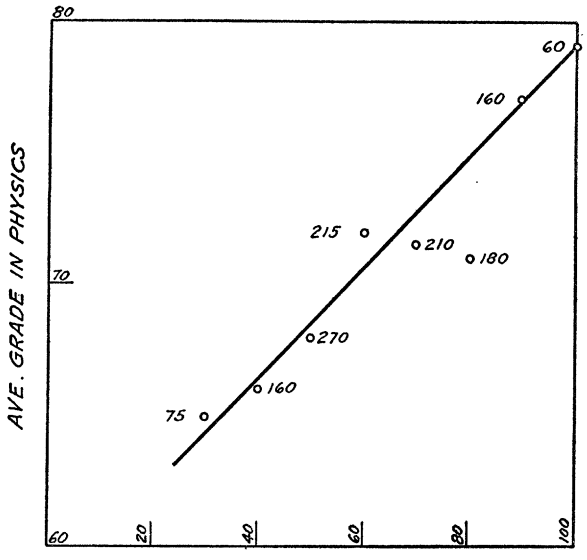
and Bowdoin College. The tests in mathematics were given at the beginning of the school year 1930-1931. The grades of the students made later in physics were sent to the author, and the results about to be presented were obtained from these reports.

Graph A represents the results of the comparison

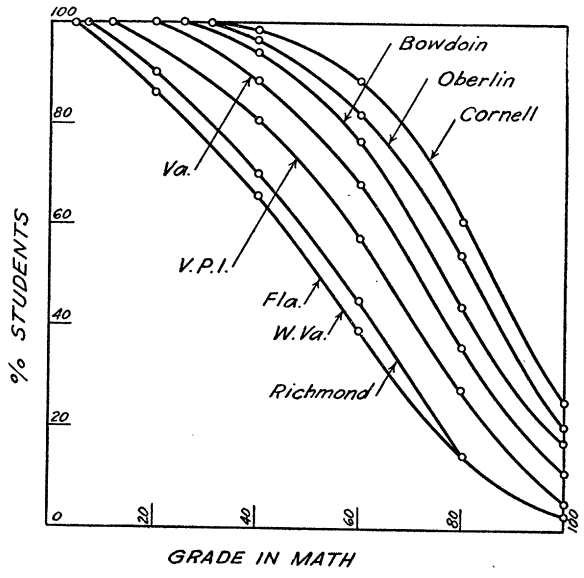


GRAPH A

of grades. Opposite each point is the number of students who made a given grade in mathematics. The ordinate is the average grade in physics made by these students. As is evident from the graph, the averages made in physics seem to be directly proportional to the grade which represents the mathematical preparation of the student. Only in the middle of the range, where the preparation is neither very good nor very bad, is it difficult to predict the success of the student in physics from his mathematical abilities.

In most institutions physics is considered one of the hardest courses on the campus. The number of failures in physics is usually very high. A great deal of this mortality is undoubtedly due to the very poor preparation of the student in the elements of the mathematics. After all, algebra and trigonometry is a part of the language of elementary physics, and if a student has to spend a great deal of time in unraveling the mysteries of this language he is bound to lose sight of the physical principles involved. It would seem advisable to give suitable tests in mathematics to all who are about to take the beginners' course in physics, and to dissuade from taking the course those students who show very poor preparation.

The results of the mathematics tests gave the opportunity also to compare the preparation of students in various colleges. In graph B, the percentage of the students in a given college is plotted against the



GRAPH B

mathematics grade these students have attained or exceeded. The three upper curves are those of the endowed colleges.

As it was to be expected, the students of the privately endowed institutions showed a much better preparation than the students of the state institutions. The average grade in the mathematics of the students in Cornell, Bowdoin and Oberlin is about 20 per cent. higher than the average grade of some of the state institutions of the South.

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