

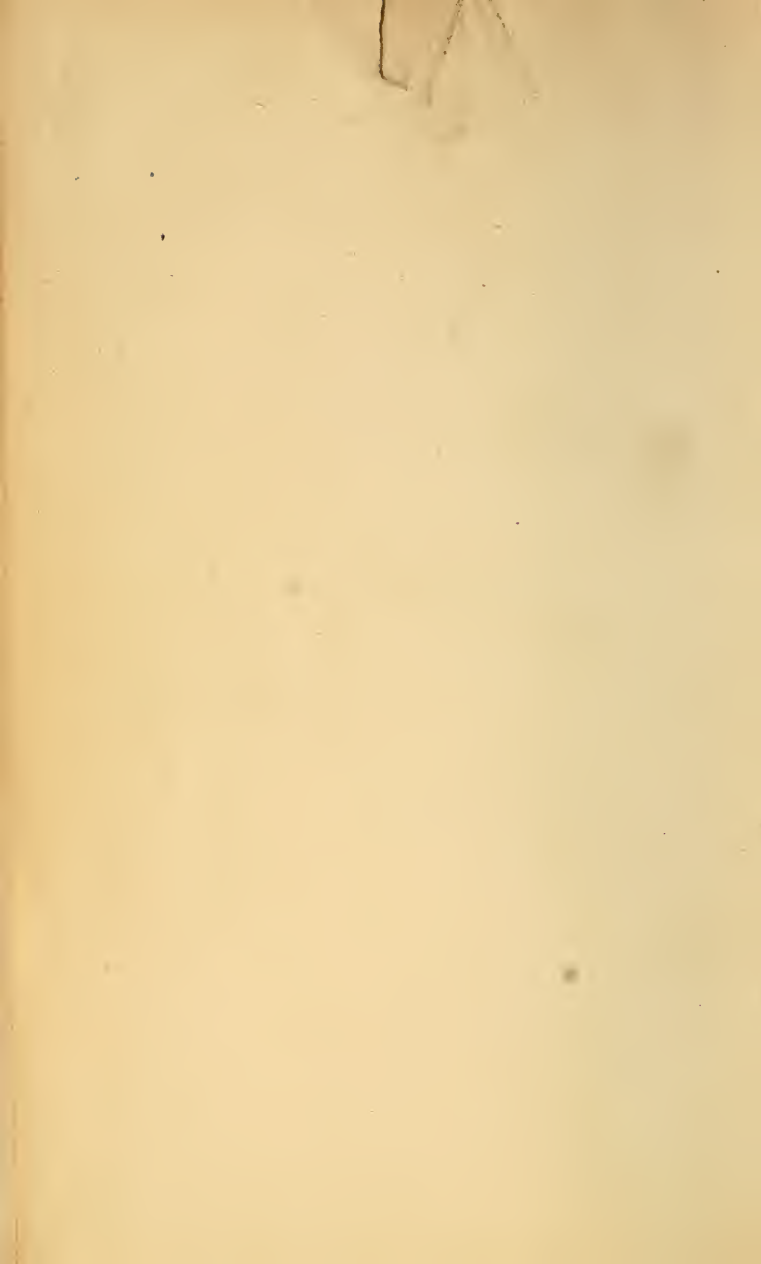



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NINETY-FIRST

ANNUAL CATALOGUE

OF THE

MEDICAL SCHOOL

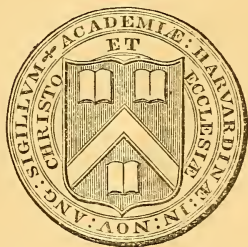
(BOSTON)

OF

HARVARD UNIVERSITY.

1873-74.

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1874.

UNIVERSITY PRESS: WELCH, BIGELOW, & Co.,
CAMBRIDGE.

MEDICAL SCHOOL.

BOSTON.

THE plan of study in this school was radically changed in 1871. Instruction is given by lectures, recitations, clinical teaching, and practical exercises uniformly distributed throughout the academic year. The year begins on the Thursday following the last Wednesday in September, and ends on the last Wednesday in June ; it is divided into two equal terms, with a recess of one week between them. There is also a recess of one week at Christmas. The second term begins Monday, February 16, 1874. Either of these two terms is more than equivalent to the former " Winter Session," as regards the amount and character of the instruction.

The course of instruction has been greatly enlarged, so as to extend over three years, and has been so arranged as to carry the student progressively and systematically from one subject to another in a just and natural order.

In the subjects of anatomy, histology, chemistry, and pathological anatomy, laboratory work is substituted for, or added to, the usual didactic lectures, and laboratory work is as much required of every student as attendance at lectures and recitations.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three years' period of study, a series of written examinations on all the main subjects of medical instruction has been distributed for regular students through the whole three years ; but they may be passed by other students either all at once at the end of their course, or, successively, at several times. Every candidate for the degree must hereafter pass a satisfactory examination in every one of the principal departments of medical instruction at some time during his period of study.

Members of any one department of Harvard University have a right to attend lectures and recitations in any other department without paying additional fees. Students in the Medical School, who wish to avail themselves of this opportunity of pursuing scientific or other studies in any other Faculty of the University, may do so without loss of time counted as medical study, to such extent and in such manner as the Medical Faculty shall in each case prescribe.

FACULTY.

- CHARLES W. ELIOT, LL.D., *President.*
 CALVIN ELLIS, M. D., *Jackson Professor of Clinical Medicine, Dean.*
 JOHN B. S. JACKSON, M. D., *Shattuck Professor of Morbid Anatomy, and Curator of the Anatomical Museum.*
 OLIVER W. HOLMES, M. D., *Parkman Professor of Anatomy.*
 GEORGE C. SHATTUCK, M. D., *Hersey Professor of the Theory and Practice of Physic.*
 HENRY J. BIGELOW, M. D., *Professor of Surgery.*
 GEORGE DERBY, M. D., *Professor of Hygiene.*
 JOHN E. TYLER, M. D., *Professor of Mental Diseases.*
 CHARLES E. BUCKINGHAM, M. D., *Professor of Obstetrics and Medical Jurisprudence.*
 FRANCIS MINOT, M. D., *Assistant Professor of the Theory and Practice of Medicine, and Clinical Lecturer on the Diseases of Women and Children.*
 JOHN P. REYNOLDS, M. D., *Instructor in Obstetrics.*
 HENRY W. WILLIAMS, M. D., *Professor of Ophthalmology.*
 DAVID W. CHEEVER, M. D., *Adjunct Professor of Clinical Surgery.*
 JAMES C. WHITE, M. D., *Professor of Dermatology.*
 ROBERT T. EDES, M. D., *Assistant Professor of Materia Medica.*
 HENRY P. BOWDITCH, M. D., *Assistant Professor of Physiology.*
 CHARLES B. PORTER, M. D., *Demonstrator of Anatomy, and Instructor in Surgery.*
 FREDERICK I. KNIGHT, M. D., *Instructor in Percussion, Auscultation, and Laryngoscopy.*
 JOHN C. WARREN, M. D., *Instructor in Surgery.*
 REGINALD H. FITZ, M. D., *Instructor in Pathological Anatomy.*
 EDWARD S. WOOD, M. D., *Assistant Professor of Chemistry.*
 HENRY H. A. BEACH, M. D., *Assistant Demonstrator of Anatomy.*

OTHER INSTRUCTORS.

- FRANCIS B. GREENOUGH, M. D., *Lecturer on Syphilis.*
 EDWARD WIGGLESWORTH, JR., M. D., *Lecturer on Syphilis.*
 JOHN O. GREEN, M. D., *Lecturer on Otology.*
 CLARENCE J. BLAKE, M. D., *Lecturer on Otology.*
 JAMES R. CHADWICK, M. D., *Lecturer on the Diseases of Women.*
 CHARLES P. PUTNAM, M. D., *Lecturer on the Diseases of Children.*
 JAMES J. PUTNAM, M. D., *Lecturer on the Application of Electricity in Nervous Diseases.*

STUDENTS.

COURSE FOR GRADUATES.

NAME.	RESIDENCE.
Blodgett, Frank Marcellus, M. D.,	<i>Boston.</i>
Draper, Joseph Rutter, M. D.,	<i>Boston.</i>
Gravatt, Charles Urquhart, M. D., U. S. N.,	<i>Charlestown.</i>
Lawrence, Robert Means, M. D.,	<i>Brookline.</i>

REGULAR STUDENTS.

Third Class.

✓ Bigelow, William Sturgis, A. B.,	<i>Boston.</i>
Bradford, Henry Withington,	<i>Randolph.</i>
Bryant, Lewis Lincoln,	<i>Cambridge.</i>
Bulfinch, George Greenleaf,	<i>Boston.</i>
Burchmore, John Henry,	<i>Charlestown.</i>
Davenport, Frank Henry, A. B. (<i>Williams Coll.</i>),	<i>Boston.</i>
Dennett, William Sawyer, Jr., A. B. (<i>Bowd. Coll., Me.</i>),	<i>Bangor, Me.</i>
Dunn, William Aloysius,	<i>Boston.</i>
✓ Fleming, James Aloysius,	<i>Boston.</i>
Fox, George Townshend, A. B. (<i>Univ. of Mich.</i>),	<i>Detroit, Mich.</i>
French, William Henry, A. B.,	<i>Laconia, N. H.</i>
Garland, George Minot, A. B.,	<i>Lawrence.</i>
Hills, William Barker, A. B.,	<i>Plaistow, N. H.</i>
Howe, Samuel, A. B.,	<i>Cambridge.</i>
Hunking, Charles Dustin, A. B.,	<i>Haverhill.</i>
Jones, Claudius Marcellus, A. B.,	<i>Worcester.</i>
Lewis, Bennett Sperry,	<i>Bridgeport, Conn.</i>
Loring, Robert Pearmain,	<i>Brookline.</i>
Lovering, Phillips Adams, A. B.,	<i>Somerville.</i>
Putney, George Ellis,	<i>Boston.</i>
Reed, Andrew Fairfield, A. B. (<i>Dart. Coll., N. H.</i>),	<i>Arlington.</i>
Spear, Edmund Doe, Jr.,	<i>Boston.</i>
Stedman, George, A. B.,	<i>Boston.</i>
Teele, Jonathan Merle, A. B. (<i>Tufts Coll.</i>),	<i>Somerville.</i>
Thomas, Flavel Shurtleff,	<i>Hanson.</i>
Tucker, Edward Tobey, A. B. (<i>Brown Univ., R. I.</i>),	<i>New Bedford.</i>
Wheeler, Morris Plumer,	<i>Boston.</i>
Whitney, William Fiske, A. B.,	<i>Boston.</i>
Williams, Charles Herbert, A. B.,	<i>Boston.</i>

Second Class.

✓ Abbott, Fletcher Morton, X	<i>Boston.</i>
✓ Appleton, William, Jr.,	<i>Boston.</i>

Bell, Read Letts, A. B. (<i>Denison University, Ohio</i>),	<i>Utica, Ohio.</i>
Buxton, Gonzalo Edward,	<i>Worcester.</i>
Cabot, Arthur Tracy, A. B.,	<i>Boston.</i>
Dale, William Henry,	<i>Boston.</i>
Deinstadt, William McKay,	<i>Shelburne, N. S.</i>
Finn, James Anthony, A. M. (<i>Calvert Coll., Md.</i>),	<i>Lowell.</i>
Garland, George Minott, A. B.,	<i>Lawrence.</i>
Gay, Almon Debois,	<i>Belmont.</i>
Gorman, Benedict Fenwick,	<i>Providence, R. I.</i>
Jackson, William Leavit,	<i>Boston.</i>
Masforroll, Manuel, A. B. (<i>Santiago de Cuba</i>),	<i>Santiago, Cuba.</i>
McClellan, George Chesley,	<i>Springfield.</i>
McGowan, Charles Edward,	<i>Boston.</i>
Mecuen, George Edward,	<i>Boston.</i>
Moore, Frederick Fisk,	<i>Cambridge.</i>
Morong, Arthur Bennet, A. B. (<i>Amherst Coll.</i>),	<i>Boston.</i>
Rand, Alfred, A. B.,	<i>Charlestown.</i>
Reardon, Jeremiah John,	<i>Boston.</i>
Robinson, Samuel Quincy, B. S. (<i>Dartm. Coll.</i>),	<i>Boston.</i>
Tilden, George Horton, A. B.,	<i>Boston.</i>
Winn, William Adams, A. B.,	<i>Arlington.</i>

First Class.

Allen, Edward Styles,	<i>Providence, R. I.</i>
Batcheler, George Henry Clement,	<i>Newburyport.</i>
Bell, William Appleton, A. B.,	<i>Somerville.</i>
Bogman, Edward Young, A. B. (<i>Brown Univ., R. I.</i>),	<i>Brookline.</i>
Bowen, Seranus,	<i>Boston.</i>
Bridgham, Jairus Greenwood,	<i>Woburn.</i>
Brown, John Coffin Jones, Jr., A. B.,	<i>Boston.</i>
Bryant, John, A. B.,	<i>Boston.</i>
Clark, Charles Edward, A. B. (<i>Bowd. Coll., Me.</i>),	<i>Portland, Me.</i>
Clark, Jonas, Jr.,	<i>Waltham.</i>
Collins, George Lewis, A. B. (<i>Brown Univ., R. I.</i>),	<i>Providence, R. I.</i>
Cooper, Charles Wendell, A. B. (<i>Amherst Coll.</i>),	<i>Amherst.</i>
Copeland, Frederic Herbert, A. B.,	<i>Stoneham.</i>
Deane, Henry Ware, A. M.,	<i>Boston.</i>
Dodge, Edgar Simon,	<i>Greenwood.</i>
Everett, Oliver Hurd, A. B.,	<i>Cambridge.</i>
Fay, Christopher John,	<i>Boston.</i>
Fogg, William John Gordon, A. B.,	<i>Boston.</i>
Foley, John Bernard,	<i>Boston.</i>
Forbes, Robert Edward,	<i>St. John, Newfoundland.</i>

Forsyth, Frank Lyman,	<i>Weymouth.</i>
Forsythe, Joseph William, A. M. (<i>Trin. Coll., Dublin</i>),	<i>Boston.</i>
French, George Gilman,	<i>Nashville, Ill.</i>
✓ Garland, Joseph Everett, A. B.,	<i>Gloucester.</i>
Gore, John Flint,	<i>Boston.</i>
Gould, Lawrence Mirvin,	<i>Boston.</i>
Gregg, John Areole,	<i>Somerville.</i>
Gunter, Adolphus Birum,	<i>Fredericton, N. B.</i>
Hall, Henry Clement,	<i>Haverhill.</i>
Hathaway, Lemuel,	<i>Boston.</i>
Haven, Henry Cecil, A. B. (<i>Amherst Coll.</i>),	<i>New London, Conn.</i>
Hooper, Frank Henry,	<i>Boston.</i>
✓ Howe, Octavius Thorndike, A. B.,	<i>Cambridge.</i>
Hutchinson, Marcello, A. B.,	<i>Wakefield.</i>
Keene, Joseph Wadsworth, A. M. (<i>Bowd. Coll., Me.</i>),	<i>Bremen, Me.</i>
Kelley, George Wallace,	<i>Newburyport.</i>
Kelly, William Philip,	<i>Boston.</i>
Lamb, Frederic Dan,	<i>Lawrence.</i>
Libby, George Willard,	<i>Saccarappa, Me.</i>
Lindsey, Joseph Ferdinand, A. B. (<i>Brown Univ., R. I.</i>),	<i>Fall River.</i>
Livingston, Alexander,	<i>Buenos Ayres.</i>
Lopez, Rafael,	<i>Boston.</i>
Lyman, John Chester,	<i>Northampton.</i>
✓ Marion, Otis Humphrey, A. B. (<i>Dart. Coll., N. H.</i>),	<i>Brighton.</i>
McCall, James,	<i>Lynn.</i>
McCormick, Cornelius Joseph,	<i>Milford.</i>
McGrath, Eugene John,	<i>Boston.</i>
McMonagle, Beverly,	<i>Sussex, N. B.</i>
Miller, Winthrop, A. B.,	<i>Boston.</i>
Nichols, Charles Lemuel, A. B. (<i>Brown Univ., R. I.</i>),	<i>Worcester.</i>
O'Connor, Patrick Charles,	<i>Springfield.</i>
O'Niell, Joseph James,	<i>W. Roxbury.</i>
✓ Otis, Edward Osgood, A. B.,	<i>Cambridge.</i>
Perkins, Thomas Lyman,	<i>Salem.</i>
Place, Charles Ashton,	<i>E. Walpole.</i>
Read, George Mumford,	<i>Providence, R. I.</i>
✓ Read, Robert McLellan,	<i>Boston.</i>
Richards, William Guy,	<i>Irvington, N. Y.</i>
Shepardson, Oscar Jerome,	<i>Chester.</i>
Smith, George Edward,	<i>Zanesville, Ohio.</i>
Smith, Sheffield, Jr.,	<i>N. Providence, R. I.</i>
Tsuchiga, Seiken,	<i>Japan.</i>
Tull, Henry,	<i>Kinston, N. C.</i>

Wardwell, Daniel Wardwell, PH. B. (<i>Yale Coll., Conn.</i>),	Rome, N. Y.
Wheaton, Charles Augustus,	Northfield, Minn.
Whitman, Alonzo Garcelon, A. M. (<i>Bowd. Coll., Me.</i>),	Boston.
Williams, Francis Henry,	Boston.
Worcester, Edward, 2d,	Boston.
Young, Parker Ambrose,	Boston.

UNCLASSIFIED.

Benner, Burnham Roswell,	Lowell.
Bickford, George Coburn,	Charlestown.
Brickett, Henry Judson, A. B.,	Haverhill.
Brown, Charles William,	Orwell, Penn.
Byers, John Andrews, A. B. (<i>Univ. of N. B.</i>),	St. John, N. B.
Caldwell, George Peters,	St. John, N. B.
Carleton, Robert Marsh, A. B. (<i>Dart. Coll., N. H.</i>),	Haverhill.
✓ Carolin, William Terence,	Lowell.
Chipman, William Reginald,	Halifax, N. S.
Crosby, William Sage, A. B.,	Boston.
DeWolf, James Madison,	Watertown.
Fogg, Irving Sylvester,	Norwood.
Fowler, Samuel Page, Jr., A. B. (<i>Amherst Coll.</i>),	Danvers.
Fraser, John Chisholm,	Antigonishe, N. S.
French, Justus Crosby,	Hardwick, Vt.
Gardner, Edwin Fisher,	Eastport, Me.
Greene, Frank Eugene,	Boston.
Howard, Arthur Chadwick,	Boston.
Huntington, Thomas Waterman, A. B. (<i>Univ., Vt.</i>),	St. Albans, Vt.
Hume, Myers,	Halifax, N. S.
Jenkins, George Oscar,	Boston.
Kennealy, John Henry,	Boston.
Leach, Charles Franklin,	Cambridge.
MacDonald, Michael Allan,	Cape Breton.
Marden, Frederick Albert,	Boston.
Marston, Enoch Quimby,	Lowell.
Murray, Joseph Howe,	Pictou, N. S.
Nash, Charles Sherman,	Milford.
O'Connell, John David,	E. Lexington.
Root, Stephen Eastman, A. M. (<i>Hillsdale Coll., Mich.</i>),	Boston.
Sanborn, George Hoitt,	Dover, N. H.
Sanborn, Wilbur Fisk,	Sandwich, N. H.
Sawyer, Frank Haller, A. B.,	Biddeford, Me.
Somers, John Edward,	Antigonishe, N. S.
Spear, Hugh Johnston,	Lower Woodstock, N. B.

Tilden, Frank Elmer,	<i>N. Easton.</i>
Wallace, William Henry,	<i>Hillsborough, N. B.</i>
Webber, Frank Orlando,	<i>Cambridge.</i>
Wilson, Frederick Morse, A. B. (<i>Colby Univ., Me.</i>),	<i>Waterville, Me.</i>
Wingate, Uranus Owen Brackett,	<i>Haverhill.</i>

STUDENTS IN SINGLE BRANCHES, NOT REGULAR MEMBERS OF THE SCHOOL.

Bennett, Luther William,	<i>Boston.</i>
Brown, Simon Van Buren,	<i>Allston.</i>
Colburn, Charles Henry,	<i>Boston.</i>
Dustan, Robert Jaffray,	<i>Milton.</i>
Eayrs, Marshall Perry,	<i>Boston.</i>
Gerry, Edwin Peabody, A. M. (<i>Dart. Coll., N. H.</i>),	<i>E. Somerville.</i>
Hallaren, Robert James,	<i>Lowell.</i>
Hubbard, William Allen, A. B. (<i>Amherst Coll.</i>),	<i>Boston.</i>
Sherburne, John Spofford,	<i>Boston.</i>
Stronach, Abraham Booth,	<i>Wilmot, N. S.</i>

DIVISION OF STUDIES.

First year. — Anatomy, Physiology, and General Chemistry.*

Second year. — Medical Chemistry, Materia Medica, Pathological Anatomy, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

Third year. — Pathological Anatomy, Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery and Clinical Surgery.

COURSE OF INSTRUCTION.

The following methods of instruction are adopted in the several departments: —

Anatomy. — Lectures; various practical exercises, including abundant dissection under the direction of the Demonstrator; recitations from textbooks; and histology.

Physiology. — Lectures, recitations, and practical demonstrations in the laboratory. To third-class students opportunities are given for original investigations in the laboratory.

Chemistry is taught mainly by practical work in the laboratory, the student having his own desk and apparatus. General Chemistry is

* Any student who shall have previously passed in the undergraduate department or Scientific School of Harvard University an examination in General Chemistry will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year.

taught in the first term and qualitative analysis in the second term of the first year. Besides the laboratory work, there is a lecture and a recitation every week. In the second year, medical chemistry is taught by lectures and laboratory work.

Pathological Anatomy is taught by lectures, recitations, and practical instruction in pathological histology. The collection of the Warren Anatomical Museum is used to illustrate the lectures, and many morbid specimens are shown in a fresh state. Students also receive practical instruction in the method of making autopsies, to which they are admitted at both hospitals. Special classes in pathological histology, including the diagnosis of tumors, are formed for those who are provided with a microscope. Such students are required to prepare the various objects. The school possesses a number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

The Theory and Practice of Medicine. — Lectures, recitations, and hospital visits.

Clinical Medicine. — Daily instruction is given in this department by hospital visits and other exercises. Students are furnished with cases for personal examination, and are called upon to report them before the class, where they are criticized. These examinations are held both in the wards and in the amphitheatre. Another exercise, known as the "Clinical Conference," affords an opportunity for more thorough preparation of cases, more time being allowed for their study. The full written report of a case is read by the student who has examined it. It is afterwards criticized by the class, by the Professor of Clinical Medicine, and other teachers in the school. In addition to this, a regular course of supplementary instruction is given in Auscultation and Percussion, and in Laryngoscopy. These exercises afford students an abundant opportunity for acquiring a thoroughly practical knowledge of these methods of exploration.

Surgery. — Lectures and recitations. There are also courses on Surgical Anatomy, Minor Surgery, Surgical Histology, Bandaging, and Operative Surgery. In the latter, third-year students are supplied with material for repeating the usual surgical operations.

Instruction in Clinical Surgery is given at the Massachusetts General Hospital and City Hospital throughout the year as follows: —

FIRST TERM.

Clinical Lectures on cases, per week, 2; Surgical Visits in the hospital wards, per week, 3; Public operating days, per week, 2. Per week, 6.

SECOND TERM.

Clinical Lectures on Cases, per week, 1; Surgical Visits in the hospital wards, per week, 3; Public operating days, per week, 3. Per week, 7.

Materia Medica and Therapeutics.—*Materia Medica* is taught by recitations, as this mode of instruction is best adapted for imparting that practical knowledge of drugs and their properties, which can only be obtained from the examination of specimens and pharmaceutical preparations, of which there is an extensive collection. *Therapeutics*, or the physiological action of drugs and their application to disease, are taught in the third year by lectures.

Obstetrics.—Lectures and recitations. Students are instructed in the usual operations on the manikin, and will have opportunities to take charge of cases of midwifery in their third year.

Diseases of Women and Children.—Lectures and recitations.

Mental Diseases.—Lectures.

Hygiene.—A course of lectures on Hygiene is given.

Ophthalmology.—A complete course is delivered upon the diseases of the eye.

Dermatology is taught by lectures and clinical illustration. The large number of out-patients at the Massachusetts General Hospital furnishes ample opportunities for illustration.

Syphilis.—Recitations.

Otology.—Lectures.

Laryngoscopy, Auscultation, and Percussion.—Lectures and Demonstrations.

Electro-therapeutics.—Lectures with Demonstrations at the Massachusetts General Hospital.

TEXT-BOOKS.

The following text-books are recommended:—

Anatomy: Gray's, Wilson's, Leidy's, Hodge's Practical Dissections, Holden's Manuel of Dissection.

Physiology: Dalton's, Huxley's Elementary Lessons, Sanderson's Handbook.

General Chemistry: Attfeld's, Galloway's Qualitative Analysis.

Medical Chemistry: Hanley on Urine, Taylor's Medical Jurisprudence.

Materia Medica: United States Dispensatory.

Pathological Anatomy: Virchow's Cellular Pathology, Niemeyer's Pathology and Therapeutics.

Therapeutics: Stille's Therapeutics and *Materia Medica*.

Obstetrics: Schroeder's.

Theory and Practice: Flint's Practice, Da Costa's Medical Diagnosis.

Surgery: Druitt's Surgery, Billroth's Surgical Pathology.

The following tabular views will illustrate the distribution of studies throughout the year:—

FIRST TERM. 1873-4.

Hour.	Class.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	2 3	M. G. H. M. G. H.	Clin. Conf. Clin. Conf.	Clin. Med. Clin. Med.	M. G. H. M. G. H.		
9	1 2 3	Path. Anat. L. Path. Anat. L.	City H. City H.	Dermatol. Cl. L.	Path. Anat. L. Path. Anat. L.	City H. Ophthalm.	Clin. Conf. Clin. Conf.
10	1 2 3	Anseult. & Per. The. & Pr. L.	City H. City H.	Anseult. & Per.	Chem. L.	Chem. R. City H. City H.	Phys. R. M. G. H. M. G. H.
11	1 2 3	Chem. L. Clin. Surg. L. Clin. Surg. L.	Phys. L. Surg. L.	Phys. L. Chem. R.	Surg. L. Surg. L.	Phys. L. City H. Op. City H. Op.	M. G. H. Op. M. G. H. Op.
12	2 3	Obstet. L.	The. & Prac. L. The. & Prac. L.	Obstet. L.	Obstet. R.		
1	1 2	Anat. L. (last 11 weeks).	Anat. L.	An. R. 1st 8 weeks. An. L. last 11 "	Anat. L.	Anat. R.	
3	2 3	Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	Mat. Med. R.	Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	
4	2 3	Surg. R.	Dermatol. L.	Therapen. L.	The. & Pr. R.	Therapen. L.	
5	1 2 3	Prac. Anat. Prac. Anat. Prac. Anat.	Prac. Anat. Prac. Anat. Prac. Anat.	Prac. Anat. Prac. Anat. Prac. Anat.	Prac. Anat. Prac. Anat. Prac. Anat.	Prac. Anat. Prac. Anat. Prac. Anat.	

SECOND TERM. 1873.

Hour.	Class.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	2 3	M. G. II. } Med M. G. II. } Vis.	Otol. L. aft. May 1.	Clin. Con. Clin. Con.	M. G. II } Med. M. G. II. } Vis.	Otol. L. aft. May 1.	
9	1 3	Path. Anat. L. Path. Anat. L.	City II. } Med. City II. } Vis.	Dermatology. Dermatology.	Clin. Med. Clin. Med.	Chem. R. City II. City II. Oph.	Chem. R. Ophthal. L.
10	1 2 3	Chem. L. Clin. Med. Clin. Med.	Phys. R. Chem. L. Electrotherap.	Phys. R. M. G. II. } Surg. M. G. II. } Vis.	Path. Anat. L. Path. Anat. L.	City II. } Clin. City II. } Surg. L.	M. G. II. } Surg. M. G. II. } Vis
11	1 2 3	Phys. L. The. & Pr. L. Dis. of Women.	Surg. L. Surg. L.	M. G. II. } Op.	Thoracic Dis.	Phys. L. City II. } Op. City II. }	M. G. II. } Op. M. G. II. }
12	2 3	Surg. R.	The. & Prac. L. The. & Prac. L.		Obstet. L.	Vener. Dis. R.	
1	1 2 3	Anat. L. till May. Surg. Hist. } after Surg. Hist. } May 1	An. L. or R. t'l May. Hyg. L. after May 1.	Till May 1, Mental Dis. L. After May 1, Hyg.	Anat. L. till May. Surg. Hist. } after Surg. Hist. } May.	Anat. R. till May. Theo. & Prac. R.	
3	1 2 3	Prac. Micros. Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	Mat. Med. R.	Prac. Micros. Path. Micros. Path. Micros.	Path. Anat. R. Path. Anat. R.	
4	3		Obstet. R.	Therap. L.	Otol. after May 1.	Therap. L.	
5	1 2 3	Prac. Anat. till May 1.	Prac. Anat. t'l May 1 Leary n. after May 1.	Prac. Anat. till May 1.	Prac. Anat. till May 1.	Prac. Anat. till May 1.	

CLINICAL ADVANTAGES.

The Medical Department of the University is established in Boston, in order to secure those advantages for Clinical Instruction and for the study of Practical Anatomy which are found only in large cities.

There are Hospital visits or operations daily.

The Massachusetts General Hospital. — During the past year 1,700 patients were treated in the wards, and 11,878 in the out-patient departments. Patients are received from all parts of the United States and the Provinces, and are visited by the students with the attending physicians and surgeons. The opportunities for becoming acquainted with general surgery are very great. Operations are numerous, and are performed in the amphitheatre, which is provided with seats for 400 persons. Clinics in the following special branches have recently been established in connection with the out-patient department: Dermatology, Laryngoscopy, Electro-therapeutics.

The Hospital is adjacent to the Medical College, and its wards are open to the students on four days in the week.

The City Hospital. — During the past year 3,527 cases were treated in its wards, and 7,526 in its various out-patient departments. The Medical wards always contain many cases of acute disease, which are constantly being renewed. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds are excellent, since, on an average, 400 street accidents are yearly treated. Surgical operations are performed in the amphitheatre. These include general surgical and also ophthalmic operations. Diseases of the eye, the ear, and the skin are largely treated in the out-patient department. Clinical instruction is given by the physicians and surgeons twice a week.

In these two Hospitals the facilities for witnessing Operative Surgery are unsurpassed. Twice a week in the first term, and three times a week in the second term, operations are performed in the presence of the class. The number of these operations is large, reaching nearly *two thousand* a year. The variety is great, embracing every surgical disease and injury, including the surgical operations on the eye and ear.

The Massachusetts Charitable Eye and Ear Infirmary. — The three thousand patients annually treated at this institution present every variety of disease of the Eye and Ear, and supply a large number of Operations.

The Marine Hospital at Chelsea receives from the shipping of the port a large number of patients who furnish examples of the diseases of foreign countries and of distant parts of the United States. Many cases of Venereal disease in its various stages are treated annually.

The Boston Dispensary. — Thirty thousand patients were treated at this

Public Charity during the past year. Students have excellent opportunities to see minor surgery, many of the diseases of children, and to practise auscultation and percussion.

Hospital Appointments. — From eighteen to twenty students are selected annually from the class to serve as House Officers of the various Hospitals. Appointments to the Lying-in Hospital are for a shorter term.

EXAMINATIONS.

The regular examinations are held in the following order :—

At the end of the first year: Anatomy, Physiology, and General Chemistry.*

At the end of the second year: Medical Chemistry, Materia Medica, and Pathological Anatomy.

At the end of the third year: Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

The regular examinations are held at the end of each year in June, and a week before the opening of the school in September, on the studies of the preceding year. There is also an examination in February for those who apply for advanced standing on entering the school at that time, and for those who have failed in some previous examination.

No student will be allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty; and all applications for examinations out of course must be made one month before the time when the examination is to be held. No student shall be allowed to present himself for examination in any branch without previously notifying the Dean by letter that he intends to do so.

All examinations are conducted mainly by questions and answers upon paper. The examination in Clinical Medicine is conducted in part at the bedside. For specimens of recent examination-papers, see pp. 18 - 24. No student will receive his degree until he has passed a satisfactory examination in all the above-mentioned subjects, and presented a certificate from the Demonstrator of Anatomy that he has satisfactorily dissected the three parts of the body. Those who fail in any subject may present themselves in that subject again at the next regular examination. No person will be allowed to graduate under the old system after the February examination of 1874. The regular examinations in 1873-74 will begin February 9, June 15, and September 22.

* See foot-note on page 9.

DIVISION OF STUDENTS.

Students who take the regular course of the School are divided into three classes, according to their time of study and proficiency. These students are classified in the catalogues.

Students may be admitted to advanced standing in the regular course, but all who apply for admission into the second or third year's class must pass an examination in the branches already pursued by the class to which they seek admission. No student shall advance with his class, or be admitted to advanced standing, until he has passed the required examination in the studies of the year, or a majority of them.

Students may also be admitted to the school and become candidates for a degree without joining the regular classes, pursuing their studies in such order as may be advised. They are registered in the Catalogue as "Unclassified." Such students may pass the required examinations either one subject at a time, several subjects at a time, or all the subjects at once, but only at the stated seasons of examination.

Students who do not intend to offer themselves for a *degrée* will also be received at any part of the course for one term or more.

Any student may obtain, without an examination, a certificate of his period of connection with the school.

REQUIREMENTS FOR A DEGREE.

Every candidate must be twenty-one years of age, and of good moral character; must give evidence of having studied medicine three full years; have spent at least one continuous year at this school; have presented a satisfactory thesis; and have passed the required examinations.

LIBRARIES.

The Library at the Medical College is open to the student on the deposit of five dollars, to be refunded to him when he may desire after returning all books.

The Library of the University is open to the students.

The Boston Public Library, which contains a large collection of medical books, may also be used by students recommended by the Dean.

BOYLSTON MEDICAL SCHOOL.

This society, composed of medical students, meets at stated intervals for the discussion of medical topics, and is presided over by a physician selected by the members. Prizes, in money or books, are awarded annually to the writers of essays judged worthy of such distinction by a committee of physicians selected for that purpose by the society.

FEES AND EXPENSES.

For matriculation, five dollars ; for a year, two hundred dollars (if in two payments, at the first, one hundred and twenty dollars ; at the second, eighty dollars) ; for one term alone, one hundred and twenty dollars ; for graduation, thirty dollars. Of students who do not pay in advance, a bond, executed by two sufficient bondsmen, one of whom to be a citizen of Massachusetts, is required. A copy of such bond will be sent on application to the Secretary of the Faculty. The students' expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The Janitor of the College will advise students in the selection of boarding-places, and will always have a list of such as are in the vicinity of the College building, varying in their rate of charges.

Students on joining the school must enter their names with the Secretary of the Faculty.

College students intending to study medicine are advised to pay special attention to the study of Natural History, Chemistry, Physics, and the French and German languages while in College.

COURSE OF STUDY FOR GRADUATES.

The Faculty have established a course, of which the following is a programme, —

For the purpose of affording to those 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 specially interest them ; and as a substitute in part for the opportunities heretofore sought for in Europe.

Physiology. — Opportunities for original investigation in the Physiological laboratory. Fee thirty dollars per Term.

Medical Chemistry. — Practical instruction in the Chemical laboratory in the analysis of the urine and other animal fluids in health and disease, and of poisons ; examination of blood-stains and other objects connected with medico-legal investigations ; with the application of the microscope to these processes. General analysis also, if desired. Laboratory Fee thirty dollars per Term.

Pathological Anatomy. — Practical instruction in normal and pathological Histology, in the Microscopical laboratory ; and opportunity for witnessing and making autopsies. Fee twenty dollars per Term.

Surgery. — A practical Course of Operative Surgery and instruction in the application of bandages and apparatus. Fee fifteen dollars per Term.

Auscultation, Percussion, and Laryngoscopy practically taught, and diseases of the larynx demonstrated by the aid of the oxyhydrogen light. Fee twenty dollars per Term.

Ophthalmology. — Clinical instruction and lectures on diseases of the eye, and demonstrations of the methods of performing operations. Exercises in the use of the ophthalmoscope. Fee twenty-five dollars per Term.

Otology. — Lectures and clinical instruction on diseases of the ear. Fee fifteen dollars per Term.

Hygiene. — Lectures (in Second Term). Fee five dollars.

Dermatology. — Clinical instruction in diseases of the skin, illustrated by patients in this department at the Massachusetts General Hospital. Lectures. Fee twenty-five dollars per Term.

Syphilis. — Clinical instruction at the Boston Dispensary and the Marine Hospital. (Second Term.) Fee fifteen dollars.

Psychological Medicine. — Lectures on nervous and mental diseases. (Second Term.) Fee five dollars.

Electro-therapeutics. — Practical illustrations of the application of various forms of electricity. Lectures. Fee fifteen dollars per Term.

Gynecology. — Lectures on diseases of women. (Second Term.) Fee ten dollars.

Obstetrics. — Cases supplied. Fee ten dollars.

Those pursuing this Course may elect the studies to which they will give their attention, and allot the time they will devote to each. On payment of the full fee they will have the privilege of attending any of the other exercises of the Medical School, the use of its laboratories and library, and all other rights accorded by the University. They will be exempt, unless at their option, from examinations, and may obtain a certificate of attendance on this course of advanced study. Graduates of other Medical Schools who may desire to obtain the degree of M. D. at this University will be admitted to examination for this degree after a year's study in the Graduates' Course.

The Fee for a year is	\$ 200
“ for one Term	120

And for any of the Special Courses such Fees as are above specified.

For further information or catalogues address

DR. R. H. FITZ, *Secretary*,
108 Boylston Street, Boston, Mass.

☞ The Medical College is on North Grove Street, Boston.

EXAMINATION PAPERS IN MEDICINE.

(*June Examination, 1873.*)

First Year's Studies.

ANATOMY. — PROF. O. W. HOLMES.

1. WHAT do you understand by connective tissue ?
2. Distinguish the two kinds of muscular fibre, and mention the parts in connection with which each is found.
3. What does the blood consist of as it flows in the vessels ? What changes occur in coagulation ?
4. Describe the atlas and axis.
5. Describe the os calcis.
6. Describe the wrist-joint.
7. Mention some of the chief bursæ mucosæ.
8. Describe the psoas-magnus.
9. Describe the omo-hyoid.
10. Describe the profunda femoris.
11. Describe the inferior thyroid.
12. Describe the cephalic vein.
13. Describe the lateral ventricles.
14. Describe the restiform columns.
15. Describe the fifth pair of nerves.
16. Mention the serous membranes, and describe their anatomical characters.
17. Describe the mesentery.
18. Describe the pancreas.
19. Describe the vas deferens.
20. Describe the ovary.

PHYSIOLOGY. — PROF. H. P. BOWDITCH.

1. What is the function of the saliva in digestion ?
2. Describe the mechanism of deglutition.
3. How is adipose tissue digested and absorbed ?
4. What reason is there for supposing that albuminoid substances may be absorbed without undergoing gastric digestion ?
5. What are the functions of the bile ?
6. Explain the glycogenic function of the liver.
7. What is the cause of the difference in color between arterial and venous blood ?

8. What is the difference between a secretion and an excretion? Give examples.
9. What conditions favor the functional activity of the kidneys?
10. What is the origin of urea?
11. Explain the double effect of muscular activity in the production of animal heat.
12. Explain the various ways in which the body loses heat.
13. What is the cause of cadaveric rigidity?
14. What is meant by "muscular tonicity"?
15. What are the forces which maintain the circulation of the blood?
16. What is a reflex action? Give examples.
17. Explain the mechanism of accommodation in the eye.
18. What is the difference between a taste and a flavor?
19. What organs are formed from the external blastodermic layer?
20. What are the functions of the tubercula quadrigemina?

GENERAL CHEMISTRY. — PROF. E. S. WOOD.

1. What is the difference between empirical and rational formulæ? Illustrate by an example.
 2. Difference between the atomicity and basicity of an acid?
 3. Give the tests for mercury, and show by reactions the distinction between mercurous and mercuric compounds.
 4. What are the tests for lead salts? Give the reactions.
 5. A solution acid to test paper gives an orange precipitate with H_2S : what substances must be absent, what may the precipitate contain, and how would you examine it?
 6. Describe by equations the changes which takes place when H_3As and H_3Sb are passed through a solution of $AgNO_3$.
 7. How detect the presence of HCl , HBr , and HI , when in solution?
 8. What are the principal varieties of sugar? Give the composition and properties of each.
 9. Explain the difference between alcohol, ether, acetic aldehyd, chloral, acetic acid, ethylamine, and acetamide.
 10. What is the composition of aniline and carbolic acid?
 11. What is the composition of urea, and what are its most important chemical tests?
 12. What are the tests for $H_2C_2O_2$, $H_2C_2O_4$, $H_2C_4H_4O_6$, and $H_3C_7H_7O_7$?
- In addition to the above questions, a written report of the analysis of a solution containing inorganic substances was required.

Second Year's Studies.

MEDICAL CHEMISTRY. — PROF. E. S. WOOD.

1. Describe the method for determining the amount of urea in urine. In what cases is such an estimation important?
2. What are the causes of albuminuria?
3. How can you detect the presence of blood pigment in a stain upon clothing, or when in solution in urine?

4. How can you diagnosticate between cystitis and pyelitis by an examination of the urine?

5. What is Pettenkofer's test, and what is its importance in urinary analysis?

6. What are the different kinds of urinary casts, and what is the significance of each?

7. How distinguish between the crystals of uric acid, hippuric acid, and triple phosphate?

8. What is the action of water on lead? What are the sources of chronic lead poisoning?

9. Test for arsenic in wall paper? Symptoms of chronic arsenical poisoning?

10. Sources of prussic acid? Give the tests for it.

11. Describe Stas's method for the isolation of an alkaloid from organic tissues.

12. Mention the four principal tests for morphia. How can you distinguish between poisoning by opium and poisoning by morphia by an analysis of the stomach or its contents?

In addition to the above questions a written report of the analysis of a specimen of urine, and of a mixed organic and inorganic poison, was required.

MATERIA MEDICA. — PROF. R. T. EDES.

1. What ordinary articles of diet contain a large proportion of starch? Of nitrogenous constituents?

2. Mention the salts of potassa used in medicine, and trace by chemical symbols their formation from natural products. Give their doses.

3. What are the medicinal preparations of phosphorus, with their doses?

4. What are the varieties of tannic acid? What substances contain them, and how is gallic acid prepared? What substances are incompatible with tannic acid?

5. What are the antidotes for sulphuric acid, oxalic acid, arsenic, corrosive sublimate?

6. Mention four useful preparations of iron, with doses.

7. " two " " " zine, "

8. " four " " " mereury, "

9. " two " " " arsenic, "

Mention origin, appearance, active principles, important preparations, and doses of—

10. Ipeecac. 14. Digitalis. 17. Rhubarb.

11. Stramonium. 15. Aloes. 18. Jalap.

12. Colehicum. 16. Leptandra. 19. Cubebs.

13. Hops.

What are doses of

20. Tr. opii., Morph. sulph., Tr. opii. camph., Pulv. opii., Acetum opii.,

21. Quiniæ sulph., Cinchonæ sulph., Tr. cinchonæ comp.,

22. Ext. belladonnæ, Atropiæ sulph.,

23. Acidum muriaticum, Acidum hydrocyanicum dilutum,

24. Elaterium, Ext. colocynth. comp., Sennæ ext. fl., Ol. tiglii.?

25. About what proportion of alcohol do you find in the strong alcohol of the shops? whiskey? champagne? eider? ale? sherry?

Arrange these liquors in a list according to amount of sugar and of acid contained in them.

26. How may carbolic acid be dissolved or diluted for internal use? for external?

27. How is pepsin prepared? How given? Varieties and dose?

28. Write two prescriptions of three active ingredients each, with necessary excipients, etc.

29. Write a prescription for a solution for hypodermic injection.

30. Write out directions for making and applying a mustard plaster.

PATHOLOGICAL ANATOMY. — DR. R. H. FITZ.

1. What is meant by cellular hypertrophy and cellular hyperplasy?

2. How would you distinguish between an *ante* and *post mortem* clot?

3. What changes may a thrombus undergo?

4. What do you understand by the term "atheromatous process"?

5. When is an organ "fatty degenerated"?

6. What forms of emphysema of the lungs are recognized, and how are they distinguished?

7. In pulmonary hemorrhage where does the blood come from?

8. How would you recognize a lung to be in the stage of red hepaticization?

9. What inflammatory products occur in a case of acute pleurisy?

10. What is the relative frequency of disease of the individual valves of the heart?

11. What part of the œsophagus is more especially the seat of malignant disease?

12. What may be the results of an ulcer of the stomach?

13. What anatomical appearances would you expect to find in a case of chronic dysentery?

14. Describe a "nutmeg liver."

15. What do you understand by "cirrhosis" of the liver?

16. What is a "sagoey" spleen?

17. What are the appearances of tuberculosis of the bladder?

18. Where may intracranial hemorrhage be seated?

19. What are the more prominent causes of abscess of the brain?

20. What is understood by the term "apoplectic cyst"?

Third Year's Studies.

EXAMINATION IN THERAPEUTICS. — PROF. R. T. EDDES.

1. By what channels may drugs be introduced into the system, and which of these are of the most frequent practical application?

2. By what channels and in what proportion is iodide of potassium eliminated?

3. Alcohol?

4. Quinine?

5. Antimony?

6. What preparations are used to assist digestion by their local action?

What are the action and indications for the use of

7. Digitalis ?
8. Calabar bean ?
9. Conium ?
10. Iron ?
11. Arsenic ?
12. Chloral hydrate ?
13. Contrast the advantages and disadvantages of ether, chloroform, and nitrous oxide, as anæsthetics.
14. What drugs have been tried as substitutes for quinine in intermittents, and what is their value ?
15. Describe some of the physiological experiments recently made to explain and illustrate the action of quinia.
16. What substances are used to neutralize acid in the stomach ? in the blood ? State the chemical and physiological changes which take place, and give examples of the proper use of each class of preparation.
17. } Tell all you know about opium, and give three recipes with
18. } directions for its administration in various forms.
19. }
20. What are the symptoms of poisoning by aconite, and what is their treatment ?

SURGERY. — PROF. H. J. BIGELOW.

1. Pathological anatomy of strangulated hernia and its symptoms ?
2. The operation for strangulated hernia ?
3. Secondary syphilitic symptoms and their treatment ?
4. Cataract and its operations ?
5. Necrosis and the operation usually required by it ?
6. Fractures of the upper end of the femur, especially the impacted ones ?
7. Club foot and the operation for its relief ?
8. What is epithelioma ?
9. Symptoms of stone ?
10. Lithotomy, how performed ? Choice between this and lithotripsy ?
11. Aneurism : its varieties and the usual expedients for its cure ?
12. Pus and its relation to inflammation ?
13. Fistula in ano and the operation for ?
14. Compression of the brain ?
15. Trephining and the symptoms requiring it ?
16. Treatment of hip dislocation ?
17. Hemorrhoids and their treatment ?
18. Felon and its treatment ?
19. Retention of urine and expedients for its relief ?
20. How would you amputate at the shoulder-joint ?
21. Ligature of femoral artery ?

CLINICAL MEDICINE. — PROF. C. ELLIS.

Make a differential diagnosis of the following case, with the prognosis and treatment. What is the probable disease, and what further examination would be necessary to determine its character ?

A woman, fifty-two years of age, had generally enjoyed good health,

with the exception that she had been troubled with prolapsus uteri since the birth of her last child, fourteen years before. Her health had perhaps failed somewhat within the last three years, and she had noticed some dyspnoea; but the latter did not attract much attention until early in May, when she was obliged to return to the house soon after she left it, on account of difficulty in breathing. In ten days this increased so much she took to her bed. She had complained of cough all winter, which was quite severe and accompanied at times by the expectoration of a little purulent matter. There was never any hæmoptysis. Some pain across the epigastrium and in the back of the head. Palpitation had been noticed at times, but it was not sufficient to cause any real trouble until April, when it was quite marked. There was no appetite, and food had caused nausea on the day before she was seen. The thirst was urgent. The bowels were regular. The urine was dark-colored. For three or four years there had been swelling of the feet, so that she could not wear shoes in the afternoon; but the veins were varicose, and may have given rise to this. There was no chill nor fever. The pulse was about 120, difficult to count, owing to its irregularity. The temperature was 100; the respiration 40. The lips were livid, but there was no special pulsation of the jugular veins. In the cardiac region was an unusual impulse of a heaving character. The cardiac dulness was apparently increased, but the amount of adipose tissue made it difficult to determine this point. There was no souffle. In the lower part of the left side of the chest were a few subcrepitant râles. The respiration in other respects was not remarkable, though perhaps somewhat exaggerated. She got relief by using digitalis, but at the end of about a month the symptoms all returned in an aggravated form.

1. How would you treat a patient with an effusion of blood into the substance of the brain?

2. What is glosso-labio-laryngeal paralysis? How is it distinguished from other forms of paralysis in which the same parts are affected?

3. How do the symptoms of cerebro-spinal meningitis differ from those of cerebral meningitis?

4. How would you treat a case of cerebro-spinal meningitis?

5. How would you distinguish between hysterical paralysis and that arising from lesions of the nervous centres?

6. How would you treat a case of membranous croup?

7. What are the causes of cough?

8. What may give rise to dyspnoea?

9. What is the best treatment of pleurisy?

10. How would you treat a case of pneumonia?

11. What do mucons râles indicate?

12. What are the indications that disease of the left side of the heart has finally affected the right side?

13. State some of the principal diseases in which nausea and vomiting are prominent symptoms?

14. How would you distinguish chronic gastritis from simple dyspepsia?

15. What would lead you to suspect disease of the kidneys when there is no dropsy?

16. What would influence you in your prognosis, where albumen and casts have been found in the urine?

17. State the causes of frequent micturition.
18. What are the causes of paralysis in Pott's disease ?
19. In what diseases do extravasations of blood take place ?
20. What diseases are most likely to give rise to anæmia, or more properly spanæmia ?

THEORY AND PRACTICE. — PROF. G. C. SHATTUCK.

1. Etiology of diseases of the brain ?
2. To what diseases are the brain and its membranes liable ?
3. Treatment of insolation ?
4. Diagnosis of pneumonia and pleurisy ?
5. To what diseases is the larynx liable ?
6. Treatment of membranous croup ?
7. An enumeration of zymotic diseases.
8. Causes of typhoid fever ?
9. Diagnosis of diphtheria and scarlatina ?
10. Vaccination, its history and rules ?
11. Pathology of diabetes ?
12. Etiology of intestinal obstruction ?
13. Symptoms of mitral stenosis ?
14. Treatment of rheumatism ?

OBSTETRICS. — PROF. C. E. BUCKINGHAM.

1. A recently married woman is accused of having had a child before marriage. On what evidence will you determine the facts in the case ?
2. The duration of pregnancy : what is it ? Through how long a time does it naturally extend ? From what date would you calculate its extension ? and why from that date ?
3. What are the causes of puerperal convulsion ? What circumstances, if any, would lead you to expect it before the convulsion begins ? What before labor begins ? Is there any preventive treatment you could use ? If so, what ?
4. What indications are there for applying forceps ?
5. What indications are there for using the perforator ?
6. Would you ever use the perforator if you thought it possible to deliver with forceps ?
7. Give your reasons for preferring either instrument over the other.
8. Is it possible for the position of any presentation to be changed to another position, without any aid from the attendant ? Is so, please explain how it can be done ; taking as an illustration a normal pelvis, the first stage of labor, membranes not ruptured, a right occipito-sacro-iliac position of the vertex, converted into either a right or left occipitocotyloid position ?
9. Under what circumstances would you bring on premature labor ? At what time ? and how would you do it ?
10. After-pains, their cause and treatment ? Can anything be done to prevent them ? What ?

