problem. The absorbing material applied should be tested experimentally so that the area covered will give a satisfactory result. Moreover, in cases of well-defined echoes each auditorium will probably require more detailed study.

There are an increasing number of architects in this country who are actively interested in the subject of architectural acoustics, but, with one exception, they have not devoted much time to experimental investigation. This exception is an architect who is devoting his entire time to acoustical engineering. On the other hand, the public does not realize the present knowledge on the subject of architectural acoustics and the architect does not make a serious attempt to educate. The purpose of this note is to call the attention of scientific men to the acoustical engineer and to urge their active interest so far as the education of the public and the recognition of the need of such a consulting engineer are concerned.

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ACADEMIC EFFICIENCY

TO THE EDITOR OF SCIENCE: Since on several occasions there have appeared in SCIENCE certain criticisms of the Cooke report of the Carnegie Foundation, I hope that you may be willing to publish a brief statement of an opposite view.

Both the report itself and its introduction by Dr. Pritchett state clearly that the opinions of an "outsider" were considered desirable. The recent criticisms of collegiate conditions by many who have not actually studied at first hand the things they condemn seem to have led to the investigation upon which the report is based.

Most of the opinions set forth in the report are precisely those which any well-informed person not connected with a college would hold after a similar study of what actually exists. Moreover, not a few persons on the inside of the college world hold quite similar views. In some ways certain of us go even farther in condemning a part of the things that are more or less characteristic of the college life of to-day.

Especially in trying to fit young men to meet successfully the practical conditions of the real business world, we lament most deeply the woeful lack of the "snap and vigor" which Mr. Cooke found wanting in most of the institutions visited. The "lack of intensiveness" appeals to us much more as a hindrance to the proper preparation of our students for what we know will be required of them in the near future than for any other reason. Not a few of those who employ many highly trained workers positively condemn the college graduate, and will not hire him until he has been whipped into line by sufficient practical experience after his graduation. Some of us know that this is not on account of the subjects which we teach or do not teach in our courses, but rather on account of the general attitude of many of our graduates toward the work that may be assigned them. During the first half year of the cooperative system at the University of Cincinnati, Dean Schneider says he was frequently called to his telephone to listen to something similar to this: "That cub you sent down here thinks this is a university. He won't work." Far too many young men in the colleges and in the collegiate departments of the universities "won't work." Too many students in all of our institutions have no proper conception of the real economic value of their own time or of the opportunities within their grasp. Such ones do not make efficient use of what is provided for them, in funds and in equipments of various kinds. They cut class and laboratory exercises without adequate reasons. They try all kinds of schemes to get out of regular and systematic work. They neglect to do many of the things assigned to them, in many cases up to what they consider the very lower limit of a bare passing grade. Sometimes they ask if they can "cut" this or neglect that and still have a chance to "pass." They give time, energy and most of the thinking that they do, to things which can not be of the least permanent value to them in later life.

Such students do these and many other

things which in the commercial world would not be tolerated for a single day. Some colleges have a much greater proportion of this kind of students, but all colleges have far too many. It is certainly not logical to say that the work of the colleges is so admirable in some respects that the undesirable should be overlooked.

The colleges continually appeal to the public for money and for students. Then why is not this public entitled to consider all phases of college administration and college work? It is considered wise to examine all sides to other questions, and to give the proper relative weight to all things involved. Why should the college question demand a special kind of treatment? Whether instructors and students accomplish as much as they might with the facilities available and with the funds expended is not by any means unimportant. Unless we can claim exemption from any form of criticism, we have no grounds for objection to criticism here.

However true it may be that other things connected with the work of the colleges are more important than those discussed in the Cooke report, no convincing reasons have been given, nor can be given, to show that the bad in our college system can not be improved without the least detriment to the good. In fact to improve in one line must naturally tend to improve others also. To waste time and money will not help any student to become a great scientist or a good citizen. A long, tedious and expensive investigation is more likely to bear fruit in the hands of one who has some idea of the value of his own time and the other things he employs. The dilettante in science hinders its progress more than he helps.

I can not see how improvement in the business management of our colleges or improvement in the quality of our student body by sending home those who will not do a reasonable amount of work, or improvement in other lines that might be mentioned, can in the least do other than "tend to assist those conducting these institutions and their students towards the attainment of their own highest ideals in scholarship, character development and culture."

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February 21, 1911

LABORATORY TABLE TOPS

TO THE EDITOR OF SCIENCE: In SCIENCE for February 17, 1911, I notice a short discussion of suitable material for laboratory table tops. Having just found something quite satisfactory, which, so far as I know, is new, the mention of it may be of interest.

The table I have recently tried has a hexagonal top approximately six feet in diameter. The substratum is of pine seven eighths thick and of pieces cross-joined. This substratum is overlaid with a three eighths cover of "asbestolith," a composition of asbestos and cement. This cover of asbestolith was infiltrated with paraffin. To hold the cover the substratum was partially bored to supply small holes which were filled with the asbestolith. This asbestolith is laid on like cement and hardens. It can be made to cover the edge of the top so that the top has the appearance of a solid slab. This top has an absolutely continuous surface, a high degree of resilience, is acid and alkali proof, and can be repaired at any time to original form. The only effect of heat is to melt the paraffin, but this has not proved a serious objection, as it can always be rubbed down to look well. The work was done for me by the Waco Cement Company, but no doubt can be duplicated almost anywhere.

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TOTEMISM

IN SCIENCE for February 17 there appeared a report of a paper on "The Totemic Complex" read by myself at a meeting of the Anthropological Society of Washington, on January 17, 1911. I wish to correct some statements made in that report, which might prove misleading. The beginning of the study of totemism does not date back to the sixteenth but to the later half of the nineteenth century. The various features of totemism (exogamy,