not only for *expanded facilities* for higher education, but for *ever-better quality* in higher education—today is more insistent, more informed than ever before. With this growth of public sophistication about higher education, it is now clear to most intelligent parents that they themselves must take a leading role in guiding their children’s educational careers—and in making certain that the college of tomorrow will be ready, and good, for them.

This special report is in the form of a guide to parents. But we suspect that every reader, parent or not, will find the story of higher education’s future remarkably exciting.

Where will your children go to college?

LAST FALL, more than one million students enrolled in the freshman classes of U.S. colleges and universities. They came from wealthy families, middle-income families, poor families; from all races, here and abroad; from virtually every religious faith.

Over the next ten years, the number of students will grow enormously. Around 1964 the long-predicted "tidal wave" of young people, born in the postwar era and steadily moving upward through the nation's school systems ever since, will engulf the college campuses. By 1970 the population between the ages of 18 and 21—now around 10.2 million—will have grown to 14.6 million. College enrollment, now less than 4 million, will be at least 6.4 million, and perhaps far more.

The character of the student bodies will also have changed. More than half of the full-time students in the country's four-year colleges are already coming from lower-middle and low income groups. With expanding scholarship, loan, and self-help programs, this trend will continue strong. Non-white college students—who in the past decade have more than doubled in number and now compose about 7 per cent of the total enrollment—will continue to increase. (Non-whites formed 11.4 per cent of the U.S. population in the 1960 census.) The number of married students will grow. The average age of students will continue its recent rise.

The sheer force of this great wave of students is enough to take one's breath away. Against this force, what chance has American higher education to stand strong, to maintain standards, to improve quality, to keep sight of the individual student?

And, as part of the gigantic population swell, what chances have your children?

TO BOTH QUESTIONS, there are some encouraging answers. At the same time, the intelligent parent will not ignore some danger signals.

FINDING ROOM FOR EVERYBODY

NOT EVERY COLLEGE or university in the country is able to expand its student capacity. A number have concluded that, for one persuasive reason or another, they must maintain their present enrollments. They are not blind to the need of American higher education, in the aggregate, to accommodate more students in the years ahead; indeed,

they are keenly aware of it. But for reasons of finance, of faculty limitations, of space, of philosophy, of function, of geographic location—or of a combination of these and other restrictions—they cannot grow.

Many other institutions, public and private, *are* expanding their enrollment capacities and will continue to do so:

Private institutions: Currently, colleges and universities under independent auspices enroll around 1,500,000 students—some 40 per cent of the U.S. college population. In the future, many privately supported institutions will grow, but slowly in comparison with publicly supported institutions. Thus the total number of students at private institutions will rise, but their percentage of the total college population will become smaller.

Public institutions: State and locally supported colleges and universities are expanding their capacity steadily. In the years ahead they will carry by far the heaviest share of America's growing student population.

Despite their growth, many of them are already feeling the strain of the burden. Many state institutions, once committed to accepting any resident with a high-school diploma, are now imposing entrance requirements upon applicants. Others, required by law or long tradition not to turn away any high-school graduate who applies, resort in desperation to a high flunk-out rate in the freshman year in order to whittle down their student bodies to manageable size. In other states, coordinated systems of higher education are being devised to accommodate



students of differing aptitudes, high-school academic records, and career goals.

Two-year colleges: Growing at a faster rate than any other segment of U.S. higher education is a group comprising both public and independently supported institutions: the two-year, or "junior," colleges. Approximately 600 now exist in the United States, and experts estimate that an average of at least 20 per year will be established in the coming decade. More than 400 of the two-year institutions are community colleges, located within commuting distance of their students.

These colleges provide three main services: education for students who will later transfer to four-year colleges or universities (studies show they often do as well as those who go directly from high school to a four-year institution, and sometimes better), terminal training for vocations (more and more important as jobs require higher technical skills), and adult education and community cultural activities.

Evidence of their importance: One out of every four students beginning higher education today does so in a two-year college. By 1975, the ratio is likely to be one in two.

Branch campuses: To meet local demands for educational institutions, some state universities have opened branches in population centers distant from their main campuses. The trend is likely to continue. On occasion, however, the "branch campus" concept may conflict with the "community college" concept. In Ohio, for example, proponents of community two-year colleges are currently arguing that locally controlled community institutions are the best answer to the state's college-enrollment problems. But Ohio State University, Ohio University, and Miami University, which operate off-campus centers and whose leaders advocate the establishment of more, say that taxpayers get better value at lower cost from a university-run branch-campus system.

Coordinated systems: To meet both present and future demands for higher education, a number of states are attempting to coordinate their existing colleges and universities and to lay long-range plans for developing new ones.

California, a leader in such efforts, has a "master plan" involving not only the three main types of publicly supported institutions—the state university, state colleges, and locally sponsored two-year colleges. Private institutions voluntarily take part in the master planning, also.

With at least 661,000 students expected in their colleges and universities by 1975, Californians have worked out a plan under which every high-school graduate will be eligible to attend a junior college; the top one-third will be eligible for admission to a state college; and the top one-eighth will be eligible to go directly from high school to the University of California. The plan is flexible: students who prove themselves in a junior college, for



ILLUSTRATIONS BY PEGGY SOUCHECK

example, may transfer to the university. If past experience is a guide, many will—with notable academic success.

THUS IT IS LIKELY that somewhere in America's nearly 2,000 colleges and universities there will be room for your children.

How will you—and they—find it?

On the same day in late May of last year, 33,559 letters went out to young people who had applied for admission to the 1961 freshman class in one or more of the eight schools that compose the Ivy League. Of these letters, 20,248 were rejection notices.

Not all of the 20,248 had been misguided in applying. Admissions officers testify that the quality of the 1961 applicants was higher than ever before, that the competition was therefore intense, and that many applicants who might have been welcomed in other years had to be turned away in '61.

Even so, as in years past, a number of the applicants had been the victims of bad advice—from parents, teachers, and friends. Had they applied to other institutions, equally or better suited to their aptitudes and abilities, they would have been accepted gladly, avoiding the bitter disappointment, and the occasional tragedy, of a turndown.

The Ivy League experience can be, and is, repeated in dozens of other colleges and universities every spring. Yet, while some institutions are rejecting more applications than they can accept, others (perhaps better qualified to meet the rejected students' needs) still have openings in their freshman classes on registration day.

Educators, both in the colleges and in the secondary schools, are aware of the problems in "marrying" the right students to the right colleges. An intensive effort is under way to relieve them. In the future, you may expect:

► Better guidance by high-school counselors, based on

improved testing methods and on improved understanding of individual colleges and their offerings.

► Better definitions, by individual colleges and universities, of their philosophies of admission, their criteria for choosing students, their strengths in meeting the needs of certain types of student and their weakness in meeting the needs of others.

► Less parental pressure on their offspring to attend: the college or university that mother or father attended; the college or university that "everybody else's children" are attending; the college or university that enjoys the greatest sports-page prestige, the greatest financial-page prestige, or the greatest society-page prestige in town.

► More awareness that children are different from one another, that colleges are different from one another, and

that a happy match of children and institutions is within the reach of any parent (and student) who takes the pains to pursue it intelligently.

► Exploration—but probably, in the near future, no widespread adoption—of a central clearing-house for college applications, with students stating their choices of colleges in preferential order and colleges similarly listing their choices of students. The "clearing-house" would thereupon match students and institutions according to their preferences.

Despite the likely growth of these practices, applying to college may well continue to be part-chaos, part-panic, part-snobishness for years to come. But with the aid of enlightened parents and educators, it will be less so, tomorrow, than it is today.

What will they find in college?

THE COLLEGE OF TOMORROW—the one your children will find when they get in—is likely to differ from the college you knew in *your* days as a student.

The students themselves will be different.

Curricula will be different.

Extracurricular activities will be different, in many respects, from what they were in your day.

The college year, as well as the college day, may be different.

Modes of study will be different.

With one or two conspicuous exceptions, the changes will be for the better. But for better or for worse, changes there will be.

THE NEW BREED OF STUDENTS

IT WILL COME AS NEWS to no parents that their children are different from themselves.

Academically, they are proving to be more serious than many of their predecessor generations. Too serious, some say. They enter college with an eye already set on the vocation they hope to pursue when they get out; college, to many, is simply the means to that end.

Many students plan to marry as soon as they can afford to, and some even before they can afford to. They want families, homes, a fair amount of leisure, good jobs, security. They dream not of a far-distant future; today's students are impatient to translate their dreams into reality, *soon*.

Like most generalizations, these should be qualified. There will be students who are quite far from the average, and this is as it should be. But with international tensions, recurrent war threats, military-service obligations, and talk of utter destruction of the race, the tendency is for the young to want to cram their lives full of living—with no unnecessary delays, please.

At the moment, there is little likelihood that the urge to pace one's life quickly and seriously will soon pass. This is the tempo the adult world has set for its young, and they will march doubletime to it.

Economic backgrounds of students will continue to grow more diverse. In recent years, thanks to scholarships, student loans, and the spectacular growth of public educational institutions, higher education has become less and less the exclusive province of the sons and daughters of the well-to-do. The spread of scholarship and loan programs geared to family income levels will intensify this trend, not only in low-tuition public colleges and universities but in high-tuition private institutions.

Students from foreign countries will flock to the U.S. for college education, barring a totally deteriorated international situation. Last year 53,107 foreign students, from 143 countries and political areas, were enrolled in 1,666 American colleges and universities—almost a 10 per cent increase over the year before. Growing numbers of African and Asian students accounted for the rise; the growth is virtually certain to continue. The presence of

such students on U.S. campuses—50 per cent of them are undergraduates—has already contributed to a greater international awareness on the part of American students. The influence is bound to grow.

Foreign study by U.S. students is increasing. In 1959-60, the most recent year reported, 15,306 were enrolled in 63 foreign countries, a 12 per cent increase in a period of 12 months. Students traveling abroad during summer vacations add impressive numbers to this total.

WHAT THEY'LL STUDY

STUDIES ARE in the course of change, and the changes will affect your children. A new toughness in academic standards will reflect the great amount of knowledge that must be imparted in the college years.

In the sciences, changes are particularly obvious. Every decade, writes Thomas Stelson of Carnegie Tech, 25 per cent of the curriculum must be abandoned, due to obsolescence. J. Robert Oppenheimer puts it another way: nearly everything now known in science, he says, "was not in any book when most of us went to school."

There will be differences **in the social sciences and humanities**, as well. Language instruction, now getting new emphasis, is an example. The use of language laboratories, with tape recordings and other mechanical devices, is already popular and will spread. Schools once preoccupied almost entirely with science and technology (e.g., colleges of engineering, leading medical schools) have now integrated social and humanistic studies into their curricula, and the trend will spread to other institutions.

International emphasis also will grow. The big push will be related to nations and regions outside the Western World. For the first time on a large scale, the involvement

of U.S. higher education will be truly global. This non-Western orientation, says one college president (who is seconded by many others) is "the new frontier in American higher education." For undergraduates, comparative studies in both the social sciences and the humanities are likely to be stressed. The hoped-for result: better understanding of the human experience in all cultures.

Mechanics of teaching will improve. "Teaching machines" will be used more and more, as educators assess their value and versatility (see *Who will teach them?* on the following pages). Closed-circuit television will carry a lecturer's voice and closeup views of his demonstrations to hundreds of students simultaneously. TV and microfilm will grow in usefulness as library tools, enabling institutions to duplicate, in small space, the resources of distant libraries and specialized rare-book collections. Tape recordings will put music and drama, performed by masters, on every campus. Computers, already becoming almost commonplace, will be used for more and more study and research purposes.

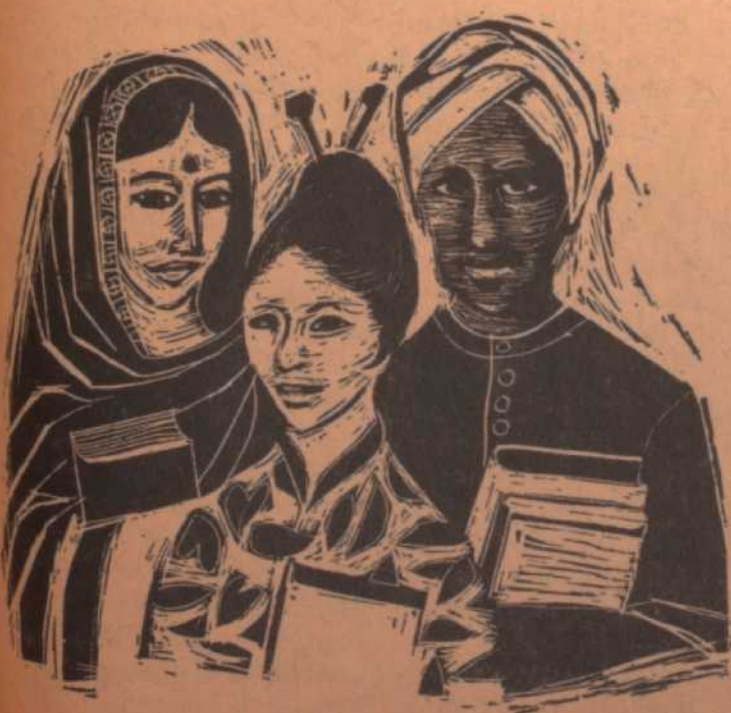
This availability of resources unheard-of in their parents' day will enable undergraduates to embark on extensive programs of independent study. Under careful faculty guidance, independent study will equip students with research ability, problem-solving techniques, and bibliographic savvy which should be of immense value to them throughout their lives. Many of yesterday's college graduates still don't know how to work creatively in unfamiliar intellectual territory: to pinpoint a problem, formulate intelligent questions, use a library, map a research project. There will be far fewer gaps of this sort in the training of tomorrow's students.

Great new stress on quality will be found at all institutions. Impending explosive growth of the college population has put the spotlight, for years, on handling large numbers of students; this has worried educators who feared that *quality* might be lost in a national preoccupation with *quantity*. Big institutions, particularly those with "growth situations," are now putting emphasis on maintaining high academic standards—and even raising them—while handling high enrollments, too. Honors programs, opportunities for undergraduate research, insistence on creditable scholastic achievement are symptomatic of the concern for academic excellence.

It's important to realize that this emphasis on quality will be found not only in four-year colleges and universities, but in two-year institutions, also. "Each [type of institution] shall strive for excellence in its sphere," is how the California master plan for higher education puts it; the same idea is pervading higher education at all levels throughout the nation.

WHERE'S THE FUN?

EXTRACURRICULAR ACTIVITY has been undergoing subtle changes at colleges and universities for years and is likely



to continue doing so. Student apathy toward some activities—political clubs, for example—is lessening. Toward other activities—the light, the frothy—apathy appears to be growing. There is less interest in spectator sports, more interest in participant sports that will be playable for most of a lifetime. Student newspapers, observes the dean of students at a college on the Eastern seaboard, no longer rant about band uniforms, closing hours for fraternity parties, and the need for bigger pep rallies. Sororities are disappearing from the campuses of women's colleges. "Fun festivals" are granted less time and importance by students; at one big midwestern university, for example, the events of May Week—formerly a five-day wingding involving floats, honorary-fraternity initiations, faculty-student baseball, and crowning of the May Queen—are now crammed into one half-day. In spite of the well-publicized antics of a relatively few roof-raisers (e.g., student rioters at several summer resorts last Labor Day, student revelers at Florida resorts during spring-vacation periods), a new seriousness is the keynote of most student activities.

"The faculty and administration are more resistant to these changes than the students are," jokes the president of a women's college in Pittsburgh. "The typical student congress wants to abolish the junior prom; the dean is the

one who feels nostalgic about it: 'That's the one event Mrs. Jones and I looked forward to each year.'"

A QUEST FOR ETHICAL VALUES

EDUCATION, more and more educators are saying, "should be much more than the mere retention of subject matter."

Here are three indications of how the thoughts of many educators are running:

"If [the student] enters college and pursues either an intellectual smörgåsbord, intellectual Teutonism, or the cash register," says a midwestern educator, "his education will have advanced very little, if at all. The odds are quite good that he will simply have exchanged one form of barbarism for another . . . Certainly there is no incompatibility between being well-informed and being stupid such a condition makes the student a danger to himself and society."

Says another observer: "I prophesy that a more serious intention and mood will progressively characterize the campus . . . This means, most of all, commitment to the use of one's learning in fruitful, creative, and noble ways."

"The responsibility of the educated man," says the provost of a state university in New England, "is that he make articulate to himself and to others what he is willing to bet his life on."

Who will teach them?

KNOW THE QUALITY of the teaching that your children can look forward to, and you will know much about the effectiveness of the education they will receive. Teaching, tomorrow as in the past, is the heart of higher education.

It is no secret, by now, that college teaching has been on a plateau of crisis in the U.S. for some years. Much of the problem is traceable to money. Salaries paid to college teachers lagged far behind those paid elsewhere in jobs requiring similarly high talents. While real incomes, as well as dollar incomes, climbed for most other groups of Americans, the real incomes of college professors not merely stood still but dropped noticeably.

The financial pinch became so bad, for some teachers, that despite obvious devotion to their careers and obvious preference for this profession above all others, they had to leave for other jobs. Many bright young people, the sort who ordinarily would be attracted to teaching careers, took one look at the salary scales and decided to make their mark in another field.

Has the situation improved?

Will it be better when your children go to college?

Yes. At the moment, faculty salaries and fringe benefits (on the average) are rising. Since the rise started from an extremely disadvantageous level, however, no one is getting rich in the process. Indeed, on almost every campus the *real* income in every rank of the faculty is still considerably less than it once was. Nor have faculty salary scales, generally, caught up with the national scales in competitive areas such as business and government.

But the trend is encouraging. If it continues, the financial plight of teachers—and the serious threat to education which it has posed—should be substantially diminished by 1970.

None of this will happen automatically, of course. For evidence, check the appropriations for higher education made at your state legislature's most recent session. If yours was like a number of recent legislatures, it "economized"—and professorial salaries suffered. The support which has enabled many colleges to correct the most glaring salary deficiencies *must continue* until the problem is fully solved. After that, it is essential to make sure that



the quality of our college teaching—a truly crucial element in fashioning the minds and attitudes of your children—is not jeopardized again by a failure to pay its practitioners adequately.

THERE ARE OTHER ANGLES to the question of attracting and retaining a good faculty besides money.

► The better the student body—the more challenging, the more lively its members—the more attractive is the job of teaching it. “Nothing is more certain to make teaching a dreadful task than the feeling that you are dealing with people who have no interest in what you are talking about,” says an experienced professor at a small college in the Northwest.

“An appalling number of the students I have known were bright, tested high on their College Boards, and still lacked flair and drive and persistence,” says another professor. “I have concluded that much of the difference between them and the students who are ‘alive’ must be traceable to their homes, their fathers, their mothers. Parents who themselves take the trouble to be interesting—and interested—seem to send us children who are interesting and interested.”

► The better the library and laboratory facilities, the more likely is a college to be able to recruit and keep a good faculty. Even small colleges, devoted strictly to undergraduate studies, are finding ways to provide their faculty members with opportunities to do independent reading and research. They find it pays in many ways: the faculty teaches better, is more alert to changes in the subject matter, is less likely to leave for other fields.

► The better the public-opinion climate toward teachers in a community, the more likely is a faculty to be strong. Professors may grumble among themselves about all the invitations they receive to speak to women’s clubs and

alumni groups (“When am I supposed to find the time to check my lecture notes?”), but they take heart from the high regard for their profession which such invitations from the community represent.

► Part-time consultant jobs are an attraction to good faculty members. (Conversely, one of the principal checkpoints for many industries seeking new plant sites is, What faculty talent is nearby?) Such jobs provide teachers both with additional income and with enormously useful opportunities to base their classroom teachings on practical, current experience.

BUT COLLEGES AND UNIVERSITIES must do more than hold on to their present good teachers and replace those who retire or resign. Over the next few years many institutions must add to their teaching staffs at a prodigious rate, in order to handle the vastly larger numbers of students who are already forming lines in the admissions office.

The ability to be a college teacher is not a skill that can be acquired overnight, or in a year or two. A Ph.D. degree takes at least four years to get, after one has earned his bachelor’s degree. More often it takes six or seven years, and sometimes 10 to 15.

In every ten-year period since the turn of the century, as Bernard Berelson of Columbia University has pointed out, the production of doctorates in the U.S. has doubled. But only about 60 per cent of Ph.D.’s today go into academic life, compared with about 80 per cent at the turn of the century. And only 20 per cent wind up teaching undergraduates in liberal arts colleges.

Holders of lower degrees, therefore, will occupy many teaching positions on tomorrow’s college faculties.

This is not necessarily bad. A teacher’s ability is not always defined by the number of degrees he is entitled to

write after his name. Indeed, said the graduate dean of one great university several years ago, it is high time that "universities have the courage . . . to select men very largely on the quality of work they have done and soft-pedal this matter of degrees."

IN SUMMARY, salaries for teachers will be better, larger numbers of able young people will be attracted into the field (but their preparation will take time), and fewer able people will be lured away. In expanding their faculties, some colleges and universities will accept more holders of bachelor's and master's degrees than they have been accustomed to, but this may force them to focus attention on ability rather than to rely as unquestioningly as in the past on the magic of a doctor's degree.

Meanwhile, other developments provide grounds for cautious optimism about the effectiveness of the teaching your children will receive.

THE TV SCREEN

TELEVISION, not long ago found only in the lounges of dormitories and student unions, is now an accepted teaching tool on many campuses. Its use will grow. "To report on the use of television in teaching," says Arthur S. Adams, past president of the American Council on Education, "is like trying to catch a galloping horse."

For teaching closeup work in dentistry, surgery, and laboratory sciences, closed-circuit TV is unexcelled. The number of students who can gaze into a patient's gaping mouth while a teacher demonstrates how to fill a cavity is limited; when their place is taken by a TV camera and the students cluster around TV screens, scores can watch—and see more, too.

Television, at large schools, has the additional virtue of extending the effectiveness of a single teacher. Instead of giving the same lecture (replete with the same jokes) three times to students filling the campus's largest hall, a professor can now give it once—and be seen in as many auditoriums and classrooms as are needed to accommodate all registrants in his course. Both the professor and the jokes are fresher, as a result.

How effective is TV? Some carefully controlled studies show that students taught from the fluorescent screen do as well in some types of course (e.g., lectures) as those sitting in the teacher's presence, and sometimes better. But TV standardizes instruction to a degree that is not always desirable. And, reports Henry H. Cassirer of UNESCO, who has analyzed television teaching in the U.S., Canada, Great Britain, France, Italy, Russia, and Japan, students do not want to lose contact with their teachers. They want to be able to ask questions as instruction progresses. Mr. Cassirer found effective, on the other hand, the combination of a central TV lecturer with classroom instructors who prepare students for the lecture and then discuss it with them afterward.

TEACHING MACHINES

HOLDING GREAT PROMISE for the improvement of instruction at all levels of schooling, including college, are programs of learning presented through mechanical self-teaching devices, popularly called "teaching machines."

The most widely used machine, invented by Professor Frederick Skinner of Harvard, is a box-like device with



three windows in its top. When the student turns a crank, an item of information, along with a question about it, appears in the lefthand window (A). The student writes his answer to the question on a paper strip exposed in another window (B). The student turns the crank again—and the correct answer appears at window A.

Simultaneously, this action moves the student's answer under a transparent shield covering window C, so that the student can see, but not change, what he has written. If the answer is correct, the student turns another crank, causing the tape to be notched; the machine will by-pass this item when the student goes through the series of questions again. Questions are arranged so that each item builds on previous information the machine has given.

Such self-teaching devices have these advantages:

- ▶ Each student can proceed at his own pace, whereas classroom lectures must be paced to the "average" student—too fast for some, too slow for others. "With a machine," comments a University of Rochester psychologist, "the brighter student could go ahead at a very fast pace."
- ▶ The machine makes examinations and testing a rewarding and learning experience, rather than a punishment. If his answer is correct, the student is rewarded with that knowledge instantly; this reinforces his memory of the right information. If the answer is incorrect, the machine provides the correct answer immediately. In large classes, no teacher can provide such frequent—and individual—rewards and immediate corrections.
- ▶ The machine smooths the ups and downs in the learn-

ing process by removing some external sources of anxieties, such as fear of falling behind.

► If a student is having difficulty with a subject, the teacher can check back over his machine tapes and find the exact point at which the student began to go wrong. Correction of the difficulty can be made with precision, not gropingly as is usually necessary in machineless classes.

Not only do the machines give promise of accelerating the learning process; they introduce an individuality to

learning which has previously been unknown. "Where television holds the danger of standardized instruction," said John W. Gardner, president of the Carnegie Corporation of New York, in a report to then-President Eisenhower, "the self-teaching device can individualize instruction in ways not now possible—and the student is always an active participant." Teaching machines are being tested, and used, on a number of college campuses and seem certain to figure prominently in the teaching of your children.

Will they graduate?

S AID AN ADMINISTRATOR at a university in the South not long ago (he was the director of admissions, no less, and he spoke not entirely in jest):

"I'm happy I went to college back when I did, instead of now. Today, the admissions office probably wouldn't let me in. If they did, I doubt that I'd last more than a semester or two."

Getting into college is a problem, nowadays. Staying there, once in, can be even more difficult.

Here are some of the principal reasons why many students fail to finish:

Academic failure: For one reason or another—not always connected with a lack of aptitude or potential scholastic ability—many students fail to make the grade. Low entrance requirements, permitting students to enter college without sufficient aptitude or previous preparation, also play a big part. In schools where only a high-school diploma is required for admission, drop-outs and failures during the first two years average (nationally) between 60 and 70 per cent. Normally selective admissions procedures usually cut this rate down to between 20 and 40 per cent. Where admissions are based on keen competition, the attrition rate is 10 per cent or less.

FUTURE OUTLOOK: High schools are tightening their academic standards, insisting upon greater effort by students, and teaching the techniques of note-taking, effective studying, and library use. Such measures will inevitably better the chances of students when they reach college. Better testing and counseling programs should help, by guiding less-able students away from institutions where they'll be beyond their depth and into institutions better suited to their abilities and needs. Growing popular acceptance of the two-year college concept will also help, as will the adoption of increasingly selective admissions procedures by four-year colleges and universities.

Parents can help by encouraging activities designed to find the right academic spot for their children; by recog-

nizing their children's strengths and limitations; by creating an atmosphere in which children will be encouraged to read, to study, to develop curiosity, to accept new ideas.

Poor motivation: Students drop out of college "not only because they lack ability but because they do not have the motivation for serious study," say persons who have studied the attrition problem. This aspect of students' failure to finish college is attracting attention from educators and administrators both in colleges and in secondary schools.

FUTURE OUTLOOK: Extensive research is under way to determine whether motivation can be measured. The "Personal Values Inventory," developed by scholars at Colgate University, is one promising yardstick, providing information about a student's long-range persistence, personal self-control, and deliberateness (as opposed to rashness). Many colleges and universities are participating in the study, in an effort to establish the efficacy of the tests. Thus far, report the Colgate researchers, "the tests have successfully differentiated between over- and under-achievers in every college included in the sample."

Parents can help by their own attitudes toward scholastic achievement and by encouraging their children to



develop independence from adults. "This, coupled with the reflected image that a person acquires from his parents—an image relating to persistence and other traits and values—may have much to do with his orientation toward academic success," the Colgate investigators say.

Money: Most parents think they know the cost of sending a child to college. But, a recent survey shows, relatively few of them actually do. The average parent, the survey disclosed, underestimates college costs by roughly 40 per cent. In such a situation, parental savings for college purposes often run out quickly—and, unless the student can fill the gap with scholarship aid, a loan, or earnings from part-time employment, he drops out.

FUTURE OUTLOOK: A surprisingly high proportion of financial dropouts are children of middle-income, not low-income, families. If parents would inform themselves fully about current college costs—and reinform themselves periodically, since prices tend to go up—a substantial part of this problem could be solved in the future by realistic family savings programs.

Other probabilities: growing federal and state (as well as private) scholarship programs; growing private and governmental loan programs.

Jobs: Some students, anxious to strike out on their own, are lured from college by jobs requiring little skill but offering attractive starting salaries. Many such students may have hesitated about going to college in the first place and drop out at the first opportunity.

FUTURE OUTLOOK: The lure of jobs will always tempt some students, but awareness of the value of completing college—for lifelong financial gain, if for no other reason—is increasing.

Emotional problems: Some students find themselves unable to adjust to college life and drop out as a result. Often such problems begin when a student chooses a college that's "wrong" for him. It may accord him too much or too little freedom; its pace may be too swift for him, resulting in frustration, or too slow, resulting in boredom; it may be "too social" or "not social enough."

FUTURE OUTLOOK: With expanding and more skillful guidance counseling and psychological testing, more students can expect to be steered to the "right" college environment. This won't entirely eliminate the emotional-maladjustment problem, but it should ease it substantially.

Marriage: Many students marry while still in college but fully expect to continue their education. A number do go on (sometimes wives withdraw from college to earn money to pay their husbands' educational expenses). Others have children before graduating and must drop out of college in order to support their family.

FUTURE OUTLOOK: The trend toward early marriage shows no signs of abating. Large numbers of parents openly or tacitly encourage children to go steady and to marry at an early age. More and more colleges are provid-



ing living quarters for married undergraduate students. Some even have day-care facilities for students' young children. Attitudes and customs in their "peer groups" will continue to influence young people on the question of marrying early; in some groups, it's frowned upon; in others, it's the thing to do.

COLLEGES AND UNIVERSITIES are deeply interested in finding solutions to the attrition problem in all its aspects. Today, at many institutions, enrollment resembles a pyramid: the freshman class, at the bottom, is big; the sophomore class is smaller, the junior class still smaller, and the senior class a mere fraction of the freshman group. Such pyramids are wasteful, expensive, inefficient. They represent hundreds, sometimes thousands, of personal tragedies: young people who didn't make it.

The goal of the colleges is to change the pyramid into a straight-sided figure, with as many people graduating as enter the freshman class. In the college of tomorrow, the sides will not yet have attained the perfect vertical, but—as a result of improved placement, admissions, and academic practices—they should slope considerably less than they do now.

What will college have done for them?

IF YOUR CHILDREN are like about 33 per cent of today's college graduates, they will not end their formal education when they get their bachelor's degrees. On they'll go—to graduate school, to a professional school, or to an advanced technological institution.

There are good reasons for their continuing:

▶ In four years, nowadays, one can only begin to scratch the surface of the body of knowledge in his specialty. To teach, or to hold down a high-ranking job in industry or government, graduate study is becoming more and more useful and necessary.

▶ Automation, in addition to eliminating jobs in unskilled categories, will have an increasingly strong effect on persons holding jobs in middle management and middle technology. Competition for survival will be intense. Many students will decide that one way of competing advantageously is to take as much formal education beyond the baccalaureate as they can get.

▶ One way in which women can compete successfully with men for high-level positions is to be equipped with a graduate degree when they enter the job market.

▶ Students heading for school-teaching careers will increasingly be urged to concentrate on substantive studies in their undergraduate years and to take methodology courses in a postgraduate schooling period. The same will be true in many other fields.

▶ Shortages are developing in some professions, e.g., medicine. Intensive efforts will be made to woo more top undergraduates into professional schools, and opportunities in short-supplied professions will become increasingly attractive.

▶ "Skills," predicts a Presidential committee, "may become obsolete in our fast-moving industrial society. Sound education provides a basis for adjustment to constant and abrupt change—a base on which new skills may be built." The moral will not be lost on tomorrow's students.

In addition to having such practical motives, tomorrow's students will be influenced by a growing tendency to expose them to graduate-level work while they are still undergraduates. Independent study will give them a taste of the intellectual satisfaction to be derived from learning on their own. Graduate-style seminars, with their stimulating give-and-take of fact and opinion, will exert a strong

appeal. As a result, for able students the distinction between undergraduate and graduate work will become blurred and meaningless. Instead of arbitrary insistence upon learning in two-year or four-year units, there will be more attention paid to the length of time a student requires—and desires—to immerse himself in the specialty that interests him.

AND EVEN with graduate or professional study, education is not likely to end for your children.

Administrators in the field of adult education—or, more accurately, "continuing education"—expect that within a decade the number of students under their wing will exceed the number of undergraduates in American colleges and universities.

"Continuing education," says Paul A. McGhee, dean of New York University's Division of General Education (where annually some 17,000 persons enroll in around 1,200 non-credit courses) "is primarily the education of the already educated." The more education you have, the more you are likely to want. Since more and more people will go to college, it follows that more and more people will seek knowledge throughout their lives.

We are, say adult-education leaders, departing from the old notion that one works to live. In this day of automation and urbanization, a new concept is emerging: "time," not "work," is the paramount factor in people's lives. Leisure takes on a new meaning: along with golf, boating,



and partying, it now includes study. And he who forsakes gardening for studying is less and less likely to be regarded as the neighborhood oddball.

Certain to vanish are the last vestiges of the stigma that has long attached to "night school." Although the concept of night school as a place for educating only the illiterate has changed, many who have studied at night—either for credit or for fun and intellectual stimulation—have felt out of step, somehow. But such views are obsolescent and soon will be obsolete.

Thus far, American colleges and universities—with notable exceptions—have not led the way in providing continuing education for their alumni. Most alumni have been forced to rely on local boards of education and other civic and social groups to provide lectures, classes, discussion groups. These have been inadequate, and institutions of higher education can be expected to assume unprecedented roles in the continuing-education field.

Alumni and alumnae are certain to demand that they take such leadership. Wrote Clarence B. Randall in *The New York Times Magazine*: "At institution after institution there has come into being an organized and articulate group of devoted graduates who earnestly believe . . . that the college still has much to offer them."

When colleges and universities respond on a large scale to the growing demand for continuing education, the variety of courses is likely to be enormous. Already, in institutions where continuing education is an accepted role, the range is from space technology to existentialism to funeral direction. (When the University of California offered non-credit courses in the first-named subject to engineers and physicists, the combined enrollment reached 4,643.) "From the world of astronauts, to the highest of ivory towers, to six feet under," is how one wag has described the phenomenon.

SOME OTHER LIKELY FEATURES of your children, after they are graduated from tomorrow's colleges:

► They'll have considerably more political sophistication than did the average person who marched up to get a diploma in their parents' day. Political parties now have active student groups on many campuses and publish material beamed specifically at undergraduates. Student-government organizations are developing sophisticated procedures. Nonpartisan as well as partisan groups, operating on a national scale, are fanning student interest in current political affairs.

► They'll have an international orientation that many of their parents lacked when they left the campuses. The presence of more foreign students in their classes, the emphasis on courses dealing with global affairs, the front pages of their daily newspapers will all contribute to this change. They will find their international outlook useful: a recent government report predicts that "25 years from now, one college graduate in four will find at least part of

his career abroad in such places as Rio de Janeiro, Dakar, Beirut, Leopoldville, Sydney, Melbourne, or Toronto."

► They'll have an awareness of unanswered questions, to an extent that their parents probably did not have. Principles that once were regarded (and taught) as incontrovertible fact are now regarded (and taught) as subject to constant alteration, thanks to the frequent toppling of long-held ideas in today's explosive sciences and technologies. Says one observer: "My student generation, if it looked at the world, didn't know it was 'loaded'. Today's student has no such ignorance."

► They'll possess a broad-based liberal education, but in their jobs many of them are likely to specialize more narrowly than did their elders. "It is a rare bird today who knows all about contemporary physics and all about modern mathematics," said one of the world's most distinguished scientists not long ago, "and if he exists, I



haven't found him. Because of the rapid growth of science it has become impossible for one man to master any large part of it; therefore, we have the necessity of specialization."

► Your daughters are likely to be impatient with the prospect of devoting their lives solely to unskilled labor as housewives. Not only will more of tomorrow's women graduates embark upon careers when they receive their diplomas, but more of them will keep up their contacts with vocational interests even during their period of child-rearing. And even before the children are grown, more of them will return to the working force, either as paid employees or as highly skilled volunteers.

DEPENDING UPON THEIR OWN OUTLOOK, parents of tomorrow's graduates will find some of the prospects good, some of them deplorable. In essence, however, the likely trends of tomorrow are only continuations of trends that are clearly established today, and moving inexorably.

Who will pay—and how?

WILL YOU BE ABLE to afford a college education for your children? The tuition? The travel expense? The room rent? The board?

In addition:

Will you be able to pay considerably more than is written on the price-tags for these items?

The stark truth is that you—or somebody—must pay, if your children are to go to college and get an education as good as the education you received.

HERE is where colleges and universities get their money:

From taxes paid to governments at all levels: city, state, and federal. Governments *now* appropriate an estimated \$2.9 billion in support of higher education every year. *By 1970* government support will have grown to roughly \$4 billion.

From private gifts and grants. These *now* provide nearly \$1 billion annually. *By 1970* they must provide about \$2.019 billion. Here is where this money is likely to come from:

Alumni	\$ 505,000,000 (25%)
Non-alumni individuals	505,000,000 (25%)
Business corporations	505,000,000 (25%)
Foundations	262,000,000 (13%)
Religious denominations	242,000,000 (12%)
Total voluntary support, 1970 ..	\$2,019,000,000

From endowment earnings. These *now* provide around \$210 million a year. *By 1970* endowment will produce around \$333 million a year.

From tuition and fees. These *now* provide around \$1.2 billion (about 21 per cent of college and university funds). *By 1970* they must produce about \$2.1 billion (about 23.5 per cent of all funds).

From other sources. Miscellaneous income *now* provides around \$410 million annually. *By 1970* the figure is expected to be around \$585 million.

These estimates, made by the independent Council for Financial Aid to Education*, are based on the "best available" estimates of the expected growth in enrollment in America's colleges and universities: from slightly less than 4 million this year to about 6.4 million in the

*To whose research staff the editors are indebted for most of the financial projections cited in this section of their report. CFAE statisticians, using and comparing three methods of projection, built their estimates on available hard figures and carefully reasoned assumptions about the future.

academic year 1969-70. The total income that the colleges and universities will require in 1970 to handle this enrollment will be on the order of \$9 billion—compared with the \$5.6 billion that they received and spent in 1959-60.

WHO PAYS?

VIRTUALLY EVERY SOURCE of funds, of course—however it is labeled—boils down to you. Some of the money, you pay directly: tuition, fees, gifts to the colleges and universities that you support. Other funds pass, in a sense, through channels—your church, the several levels of government to which you pay taxes, the business corporations with which you deal or in which you own stock. But, in the last analysis, individual persons are the source of them all.

Hence, if you wished to reduce your support of higher education, you could do so. Conversely (as is presumably the case with most enlightened parents and with most college alumni and alumnae), if you wished to increase it, you could do that, also—with your vote and your check-book. As is clearly evident in the figures above, it is essential that you substantially increase both your direct and your indirect support of higher education between now and 1970, if tomorrow's colleges and universities are to give your children the education that you would wish for them.

THE MONEY YOU'LL NEED

SINCE IT REQUIRES long-range planning and long-range voluntary saving, for most families the most difficult part of financing their children's education is paying the direct costs: tuition, fees, room, board, travel expenses.

These costs vary widely from institution to institution. At government-subsidized colleges and universities, for



example, tuition fees for state residents may be non-existent or quite low. At community colleges, located within commuting distance of their students' homes, room and board expenses may consist only of what parents are already paying for housing and food. At independent (non-governmental) colleges and universities, the costs may be considerably higher.

In 1960-61, here is what the *average* male student spent at the *average* institution of higher education, including junior colleges, in each of the two categories (public and private):

	Public Institutions	Private Institutions
Tuition.....	\$179	\$ 676
Board.....	383	404
Room.....	187	216
Total.....	\$749	\$1,296

These, of course, are "hard-core" costs only, representing only part of the expense. The *average* annual bill for an unmarried student is around \$1,550. This conservative figure, provided by the Survey Research Center at the University of Michigan for the U.S. Office of Education, does not include such items as clothing. And, as we have attempted to stress by italicizing the word "*average*" wherever it appears, the bill can be considerably higher, as well as somewhat lower. At a private college for women (which is likely to get relatively little money from other sources and must therefore depend heavily upon tuition income) the hard-core costs alone may now run as high as \$2,600 per year.

Every parent must remember that costs will inevitably rise, not fall, in the years ahead. In 1970, according to one estimate, the cost of four years at the *average* state university will be \$5,800; at the *average* private college, \$11,684.

HOW TO AFFORD IT?

SUCH SUMS represent a healthy part of most families' resources. Hard-core costs alone equal, at public institutions, about 13 per cent of the average American family's annual income; at private institutions, about 23 per cent of average annual income.

How do families afford it? How can *you* afford it?

Here is how the typical family pays the current average bill of \$1,550 per year:

Parents contribute.....	\$950
Scholarships defray.....	130
The student earns.....	360
Other sources yield.....	110

Nearly half of all parents begin saving money for their children's college education well before their children are ready to enroll. Fourteen per cent report that they borrow money to help meet college costs. Some 27 per cent take on extra work, to earn more money. One in five mothers does additional work in order to help out.

Financing the education of one's children is obviously,

for many families, a scramble—a piecing-together of many sources of funds.

Is such scrambling necessary? The question can be answered only on a family-by-family basis. But these generalizations do seem valid:

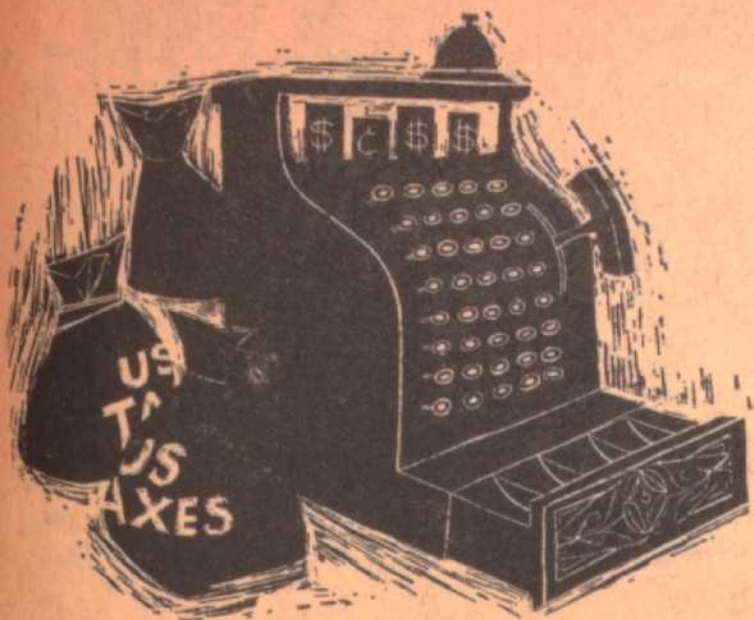
► Many parents *think* they are putting aside enough money to pay most of the costs of sending their children to college. But most parents seriously underestimate what these costs will be. The only solution: Keep posted, by checking college costs periodically. What was true of college costs yesterday (and even of the figures in this report, as nearly current as they are) is not necessarily true of college costs today. It will be even less true of college costs tomorrow.

► If they knew what college costs really were, and what they are likely to be in the years when their children are likely to enroll, many parents *could* save enough money. They would start saving earlier and more persistently. They would gear their family budgets to the need. They would revise their savings programs from time to time, as they obtained new information about cost changes.

► Many parents count on scholarships to pay their children's way. For upper-middle-income families, this reliance can be disastrous. By far the greatest number of scholarships are now awarded on the basis of financial need, largely determined by level of family income. (Colleges and other scholarship sources are seriously concerned about the fact, indicated by several studies, that at least 100,000 of the country's high-school graduates each year are unable to attend college, primarily for financial reasons.) Upper-middle-income families are among those most seriously affected by the sudden realization that they have failed to save enough for their children's education.

► Loan programs make sense. Since going to college sometimes costs as much as buying a house (which most families finance through long-term borrowing), long-term





repayment of college costs, by students or their parents, strikes many people as highly logical.

Loans can be obtained from government and from private bankers. Just last spring, the most ambitious private loan program yet developed was put into operation: United Student Aid Funds, Inc., is the backer, with headquarters at 420 Lexington Avenue, New York 17, N.Y. It is raising sufficient capital to underwrite a reserve fund to endorse \$500 million worth of long-term, low-interest bank loans to students. Affiliated state committees, established by citizen groups, will act as the direct contact agencies for students.

In the 1957-58 academic year, loans for educational purposes totaled only \$115 million. Last year they totaled an estimated \$430 million. By comparison, scholarships from all sources last year amounted to only \$160 million.

IS THE COST TOO HIGH?

HIGH AS THEY SEEM, tuition rates are bargains, in this sense: They do not begin to pay the cost of providing a college education.

On the national average, colleges and universities must receive between three and four additional dollars for every one dollar that they collect from students, in order to provide their services. At public institutions, the ratio of non-tuition money to tuition money is greater than the average: the states typically spend more than \$700 for every student enrolled.

Even the gross cost of higher education is low, when put in perspective. In terms of America's total production of goods and services, the proportion of the gross national product spent for higher education is only 1.3 per cent, according to government statistics.

To put salaries and physical plant on a sound footing, colleges must spend more money, in relation to the gross national product, than they have been spending in the past. Before they can spend it, they must get it. From what sources?

Using the current and the 1970 figures that were cited earlier, tuition will probably have to carry, on the average, about 2 per cent more of the share of total educational costs than it now carries. Governmental support, although increasing by about a billion dollars, will actually carry about 7 per cent less of the total cost than it now does. Endowment income's share will remain about the same as at present. Revenues in the category of "other sources" can be expected to decline by about .8 per cent, in terms of their share of the total load. Private gifts and grants—from alumni, non-alumni individuals, businesses and unions, philanthropic foundations, and religious denominations—must carry about 6 per cent more of the total cost in 1970, if higher education is not to founder.

Alumnae and alumni, to whom colleges and universities must look for an estimated 25 per cent (\$505 million) of such gifts: please note.

CAN COLLEGES BE MORE EFFICIENT?

INDUSTRIAL COST ACCOUNTANTS—and, not infrequently, other business men—sometimes tear their hair over the "inefficiencies" they see in higher education. Physical facilities—classrooms, for example—are in use for only part of the 24-hour day, and sometimes they stand idle for three months in summertime. Teachers "work"—*i.e.*, actually stand in the front of their classes—for only a fraction of industry's 40-hour week. (The hours devoted to preparation and research, without which a teacher would soon become a purveyor of dangerously outdated misinformation, don't show on formal teaching schedules and are thus sometimes overlooked by persons making a judgment in terms of business efficiency.) Some courses are given for only a handful of students. (What a waste of space and personnel, some cost analysts say.)

A few of these "inefficiencies" are capable of being curbed, at least partially. The use of physical facilities is being increased at some institutions through the provision of night lectures and lab courses. Summer schools and year-round schedules are raising the rate of plant utilization. But not all schools are so situated that they can avail themselves of even these economies.

The president of the Rochester (N.Y.) Chamber of Commerce observed not long ago:

"The heart of the matter is simply this: To a great extent, the very thing which is often referred to as the 'inefficient' or 'unbusinesslike' phase of a liberal arts college's operation is really but an accurate reflection of its true essential nature . . . [American business and industry] have to understand that much of liberal education which is urgently worth saving cannot be justified on a dollars-and-cents basis."

In short, although educators have as much of an obligation as anyone else to use money wisely, you just can't run a college like a railroad. Your children would be cheated, if anybody tried.

In sum:

WHEN YOUR CHILDREN go to college, what will college be like? Their college will, in short, be ready for them. Its teaching staff will be competent and complete. Its courses will be good and, as you would wish them to be, demanding of the best talents that your children possess. Its physical facilities will surpass those you knew in your college years. The opportunities it will offer your children will be limitless.

If.

That is the important word.

Between now and 1970 (a date that the editors arbitrarily selected for most of their projections, although the date for your children may come sooner or it may come later), much must be done to build the strength of America's colleges and universities. For, between now and 1970, they will be carrying an increasingly heavy load in behalf of the nation.

They will need more money—considerably more than is now available to them—and they will need to obtain much of it from you.

They will need, as always, the understanding by thoughtful portions of the citizenry (particularly their own alumni and alumnae) of the subtleties, the sensitiveness, the fine balances of freedom and responsibility without which the mechanism of higher education cannot function.

They will need, if they are to be of highest service to your children, the best aid which you are capable of giving as a parent: the preparation of your children to value things of the mind, to know the joy of meeting and overcoming obstacles, and to develop their own personal independence.

Your children are members of the most promising American generation. (Every new generation, properly, is so regarded.) To help them realize their promise is a job to which the colleges and universities are dedicated. It is their supreme function. It is the job to which you, as parent, are also dedicated. It is *your* supreme function.

With your efforts and the efforts of the college of tomorrow, your children's future can be brilliant. If.



“The College of Tomorrow”

The report on this and the preceding 15 pages is the product of a cooperative endeavor in which scores of schools, colleges, and universities are taking part. It was prepared under the direction of the group listed below, who form EDITORIAL PROJECTS FOR EDUCATION, a non-profit organization associated with the American Alumni Council. Copyright © 1962 by Editorial Projects for Education, Inc., 1707 N Street, N.W., Washington 6, D.C. All rights reserved; no part of this supplement may be reproduced without express permission of the editors. Printed in U.S.A.

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