[Fr. Terry, Sept. 14, 1964]

A PROPOSAL FOR A COLLEGE OF SCIENCE
AT
THE UNIVERSITY OF SANTA CLARA

This is a proposal that a College of Science be established at the University of Santa Clara. The College of Science would consist of the departments of biology, chemistry, mathematics, and physics. This college would provide courses in mathematics and the physical sciences for the other undergraduate colleges of the University. It would rely on the College of Arts for courses in the humanities and arts.

The most fundamental reason for setting up a separate College of Science is that mathematicians, biologists, doctors, chemists, and physicists require a special type of pre-professional education. The first class undergraduate in each of these fields almost invariably goes on to a professional school or a graduate school. And in these areas the graduate departments have been even more demanding than the schools of medicine.

The proper education of a well rounded and thoroughly competent scientist is a modern unsolved problem. Because some elements of the solution lie beyond the individual departments and beyond the Division of Mathematics and Physical Sciences, the problem must be solved at the college level. At Santa Clara the College of Arts and Sciences has become so big that the dean must be a "house-keeping dean" not an academic dean. The dean of a

College of Science, with an enrollment of 350-500 students, would have time to work on this problem with his professors and students. He would also be in a position to obtain the cooperation of the College of Arts.

The University of Santa Clara is unusual in having a notable concern for the humanities and also strong undergraduate departments in mathematics and the physical sciences. This gives the University a rare opportunity to attack the problem of the "two cultures." The proposed College of Science would be ideal for developing such a solution -- small enough to be able to change, and large enough to produce significant results.

Solving this problem requires simultaneous answers to two questions. How can the undergraduate student in science cope with the rapid increase in scientific information without increasing the time devoted to science? How can the humanities and the arts exert a greater influence on such a student in the limited time he has to devote to them? Finding these answers means constant revision of courses in the sciences to keep them up to date without enlarging them, as well as constant experimentation with courses and extra-curricular programs in the humanities and arts to increase their effectiveness.

Chairmen of departments or directors of divisions must be primarily concerned with the quality of instruction in their department or division. The dean is responsible for the balance and the effectiveness of the students' entire undergraduate education.

Because there are special problems in the balance and effectiveness of the entire undergraduate education of mathematicians and scientists, there should be a dean who is effectively concerned with this. In a College of Science this would be possible.

The primary purpose of the College of Science would be to offer that rare program -- first class education in mathematics and the physical sciences and effective education in the humanities and the arts. Such a distinctive program should have a special appeal for graduates of Catholic high schools who are interested in science, because this program builds on their Catholic background without sacrificing their education in their major field. The graduates of such a program will make their mark in the world of science as thoroughly competent scientists and as well educated Christian men. In a world that worries about the "two cultures," such a program should enhance the reputation of the University. The development of such a program is possible in a reasonable period of time only in a College of Science.

With the present enrollment, increased laboratory facilities are imperative for September 1965. Someone must continually push the raising of money for the new science buildings, make certain that the plans progress in accordance with the needs of the departments concerned, and be alert for whatever might prevent the completion of these buildings by September 1965. In the present University structure, this is impossible. This would be the responsibility of the dean of the College of Science.

The College of Science will be no better than its faculty. Maintaining the proper balance of teaching and research requires constant attention. If the balance is lost, professors become dissatisfied, and it is difficult to recruit other first class professors. Comparable conditions must be maintained in all the departments to keep faculty and student morale high. Wherever necessary the quality of the faculty must be improved. These would be responsibilities of the dean of the College of Science.

The departments of the College of Science need excellent students. Average students do not survive in these programs. There is great competition for bright high school students, and the bright high school students interested in science usually know what they want in their collegiate and graduate education. The College of Science should do its own specialized recruiting. It has, however, the advantage of offering a distinctive program of high quality. The departments concerned could expect to get a notably greater number of excellent students if the departments were in a College of Science with a distinctive recruiting program.

The liaison between the School of Engineering and the departments of physics and chemistry is excellent. (This is always a matter of amazement to visiting professors.) Relations with the department of biology need some improvement, and those with the department of mathematics need considerable improvement. Someone at the dean's level needs time to work on this, otherwise the University loses the advantage of its smallness.

There is considerable federal and foundation money available for research and for special instructional programs in mathematics and the physical sciences. With their present teaching loads the other responsibilities, department chairmen cannot keep up with this. This would be the responsibility of the dean of the College of Science.

One of the best forms of academic publicity is a conference or a colloquium whose proceedings are published. The University now has the facilities for such conferences and colloquia. On the west coast it is easy to get outstanding scientists. With some time for planning and organizing, the College of Science could present conferences on "Science and Philosophy," "Science and Politics," "Science and Religion," etc.

At present the University of Santa Clara has the strongest group of undergraduate science departments of any Catholic school on the west coast. To maintain this superiority, the curriculum in the humanities and arts must be improved, the science buildings must be completed by September 1965, the program and facilities must be publicized, greater numbers of bright students must be recruited, the biology faculty must be strengthened, and the development of the departments must be planned with a knowledge of what federal and foundation money is available. This is at least a full-time job for one man. Part of these responsibilities require the standing and authority of a dean. For the best development of the departments of mathematics, biology, chemistry,

and physics and for the greatest benefit to the University from the efforts of these departments, a College of Science should be established at the University of Santa Clara.

Respectfully submitted by,

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