to the putting away of those petty restrictions which were formerly a constant menace, and erected an impassable barrier between the teacher and the taught. We no longer, like the Irishman, stand aloof with a chip on the shoulder, and dare any of the boys to knock it off; but we invite confidence, and receive it, and our relations with the students is not that of taskmaster and toiler, but that of guide and friend. Had our worthy president done no more than break down that old middle wall of partition, he would for this great feature of his administration alone deserve the everlasting gratitude of this community. And let me entreat you, my brethren, not to allow any one to reinstate this wall, or even to lay the first brick in its reconstruction.

Most of our sister institutions are struggling with hobbledehoydom still. Only a few day ago, one of our distinguished graduates, and a highly valued professor in another New England college, said to me: "Cambridge men do not appreciate the advantages they have gained by setting their students free from petty restraints. Treat men as boys and they will act as boys. With us the boyishness first breaks out in the chapel, and then extends to all the class-rooms. It belittles all our work, and dampens all our enthusiasm." My friends, in an institution of learning like this, you cannot prize too highly the ennobling virtue of enthusiasm. To awaken it is to make the boy a man. To fail to arouse it, at least in something, is to miss the great end of education. But such virtue cannot be had without cost. Enthusiasm implies of necessity freedom; and who in this New England, after a century's experience, is not willing to incur the risk and pay the cost which freedom entails?

Finally, brethren, while noble character is the crowning grace of education, scholarship is the brightest jewel in this crown; and you may well ask, Has learning kept pace with privilege? But in attempting to answer this question I find myself in the dilemma of the learned commentator who had devoted a chapter to the snakes of Iceland. He could find no snakes, and I can find no comparison. The scholarship of to-day rests on a level so much higher than that of twenty-five years ago, that there is no common measure. I will confine myself to my own department, of which I have accurate knowledge, and of which I may speak unreservedly, because it has so broadened out that only a small part of the instruction now devolves on the director. Besides the very large class, before referred to, which attended the elementary lectures, there were actually working in the chemical laboratory last year more students than were comprised in the whole college of my day, and the contributions to chemical science which will soon be published, as the result of the year's work of students as well as of teachers, will fill more than one half of the annual volume of our American academy. A recent writer in the *Atlantic Monthly*, discussing "Why our Students go to Europe," pays us what he evidently regards as a high compliment in saying, "Now the chemical course at Harvard equals that in most German universities." Our own students who have gone from the laboratory to study abroad will tell you, as they have told me repeatedly, that, whatever advantages may be gained by association with men of special attainments, there is no University in Germany, or elsewhere, at which the instruction is at once so broad, so full, and so thorough as at home. How does this compare with recitations from "Stöckhardt's Chemistry," illustrated by popular lectures?

Fellow alumni, our attention has been so often and so loudly called of late to the shady side of college life, that, whatever opinions you may have formed, I am sure you will not blame me for inviting you on Commencement day to bask for a few minutes in its sunshine. At such a time we can only meet assertion with assertion; but I have spoken solely of what I do know, and if any one is not convinced I invite him, following the example of the anxious mother, to come and dwell among us and partake of our life. Obviously I am no pessimist, but also I am no optimist. The members of this great family are all frail human souls. Evil is ever present with us, as it was with our fathers and will be with our children. We cannot escape the curse. But we have faith in truth and right, and will fight the good fight to the end.

> "O yet we trust that somehow good
> Will be the final goal of ill,
> To pangs of nature, sins of will,
> Defects of doubt, and taints of blood."

We all boast the same intellectual parentage. You for the most part have gone out into the world and found a career elsewhere. I am one of the few who have always stayed by the homestead since I was first received into the brotherhood with the Class of 1848. For nearly half a century I have known the dear old Mother as well as a devoted son possibly could; and let me assure my brothers who have come home to keep this feast, that during her long life our Alma Mater was never so worthy of our admiration and veneration, of our love and devotion, as she is this day.

BOOK-REVIEWS.

A Manual of Machine Construction, for Engineers, Draughtsmen, and Mechanics. By JOHN RICHARDS. Philadelphia, Lippincott. $5.

AN experience in constructive engineering extending over a period of thirty-five years, in both Europe and America, has admirably qualified Mr. Richards for the task of preparing this volume. That the task is well done, will not be doubted by those acquainted with his previous work in the same line, which includes a number of treatises on various mechanical subjects.

The book is unique in more than one respect. It is intended to meet the every-day wants of the practical man, in draughting-room or work-shop, and is consequently more a work of direct application than of theoretical instruction. While concise, as such a book must necessarily be, it nevertheless touches with sufficient detail on many minute points concerning which very little has heretofore been accessible in print. The author states that the preparation of the work was suggested many years ago by the inconvenience of common references such as are required in usual machine practice, and by a belief that some more simple form, adapted directly to use, and confined to those things most commonly dealt with, would be of value. Being made up mainly from the personal experience of the author, reproducing and classifying work already constructed, the book presents in a convenient form material gathered in the course of a long and diversified experience, the exact rules formulated in accordance with theoretical considerations being modified to suit the limitations and exigencies of actual practice.

A peculiar feature of the book is its make-up, being bound so that it opens at the end of the page instead of at the side, after the manner of a reporter's note-book, or legal-cap paper; and each alternate page is left blank, for convenience in reference and also to receive notes and original matter. The page titles and numbers are placed at the bottom of the page to facilitate convenience in reference.

The volume is divided into sections on machine design, the transmission of power, steam machinery, hydraulics, and processes and properties, followed by a section devoted to tables and memoranda of weights and measures; standards for screws, bolts, and nuts; sizes of wood and machine screws; circumferences and areas of circles; square and cube roots, etc. To engineers and draughtsmen engaged in machine design or construction, this book will prove of special value.

Monopolies and the People. By CHARLES WHITING BAKER. New York. Putnam. 12°. $1.25.

THIS work is an attempt to solve the problems presented by the new form and organization of industry. The author is impressed, as most persons are, by the rapid growth of "trusts" and other combinations of a monopolistic character, and by the evils they sometimes produce; and he here undertakes to furnish a remedy for those evils. He writes in a judicial tone and with an evident desire to be fair to all parties. He gives an account of the origin and growth of the combinations known as "trusts," with other chapters on monopolies in minerals and transportation, placing also the labor unions in the general class of monopolies. He regards them all as natural outgrowths of existing industrial conditions, and while he acknowledges that they are in some respects beneficial, he is especially impressed with the abuses that attend them. So far his readers will probably agree with him; but when he comes to state the remedies for the evils he speaks of, we, at least, are obliged to dissent. He holds that the true remedy for monopoly is