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HARVARD UNIVERSITY.

REPORT.

The Committee appointed to visit the MEDICAL and DENTAL SCHOOLS and the SCHOOL OF VETERINARY MEDICINE respectfully report that :—

The SCHOOL OF VETERINARY MEDICINE has 21 regular and 4 special students. It is admirably equipped and supplied with abundant material. 2017 animals were treated at its Hospital during the year ending Oct. 31, 1886.

As in other departments of the University, the resources of this School are not sufficient to carry on the required work except by the most rigid and onerous economy. If these could be exempted from the necessity of paying rent and taxes a heavy burden would be removed.

Although the employment of its own graduates—possible this year for the first time—has in part met the difficulty of finding qualified teachers willing to sacrifice their own business for the interests of the School, its management rests at present largely on a single professor. His disablement by any of the vicissitudes of life or health would leave the School with no one to assume its responsibilities. An addition to the Faculty would cost between two and three thousand dollars a year; but the necessity for such an addition seems to be the imperative requirement of a School, the scientific importance of which is made more manifest with each year's accession to our knowledge of the pathology of animals, of the transmission of disease, of the causes of epidemics, of many fatal maladies, and of the important relations existing between veterinary medicine and the great subject of food supply.

It is doubted by your Committee if this School of Veterinary Medicine is as well known throughout the State or New England as it should be; or if the community appreciate the advantage in having questions as to the physical condition of animals decided by men of reputation, rather than entrusted to the well-known uncertain knowledge of those who are usually resorted to.

The HARVARD DENTAL SCHOOL was the first of its kind to require preliminary examination for admission, instruction in Anatomy, Physiology, and Chemistry as with medical students, and three full years of study to obtain a degree.

The prestige of its diploma attracts students from Great Britain and the Continent. English graduates from the London Dental Hospital, who have acquired the L.D.S. (Licentiate of Dental Surgery), come here to get the Harvard degree. There is always one or more such in the School. At present there are two. It has furnished professors and organizers of dental schools in this country and abroad, as well as dentists of high repute for most of the great cities of Europe.

At its Dispensary from 6000 to 8000 dental operations are performed year by year. One hundred and fifty sets, or more, of artificial teeth are furnished annually. The students perform from 80 to 150 gold fillings each during a single course, besides many with the cheaper and more easily worked materials. This enormous clinique, which, owing to the neglect of dental care by the poor, furnishes a peculiar experience not to be obtained in private practice, is carried on under the eye and direction of an instructor who examines the quality of the work done, and approves it before it is permitted to go out.

During the whole of its existence the Dental School has suffered from a want of money. An effort to raise \$30,000, made in 1881 by the President of the University and others, succeeded in obtaining \$100,—the only gift the School has ever received. It is at present \$9000 in debt. The instructors and professors, one by one, resign on account of the smallness of their pay. The supply of material for teachers is becoming exhausted. The School is suffering for the want of a permanent faculty, and is at a critical period of existence from lack of necessary funds.

Several of the departments of the MEDICAL SCHOOL are in a satisfactory condition. Those, for instance, of Physiology, Anatomy, Chemistry, and Pathology. There is general testimony on the part of the Committee that those of Obstetrics and Gynaecology are admirably taught. The material for illustrating the latter is abundant and available; but the

latter is not yet supplied with all the clinical opportunities desirable. These are, however, more numerous than they were and are increasing. Your Committee think that if the number of assistants in this department were greater it might be an advantage.

The standard of the anatomical examinations, as shown in last year's books, is a high one. The questions were difficult, and the failure of 33 % of the class to pass appears to be due to the student's inability to cover, with equal and uniform completeness in the time at his disposal, the whole range of details in so comprehensive a subject, involving a great deal of accurate memorization. It is therefore a cause of satisfaction to know that a recent vote of the Medical Faculty, passed at the urgent solicitation of the Professor of Anatomy, provides for "an examination of one and a half hours in elementary anatomy at the end of the first year; and an examination of three hours in advanced anatomy at the end of the second year, it being understood that each examination covers the work of the preceding year only." It seems to your Committee that the anatomical examination should be partly oral, and also, if possible, partly practical.

In a report of last year the recommendation was made that an elective in Anatomy should be offered to students of the undergraduate department of the University. It is again urgently advocated by this Committee as a measure offering advantages to those intending to enter the Medical School.

Besides the text-books which the several departments of the School designate for the use of students, some of the professors, at the beginning of the term, furnish them also with a synopsis of their special branch of instruction, — a syllabus of the whole subject presented in that particular course. This is not only a great help to the student's memory at the time and to his clear understanding of the subject, but it prevents wasting attention in the taking of notes. Probably the use of such concise digests in all branches in which they could be furnished could be profitably adopted.

In the recent report (1886) of the Illinois State Board of Health on Medical Education and Medical Colleges in the

United States and Canada, it is stated that "the average length of lecture terms has increased from $23\frac{1}{2}$ weeks in 1882 to nearly 25 weeks in 1886-87." That of the Harvard School is nominally 34 weeks. Holidays reduce it practically to 31 or 32 weeks. This excellent authority further says that the number of colleges requiring attendance on three or more lecture-courses before graduation has increased from 22 in 1882-83 to 41 in 1886-87. The committee of the Board of Health who make the report state also that they have "followed up the careers of 789 out of 1000 physicians who studied four years and who attended three terms before graduating. They are," it says, "with few exceptions, the successful and prominent members of the profession in the different communities in which they reside. They are successful as a rule because they have fitted themselves to command success."

In the Harvard Medical School the requirement for a degree is evidence of having studied medicine three or four years, and the passing of the required examination. The size of classes when they enter the School and when they reach the beginning of the third year presents a striking difference. In 1876-77 the first class had 111 students. At the beginning of 1878-79 that class, which was then the third, numbered 54. It had lost 57 members, or about 50%.

The third class of 1879-80 had lost 30, or about 33%				
"	1880-81	"	28,	" 25%
"	1881-82	"	24,	" 25%
"	1882-83	"	6,	" 10%
"	1883-84	"	12,	" 15%
"	1884-85	"	27,	" 33%
"	1885-86	"	27,	" 25%
"	1886-87	"	32,	" 31%

Examinations, conducted chiefly in writing, are held at the end of each year, and no student can advance with his class or receive his degree, until he has passed them satisfactorily. The number of students "plucked" at the final examinations has varied very much. From 1880-81 to 1885-86 it has run as follows: $\frac{9}{69}$, $\frac{0}{86}$, $\frac{8}{82}$, $\frac{39}{95}$, $\frac{40}{100}$, $\frac{26}{94}$. It is probable that one of the principal causes in this falling off of the third class is the standard of these required examinations; but your Committee think that it is for the best interests of the School that their

high standard should be kept up and maintained. The annual increase of population in this country is less than 2% ; the annual increase of medical men is over 5%. While the annual percentage of graduates to matriculates in the different medical schools of the country varies more or less, the Illinois report shows that, as a general rule, wherever a student is required to study the least, there the greater will be the relative number of matriculates who pass their final examination for the degree of M.D. In 11 regular schools, in which only two courses of lectures are required, the percentage is over 38%. In 33 regular schools, in which three years of study are required, but attendance only on two full courses of lectures, — that is, in the greater number of the regular schools, — the average percentage is not quite 32%. In 8 regular schools requiring three full courses of lectures, in which the average for nine years is given, the percentage is a little over 26%. In the Harvard School the percentage for the last nine years is 25%.

The fourth year of the Medical School was established in 1878-79. In that year there was *one* student. Since then the annual numbers have been 2, 9, 10, 12, 16, 18, and this year, 1886-87, 21.

The members of the third class, from which the fourth is principally derived, have varied from 81 to 51. They read, 54 (in 1878-79), 60, 75, 51, 65, and this year 70.

The fourth-year's class is divided into four sections, which attend, together or separately, the different clinics and exercises. This subdivision, which is of great advantage to the student, makes a large body of instructors necessary, and we find the names of 54 connected with the present class of 21 members. Of these 54 instructors, 14 have no other connection with the School.

The studies of Anatomy, Physiology, Embryology, Chemistry, Materia Medica, Therapeutics, and Pathology are altogether omitted in the fourth year. Nothing, however, prevents a student of that year from following, if he desires, any branch of the three-years' course, except the fact that he would not have time to do so without neglecting something which may be equally important to him; and that he cannot so enroll himself among the students of any of the three-year

courses as to secure the advantages of the laboratories. Neither can he devote more than a limited time to any one specialty, such as the eye, the ear, the throat, except by the sacrifice of other studies.

In other words the fourth-year course, which is almost wholly clinical, lacks a well-schemed plan of required study to which the previous three years have carefully led up, and does not offer the alternative of any free and untrammelled elective choice.

The small but steady increase in the number of the fourth-year's class shows probably that a certain number of students desire a more thorough education than they can obtain in the prescribed three years of the School. This is still further shown in the fact that a demand by graduates in medicine, mostly from New England, for special instruction in various branches, induces a few, every year, to attend some of the clinics of the fourth year. They follow what is called the "Course for Graduates," which, the Catalogue states, was established "for the purpose of affording those who are already graduates in medicine additional facilities for pursuing clinical, laboratory and other studies, for which they had not previously found leisure, in such subjects as may especially interest them, and as a substitute in part for the opportunities heretofore sought in Europe." The instruction is the same as that given to the undergraduates and to the fourth-year class, but with this important difference, viz. that the graduate has the privilege of taking and paying for such branches only as he may desire to follow. The graduate therefore seeks to learn, after he has begun his profession, what a fourth-year's student might acquire beforehand. The annual number of those who take the "Course for Graduates" varies considerably. During the last nine years it has been, in 1878-79, 11, then 5, 7, 8, 10, 11, 3, 7, and this year it is 11.

The Harvard School does not offer either to graduates or to fourth-year students the extended instruction in the important branches of pathology and physical diagnosis which New York schools do. In the N. Y. Polyclinic there is a course of Pathology and Clinical Microscopy. In the N. Y. Post-graduate School there are two Professors of Pathology and General Medicine.

It seems to your Committee that the future usefulness of the Harvard Medical School will depend a great deal on its fourth-year instruction. At present the course is marked out and its hours are fixed. The student must follow it in all its details or lose some of its advantages. He has the opportunity of attending a given clinic once a week for four months, for example; but the alternative opportunity of attending a similar clinic three times a week for two months, if more convenient, is not offered to him. Nor is he given facilities for arranging his studies so that, while following the clinics of the fourth year, he can go over again any part of his previous studies, if he should wish to do so.

If the School absolutely required as parts of its fourth-year course, Pathology, — a study which bears, directly and practically, more on the work of the general practitioner than on that of the surgeon or the specialist, — and those special portions of medicine and surgery which all general practitioners must be familiar with, might it not leave other studies of that year to the choice of the student himself?

This brings up a question which is probably of vital importance to the School, viz. that of "Extra Mural Teaching," or facilities offered students to pursue some of their studies independently of the regular courses given in the School. Such facilities are found in Germany and in France, and in connection with some of the universities of Great Britain, — for instance that of Edinburgh, where, principally to their existence, the Medical School owes its great reputation. In France the unofficial and independent instruction of the great teachers, Louis, Lisfranc, and Ricord, in the middle of this century, were among the chief attractions of medical students to Paris. They stimulated many famous courses of "private" lectures by specialists, in Germany as well as in France, which have left an influence on medical teaching that is still felt.

The introduction and encouragement of extra mural teaching would undoubtedly advance the interests of our Medical School, and attract students by its multiplied opportunities of instruction. It would create a competition among teachers, and thereby raise the standard as well as the modes of teaching.

It would give a definite aim to physicians able to teach, and create a body of teachers from among whom the instructors in the Medical School could be advantageously chosen.

Extra mural teaching should supplement the systematic instruction of the School. It cannot be fully established at once, but, in the opinion of your Committee, an attempt to introduce it should not be delayed. None of the European systems can be imported ready-made. That of the Medical School of Edinburgh could not be adopted entirely, as it rests on a system different from the one followed at Harvard, which has excellent features that should be retained. The nearest approach to extra mural teaching in this country is the system of Quizzes so successfully adopted by the Medical School of the University of Pennsylvania.

Medical and surgical instruction are no longer what they used to be. Both of these branches include specialities which partially extend beyond the province of the general practitioner. The systematic course of the School ends with the third year. The study of specialities comes up in the fourth-years' course. It would seem possible to commence something like the Edinburgh system in the fourth year, — the year principally devoted to special clinical instruction.

A great impediment certainly exists in the fact that students pay the School, at the beginning of the year, a fixed sum for which they are promised the opportunity of following all the courses of the year. If the School in some way recognised a certain number of extra mural clinics officially, — for otherwise any one who should happen to give instruction to one Harvard student might advertise himself as an extra mural teacher of the University, — it might allow the student to choose the teachers he would follow, and pay the latter according to the number taught.

Medical education in the United States has made greater progress in the last twenty-five years than is generally known outside of the profession. A four-years course becomes more and more necessary as its high standard becomes more and more general. Undoubtedly it will in time become obligatory. It is already so in Canada, and the possibility of it is already discussed in some of the leading schools of this country. The

Leonard Medical School, the medical department of Shaw University, at Raleigh, N. C., an institution organized in 1882 for the education of colored students of both sexes, is at present the only school in the United States with a compulsory graded course of study extending over four years.

The object of the Harvard Medical School is not the promotion of science, but the formation of superior practitioners. Its graduate who leaves the School with more knowledge than is actually necessary for use in his practice will make a better physician than one who has just enough. What the former may forget in course of time will be less detrimental to him individually than that which may slip from the memory of the latter. One of the objects of a higher medical education is to teach the general practitioner what he should not attempt to do, and the reasons why. This cannot be accomplished by teaching him merely what he can do. If medical teaching is reduced simply to what a general practitioner must know, and if facilities for original investigation, or for any advanced study of medical science which has no visibly practical side, are considered as of doubtful good to the School, it cannot turn out first-class physicians and surgeons. Your Committee believe that the diploma of the Harvard Medical School should not merely justify confidence in the knowledge of the man who holds it, but be a proof that he is certainly as well educated as any American graduate in medicine, and better than most of them.

R. M. HODGES,
MORRILL WYMAN,
HALL CURTIS,
GEO. C. SHATTUCK,
S. L. ABBOT,
A. COOLIDGE,
FREDERICK WINSOR,
SAMUEL A. GREEN.

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