the bearings of the epidemic upon the increase not only of suicides, but of other grave crimes.

Many interesting questions in connection with treatment might be discussed; but as the subject of treatment has been assigned in this discussion to Dr. Hare, I will only speak of one point.

The use in influenza of hypnotics, narcotics, sedatives, and motor depressants is a question of particular interest in connection with the study of the nervous and mental phenomena of the disorder. The views of practitioners and writers are here decidedly at variance. Serious mental and nervous complications or actual insanities occurring during influenza have been attributed to the too free use of such chemically powerful remedies, as phenacetin, antipyrin, antifebrin, chloral, bromides, sulfonal, and paraldehyde; and our older narcotics such as opium, hyoscyamus, conium, and cannabis indica, have also come in for a share of blame. Persisting conditions of nervous prostration, and chronic respiratory and cardiac neuroses, have also been charged to drugs. Undoubtedly such criticisms have some foundation, but it remains true that each of the remedies named has proved itself of some value in the treatment of influenza, and particularly of its nervous types. The enormous consumption of a drug like antipyrin is a practical argument both for and against its use. What Grasset has said of this remedy might with almost equal truth be said of almost any of the rest. "This agent," he says, "vaunted by some as a panacea against all manifestations of the disease, is considered by others a remedy absurd and irrational in all cases. The truth would seem to reside between these two extreme opinions."

DENTAL EDUCATION. A FEW SUGGESTIONS AS TO NEEDED IMPROVEMENTS.

Read before the Chicago Dental Club, December 28, 1891.

BY JOHN S. MARSHALL, M.D.,
OF CHICAGO, ILL.

Mr. President and Gentlemen of the Club:

The question which has been chosen as the topic for discussion this evening is, to my mind, one of great interest and of vital importance to the future of dentistry.

The facilities for general education provided by a State or a Nation, indicate the degree of its intelligence and civilization. Education and civilization go hand in hand, while error and superstition are driven into oblivion before the light of truth and knowledge. As there can be no question of greater importance to a State than the education of its people, so there can be no question of graver moment to a profession, than the education of the young men who are to enter its ranks.

This is an age of progression; an age of intense earnestness; an age of high ideals. In every department of life this is made manifest. From the most humble callings to the most exalted of the professions, we recognize an intense desire for improvement. It permeates every avenue of human existence, and influences our physical conditions, our social surroundings and our mental culture.

In educational matters there is the greatest activity. Every department of learning is advancing to higher ground. New methods of teaching are being introduced. Obsolete and cumbersome systems are

being discarded, and a disposition is manifested to "prove all things, and hold *fast* that which is good."

"Thus times do shift; each thing his turn does hold;
New things succeed, as former things grow old."

Great universities are also being founded, and those now in existence are enlarging and organizing new departments, for the express purpose of furnishing more extensive facilities for higher and post-graduate education in literature, in the arts and the sciences. In this, the promoters are simply meeting the popular demand for higher learning.

The learned professions—so-called—are demanding higher attainments of those who desire to enter their ranks. This is particularly true of divinity, of law and of medicine.

In all of these departments of learning, the preliminary qualifications for entrance into their schools are being placed upon a higher plane, but in none has greater advancement been made in this respect than in medicine. With all this, however, the number of young men applying for admission to the medical colleges, who have received a collegiate training, is nevertheless increasing every year. In the dental departments of some of our universities, a noticeable improvement has also taken place in this respect. In a few of them, the entrance examinations have been made the same as for medical students, while the number applying for admission who are exempt from entrance examinations by virtue of possessing certificates of higher qualifications, is gradually but surely increasing.

The young men of character are seeking a broader culture and a deeper scientific knowledge, before entering upon their professional studies, and as a result, they are in reality forcing the colleges to raise the standard of preliminary requirements, and to do more thorough and scientific work.

Most of the dental colleges, however, are not doing their duty in this matter; the ambition for large classes and a handsome financial balance at the end of the year prevents them from taking the high position which it is their privilege to occupy, and they are content to be governed by this lower motive, rather than the higher one of educational advancement.

America has heretofore been the educational centre of dentistry for the whole civilized world, but it will soon lose its prestige, unless a decided advance is made upon the present requirements and methods of teaching, generally pursued in a majority of our colleges.

The English, French and German schools are ambitious to be leaders, and unless our institutions take a more advanced position, they will soon find themselves outstripped and dropping towards the rear in this onward march of progress. There is already a perceptible falling off in the number of foreign students attending the American dental colleges.

Let us, for a moment, review the history of our profession. Sixty years ago, dentistry was nothing more than a trade, and practiced principally by barbers and blacksmiths. It could make no pretense to being a learned profession, for it had no schools, no literature worthy of the name, and no societies. In its ranks could be found only a very few men of learning; but these few, like the little leaven in the barrel of meal, "leavened the whole lump."

To the faith and efforts of those noble men, Bond, Harris, Hayden, Parmlee, Wescott, Maynard, Harwood, Tucker, Keep, we owe our present advantages;

our colleges, our periodical literature, our text-books and our societies. Do we realize what they sacrificed, in time, in money and in health, that we, their professional children, might have all these advantages, and that through them, suffering humanity might be blessed?

Were they living to-day, we feel quite sure they would labor even more earnestly, and make even greater sacrifices than of yore, to keep the profession which they loved so dearly, well in the fore-front of human progress. They would not willingly rest upon the laurels already won, but would press forward and upward; while upon their banner would be inscribed

"The strange device, 'Excelsior.'"

Is it not our duty, then—if we would be worthy such a parentage—to make every effort in our power to still further advance the educational interests of our chosen profession? Could we offer a more beautiful or noble tribute of our appreciation of their sacrifices and labors?

Comparing the status of dentistry of those times with that of to-day, we recognize a very great advancement, but all departments of scientific learning have made progress equally great.

Our system of dental education is still capable of much improvement. Your attention, therefore, is solicited to the consideration of a few of the most important changes that seem to us much needed at the present time, to keep our colleges in the fore-front of educational advancement.

First: The qualifications for admission should be raised to a higher standard.

Nothing less than a high school education should be accepted as a qualification for admission. Most of the dental schools claim to require a grammar school education as a prerequisite to matriculation; but we are all well aware of the fact that this is not insisted upon in very many of the colleges, and young men are graduated every year who have not a sufficient knowledge of their native language to write a grammatical sentence, or correctly spell many of the words contained in it. This is all wrong, and a reproach upon the good name of American dentistry.

Some of the better class of the colleges have claimed they were not supported in their efforts to raise the standard of preliminary requirements: that while they were willing to admit the requirements were low, they were nevertheless too high for many of the students sent to them. The fault in this regard lies partly with the profession, by encouraging young men to attempt the study of subjects for which they are totally unfitted by reason of their ignorance. But this does not exonerate the colleges. Such students are hampered and handicapped all through their college course, and are usually of little account in after professional life.

Let us rather encourage and stimulate, as far as we may, every young man who contemplates the study of dentistry, to take a full course of college training in the sciences before taking up professional study. In this way and this way only, can we hope to make dentistry one of the highest of scientific callings.

Second: The course of study in the fundamental sciences of medicine should be broadened and the whole course of instruction more systematically graded.

It should be so arranged that the student will advance, by natural steps, through the entire course.

Beginning with the foundation studies of anatomy, histology, chemistry, and physiology, and advancing from these to the study of pathology, materia medica and therapeutics, and finally to the application of remedies and surgical operations for the cure of disease and the restoration of lost parts by mechanical and other means. Little or no attention has been paid to this subject by the majority of the dental colleges and until recently, with few exceptions, a strict division of the students into separate classes has not been attempted, but, all were ground through the entire course of study, juniors and seniors together "in a hit or miss," "go as you please" sort of fashion, that, to say the least, has not been conducive to the best education of the young men committed to their charge. In every other department of learning, except medicine and dentistry, from the primary school to the university, the graded system is the only one in use. Experience has taught that by this system, which is the natural one, the student is not overwhelmed with a heterogeneous mass of knowledge, much of it beyond his comprehension, but, on the other hand, he is led step by step from the simple to the complex, from a study of the normal structure and functions of the human organism to the recognition of disease and its causes and the means to be applied for its prevention and cure.

Third: The substitution of the recitation plan of instruction for the old lecture system would in many departments be of very great advantage to the student.

By following a certain text book and requiring the substance of a given number of pages as a lesson, to be thoroughly learned, and recited each day, the student makes better progress than by listening to lectures and attempting to take notes. This is not simply our own opinion formed from student life and years of professional teaching; but is the conviction of several gentlemen eminently qualified by many years of experience as teachers in professional schools. The teacher, however, should not confine himself at the recitation to the text of the lesson; but he should be given full liberty and expected to explain and elucidate each subject to the best of his ability.

Another advantage to be gained by this method is a closer personal contact between the teacher and the student. This advantage cannot be over-estimated. To do the best work for the individual student, the teacher must know the disposition and capabilities of each member of his class. All cannot be taught by precisely the same methods; some can be led; others must be driven; some need encouragement, others must be held back; but by adapting his teaching to the individual requirements he creates enthusiasm in his work, a knowledge of the subject is gained and thus he accomplishes the desired end.

Fourth: Each class could, with advantage, be divided into small sections for laboratory and clinical instruction.

A competent demonstrator or clinician should be placed in charge of each section; and it should be his duty to guide the hand and the eye of the students in the practical manipulations of the laboratory and operating rooms rather than to do the work himself or leave the student to discover (?) after repeated failure and discouragement, a method of his own. The finest operators in surgery and dentistry can be, and have been made by this individual method of teaching.

Fifth: There is imperative necessity for a longer course of professional study.

The time has recently been extended to three years of college instruction of five months in each year; while a few colleges have extended the yearly sessions to six, seven and even nine months. This is a very gratifying advance, but it falls far short of what is really required. Dentistry in its highest sense is a department of medicine and should be studied as such! To acquire a good knowledge of the fundamental sciences of medicine, and the special manipulative training necessary to make a good dentist, in the time demanded by a majority of the dental colleges is simply an impossibility; only a mere smattering knowledge of the subjects named in the curriculum can by any possibility be attained.

Four years of college instruction of at least nine months in each year, is none too much time to be spent in the acquirement of a good dental education.

The blacksmiths, the carpenters, the brick masons and other skilled trades, require of their apprentices that they serve from three to four years of twelve months in each year before they are considered capable of filling the position of journeymen. And yet nearly all of the medical and dental colleges pretend to educate (?) young men for the duties of a learned profession, and, by virtue of their diplomas, place in their hands the issues of life and death after a course of study extending over less than half the time required to learn one of the ordinary mechanical trades.

"Tis true, 'tis pity; and pity 'tis, 'tis true."

Sixth: The standard of final examinations should be raised and made more uniform.

We notice a very great diversity in the requirements at the final examinations. Some of the colleges require their students to obtain seventy per cent. (70%) on a general average; others demand only fifty per cent. (50%); while in still others the final examinations are merely a farce, all students being graduated except those who have not paid their fees.

In a few of the colleges the examinations are conducted in writing and orally; in others the written examination only is used, while in still others it is entirely oral.

The final examination is the last barrier between the student and his right to practice. The gate through which he passes should be guarded well and the axe fall upon the incompetent and immoral with unerring certainty.

The student, however, should be given every opportunity to prove his fitness for graduation; hence the examinations should be both written and oral, as by this method any attempt at cheating is discovered and every student is given a fair chance.

The character and the standing of the student only, should govern the action of those who pass upon his qualifications of fitness to practice. It would be far better for the public and profession, however, if the power to grant diplomas was vested in the State rather than in the teaching institutions. Sentiment or greed often enters into the case as it now stands, and many young men are graduated who are totally unfit to enter the ranks of a liberal profession.

Other suggestions might be made looking towards a farther elevation of the standard of dental education, but those already enumerated seem to be the most needed improvements at the present time.

Is this asking too much? Are these changes feasi-

ble? To the first we answer "No!" To the latter we say emphatically "Yes!" The colleges that would place themselves in this advanced position, might at first find their classes lessened in numbers, but what would be lost in this respect would be more than made up to them in the quality of their students and in reputation; and after a few years they would find that on the whole they had lost nothing financially and had gained immensely in reputation. An example in proof of this statement could be easily furnished, but we forbear for fear the comparison might be considered invidious.

Had we the gift of prophecy we might suggest; the time is not far distant, yes, some even in this presence may live to see, a much greater advancement in dental education than that just outlined.

We believe a collegiate training in the sciences and a complete medical education will sooner or later be required as a prerequisite to entrance upon special training for the practice of dentistry. Then the dental college will become what it ought to be, a *dental hospital*, devoted entirely to special teaching in this department. We are aware that to some this will seem to be an Utopian idea, but if we read the trend of the times correctly, it will be realized much sooner than we expect, for,

"Often do the spirits
Of great events stride on before the events,
And in to-day already walks tomorrow."

A SKETCH OF MR. LAWSON TAIT AND HIS WORK.

BY FRED BYRON ROBINSON, B.S., M.D.,

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PROFESSOR OF GYNECOLOGY IN CHICAGO POST-GRADUATE MEDICAL SCHOOL.

(Concluded from page 103.)

Mr. Tait employs a lady superintendent in his hospital who supervises in general and relieves him from its care. His hospital is the outcome of many years of discipline. I am very much impressed with one idea in Mr. Tait, and that is, he avails himself of the value of *paid labor*. He has the capacity to make paid labor serviceable. Though he conducts this hospital with some twenty-five servants under his pay, yet the labor of these servants is made valuable, and he finds much time to do his own special work, contribute valuable articles to journals, make original addresses at great medical gatherings, and do extensive reading. Paid labor relieves him from preparation of patient or instruments. It takes away the anxious care of after-treatment. He keeps a secretary, who does his correspondence with a typewriter. When Mr. Tait wishes to write an article or a letter, he simply talks it off to his secretary, and she takes it down in short-hand and then sends it to him afterward in type-writing for his corrections. This saves much valuable time.

Mr. Tait has performed nearly 2,800 abdominal sections. This is, so far as I know, the largest number done by any one man. He has published some very good views on traumatic hæmatocele, or hæmatocele following operations. They occur from operations on the broad ligament. They often retard recovery. I think I saw about fifteen hæmatoceles during the course; some four of these suppurated. Dr. Martin opened and drained three through the abdominal wall, and Mr. Tait opened one through the vagina. One Dr. Martin aspirated. Many of these