

stipends. And out of his research grants come publications and promotions. It is in the nature of things that research should bring certain kinds of rewards more predictable than does teaching. The able researcher, through publication, gains a national reputation. But the able teacher is rarely known, as a teacher, beyond his own college or university. Good teaching is not only a relatively private performance, but it resists measurement."<sup>12</sup>

A friend sent me a cartoon the other day from the student paper of a sister state university.<sup>13</sup> The drawing shows three men standing in front of a large desk, a desk manned by an obviously all-seeing dean in full charge of the situation. Two of the standing figures are wearing loose robes and sandals; the third appears in more modern dress. The dean's pontifical pronouncement carried in the caption reads: "Since you, Mr. Christ, and you, Mr. Socrates have not published, and you, Mr. Marx have. . ." the sentence trails off!

Now we are, indeed at the nub of the matter! Does the reward and status system in academic society make truly effective undergraduate and professional teaching impossible to come by? That we have a problem there can be no legitimate doubt! That we cannot solve the problem we

1. Columbus Dispatch, Monday, April 26, 1965. Page 3B.
2. The reference is to the late Judson Herrick. Cited in: Gray James, "The Great Ravelled Knot", Scientific American, CA. 1946.
3. The calculation was made by Charles and Ray Eames for their film, *A Communications Primer*.
4. Stone, Irving, "A Poor Boy Goes To College", *California Monthly*, June, 1962, pp. 30-31.
5. "Campus Agitation vs. Education". *Life*, January 22, 1965, p. 4.
6. "Berkeley's Lesson", Editorial Page, *The Wall Street Journal*, December 23, 1964.
7. *Life*, Op. Cit., p. 4.
8. As cited by *The Wall Street Journal* Editorial, Op. Cit.

must decline to believe. If we were to concede a defeatist position we would do well to close our universities now, before the public, which already brings serious charges, prosecutes us in the opinion courts of the nation and finds that we in higher education are guilty of false advertising!

Let us resolve to seek attractive, indeed compelling, encouragement, recognition, and then reward, for truly effective teaching. And, as we tend to recoil from the difficulties inherent in establishing the presence of superior distinction and commitment in teaching, let us be honest with ourselves and admit that there have been serious flaws in our judging the true quality of research, too.

I have talked too long. I apologize for that, and for any other of my sins of commission and omission on this occasion. I have, I suspect, sounded militant. That is only because I am militant; militant in behalf of better teaching. It would be my heartfelt hope, that to the comfort of our professional, and humane, consciences, collective and individual, we may know in truth that among the thousands of young men and women surrounding us on our campuses, and depending desperately upon us, there may be those who will one day remember of us that we rallied their intellects saying: "Good Evening, Sir"!

9. Kemeny, John G., "Once the Professor Was A Teacher . . .", *New York Times* magazine, CA. October, 1964.
10. Orlans, Harold, "Federal Expenditures and the Quality of Education", *Science*, December 27, 1963, Vol. 142, No. 3600, p. 1626.
11. Hook, Sidney, "Freedom To Learn But Not To Riot", *New York Times Magazine*, January 3, 1965, pp. 8-9, 16, 18.
12. "The Flight from Teaching". The Carnegie Foundation for the Advancement of Teaching, Autumn, 1964, 14 pp.
13. The Student Newspaper of the University of California at Los Angeles.

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## Tomorrow's Student

### in Agriculture

The student majoring in agriculture today is faced with an entirely different situation than that of former years. In the past, many students in agriculture selected such a major intending either to return to the land or to buy land after graduating, and going into farming or ranching. Today, the high capitalization required to start in either field all but precludes such a plan; and about the only way for a student to get into ranching or farming is either to marry it or inherit it.

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Such being the case, the student interested in agriculture must look to other sources of employment in the field. There are many, the majority of which have developed in comparatively recent years. For the most part these fields are really services required by agriculture and include agricultural machinery, agricultural chemicals, fertilizers, farm and ranch management and consultant work, feed-lot management, landscaping, management work in connection with golf courses, meat packing industry (especially selling), production of pure seed, and many others, to

say nothing of the numerous phases of research work in all agricultural fields.

The saying "that nature never remains static but is ever changing", is more than amply demonstrated with the phenomenal changes which have taken place in agriculture in the past two decades. The result has been that the curriculum for an agricultural degree today is much more scientific than previously, and from present indications will become more so in the years ahead.

Therefore, a student planning on a career in the agricultural fields must have a much broader training in high school in the sciences such as mathematics, chemistry, biology and physics to meet successfully the requirements of the present day degree curriculum.

Science is being emphasized to a much greater degree in the high schools today than in the past, which in turn will provide students much better prepared for college. A degree in agriculture which at one time was considered largely practical training is today more scientific and technical.

As to the field of specialization, the student has a wider choice than ever before. Many of the products used in agriculture and many of the occupations in industries allied to agriculture did not exist as recently as ten years ago.

The statement has been made that there is less future in agriculture today than formerly. The ever increasing millions appearing on the globe today will have to be fed. Since agriculture is our main source of food, an increased efficiency resulting in more production per acre or per animal unit will be imperative to produce sufficient food to meet the world's needs. While we today consider our agricultural surpluses a problem, the time will come in the not too far distant future when such surpluses may be considered a blessing. As long as people have to be fed there will be a need for agriculture.

The areas in agriculture from which a student may select a field of specialization are today much greater than ever before. Further, a student who has a flair for selling will have little difficulty in finding remunerative employment. A student who majors in agri-business will be well equipped to meet the requirements for employment in a wide range of the fields of agriculture.

On the other hand, should a student be interested more in research work, the opportunities are as unlimited as the fields of specialization. Since additional acres of good land are limited (unless developed by expensive irrigation sys-

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With the emphasis which is presently placed on college education, justification is often questioned by parents and students as to the high costs involved in obtaining an education. Certainly there are many specific returns which cannot be measured or valued in monetary terms. Recognition is made of values such as increased levels of understanding and utilization of current happenings, cultural improvement, a more informed citizenry as well as a general feeling of accomplishment and an increase in productive ability.

After considering these rewards, there still remains the problem of limited funds available at the time a son or daughter is ready to embark on a college career. Should we take funds from other desired uses and add to part-time work earnings in order to assure the student essential amounts to complete this objective? Can we afford this outlay even though expenditures for necessities are presently very limited? How much money is required for a year of college attendance?

For some years an experiment has been conducted in beginning agricultural economic classes to determine expenditures students make while attending college. During this study each student is asked to calculate costs including: fees, books,

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## A View of | COSTS and RETURNS | of a College Education

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supplies, room, board, clothing purchase and maintenance, recreation, transportation, personal (haircuts, beauty shop, etc.), insurance, and other incidental expenses.

First a student may determine the cost of each hour of college credit by using the total cost of all items above in comparison to the total credit load. Applying the cost per credit hour to a total of 124 hours required for a B. S. Degree, an estimate of the total investment for a degree is visualized.

Second, the total costs determined above may be used to ascertain the costs per hour of classroom attendance. Students taking part in this study indicated an average cost per hour of classroom attendance to be \$2.13 for fall semester 1964 and \$2.39 for fall semester 1965. In comparison, students had costs of \$1.62 per hour in fall 1960.

According to estimates by the National Educational Association, the life income for college graduates averages \$103,000 more than for those who receive only high school training. Based on these estimates and results of student inquiries, the fall 1965 students can invest ap-

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