

the beats. This may be accompanied by an increased amplitude of the contractions for a few seconds, but the contractions become diminutive very quickly, and the rapid diminutive beats are followed by a prolonged diastole. The function of the nerve-cord is restored by plasma or sea water.

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### QUOTATIONS.

#### THE COLLEGE YEAR.

THE beginning of the college year, a month ago, brought several interesting facts under discussion. For instance, in almost every college there was an increase in the number of students—in some colleges a very large increase. The demand for higher training keeps pace with the growth of wealth and population—perhaps outruns it, by mere physical measurement. Endowments and gifts to colleges continue to be made in ever-increasing sums. Yet the demands, especially of the larger universities, become greater every year. Columbia University, in New York City, for instance, has immediate need of more than two millions of dollars; and President Wilson, of Princeton, it will be recalled, formulated a plan of enlargement and improvement, last year, that calls for about twelve millions.

Dr. Alfred G. Mayer, a little while ago, put into concise form in *SCIENCE* the statistics of higher education in the United States, which show that the number of our universities and colleges in 1902 was 638, and the number of students, including graduate students, was 112,433. The number of colleges has increased by 50 per cent., and the number of students by about a hundred per cent., during the decade. But how small a part the college-bred are of the whole population is yet somewhat startling, for they comprise but one in every 700. There were twice as many teachers in 1902 as there were in 1889. The value of college property was multiplied by almost three; the endowment funds were two and a half times as great; gifts for other purposes were nearly three times as great; and the total income, exclusive of benefactions, was

more than trebled. The number of books and libraries was doubled.

In spite of this increased prosperity, the average salary of teachers has probably declined. In one of our largest universities, the average, ten years ago, was \$1,500. It is now only \$1,257. In another one, the average was \$1,454, and now it is \$1,355. This low average has been caused by the engagement of an increasing number of instructors and other subordinate members of the teaching force. The salaries of the professors themselves have not declined, but the increasing proportion of college instruction is now done by subordinate members of the faculties. Sir William Ramsay, during his recent visit to the United States, made more than one plea for increasing the salaries of teachers of high grade.

College training, except in those universities that are maintained by the states, is yet paid for by rich men and dead men. The students, even at those institutions where fees are highest, pay not more than one third of the cost of the training that they receive. It is an industry that must yet be endowed—a fact that hints of its ecclesiastical history. In the perfect economic state, the state will pay for the training of all its children. But we need not yet bother ourselves about the ideal economic state. There is enough work for us to do in training well as large a number of capable youth as possible, at the expense of rich men, living or dead, at the expense of the state, or in any other way, if only enough youth be trained, and be trained well enough.—*The World's Work* for November.

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### BOTANICAL NOTES.

#### BOTANY AS A FACTOR IN EDUCATION.

IN a suggestive and helpful article in the October number of the *School Review* Professor J. M. Coulter discusses botany as a factor in education, noticing first its special function in secondary education, and then its general function as a representative scientific study. He says truly that since plants enter very largely into human experience their study 'must relate the pupil to his most common