

No.

BOSTON
MEDICAL LIBRARY
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ONE HUNDRED AND THIRD
ANNUAL CATALOGUE
OF THE
MEDICAL SCHOOL
(BOSTON)
OF
HARVARD UNIVERSITY.
1885-86.

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CAMBRIDGE, MASS.
PUBLISHED BY THE UNIVERSITY.
1885.

THE MEDICAL SCHOOL.

BOSTON.

Instruction in this School 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. There is a recess at Christmas, beginning December 23, and ending January 2; and a spring recess, beginning on the Wednesday before Fast Day, and ending on the following Tuesday, inclusive.

The course of instruction has been greatly enlarged, and is 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 is as much required of every student as attendance at lectures and recitations.

The course of study recommended by the Faculty covers four years, but until further notice the degree of Doctor of Medicine will continue to be given upon the completion of three years of study, to be as ample and full as heretofore. The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of 75 per cent in all the examinations of this course. In addition to the ordinary degree of Doctor of Medicine as heretofore obtained, a certificate of attendance on the studies of the fourth year will be given to such students desiring it as shall have attended the course, and have passed a satisfactory examination in the studies of the same.

Instead of the customary oral examination for the degree of Doctor of Medicine, held at the end of the three and four year's period of study, a series of written examinations on all the main subjects of medical instruction has been distributed for regular students through their entire course of study. Every candidate for the degree must pass a satisfactory examination in every one of the principal departments of medical instruction, at some time during his period of study.

* That the time of study shall count as a full term, students of every class must present themselves within the first week of the term and register their names with the Secretary.

A new building has just been completed at a cost of more than a quarter of a million of dollars. Its numerous apartments are spacious, well lighted, and provided with carefully contrived apparatus for heating and ventilation. The comfort and convenience of the students have been constantly borne in mind in the arrangement of rooms, the construction of seats, and in the furnishing of the various laboratories, halls for lectures, and rooms for recitation, study, and conversation. The building is devoted to laboratory instruction and didactic teaching, while the general and special clinics take place at the various hospitals and dispensaries. Greatly enlarged and improved facilities are offered at the Massachusetts General Hospital and the Boston Dispensary, both of which institutions have constructed buildings to meet the constantly increasing demands for their usefulness.

FACULTY.

- CHARLES W. ELIOT, LL.D., *President.*
 HENRY P. BOWDITCH, M.D., *Dean, and Professor of Physiology.*
 OLIVER W. HOLMES, M.D., LL.D., *Professor of Anatomy, Emeritus.*
 HENRY J. BIGELOW, M.D., *Professor of Surgery, Emeritus.*
 FRANCIS MINOT, M.D., *Hersey Professor of the Theory and Practice of Physic.*
 JOHN P. REYNOLDS, M.D., *Professor of Obstetrics.*
 HENRY W. WILLIAMS, M.D., *Professor of Ophthalmology.*
 DAVID W. CHEEVER, M.D., *Professor of Surgery.*
 JAMES C. WHITE, M.D., *Professor of Dermatology.*
 ROBERT T. EDES, M.D., *Jackson Professor of Clinical Medicine.*
 FRANK W. DRAPER, M.D., *Assistant Professor of Legal Medicine.*
 FREDERICK I. KNIGHT, M.D., *Assistant Professor of Laryngology.*
 CHARLES B. PORTER, M.D., *Assistant Professor in Surgery.*
 EDWARD N. WHITTIER, M.D., *Assistant Professor of Clinical Medicine.*
 J. COLLINS WARREN, M.D., *Assistant Professor in Surgery.*
 REGINALD H. FITZ, M.D., *Shattuck Professor of Pathological Anatomy.*
 WILLIAM L. RICHARDSON, M.D., *Assistant Professor of Obstetrics.*
 THOMAS DWIGHT, M.D., *Parkman Professor of Anatomy.*
 EDWARD S. WOOD, M.D., *Professor of Chemistry.*
 WILLIAM H. BAKER, M.D., *Assistant Professor of Gynaecology.*
 WILLIAM B. HILLS, M.D., *Assistant Professor of Chemistry.*
 WILLIAM F. WHITNEY, M.D., *Secretary, and Curator of the Anatomical Museum.*
 MAURICE H. RICHARDSON, M.D., *Demonstrator of Anatomy, and Assistant in Surgery.*

OTHER INSTRUCTORS.

- SAMUEL H. DURGIN, M.D., *Lecturer on Hygiene.*
 HENRY P. QUINCY, M.D., *Instructor in Histology.*
 FRANCIS A. HARRIS, M.D., *Demonstrator of Medico-legal Examinations.*
 FREDERICK C. SHATTUCK, M.D., *Instructor in the Theory and Practice of Physic.*
 EDWARD H. BRADFORD, M.D., *Assistant in Clinical Surgery.*
 FRANCIS H. DAVENPORT, M.D., *Assistant in Gynaecology.*
 THOMAS M. ROTCH, M.D., *Instructor in Diseases of Children.*
 GEORGE M. GARLAND, M.D., *Assistant in Clinical Medicine.*
 JOSEPH W. WARREN, M.D., *Assistant in Physiology.*
 GEORGE W. WEST, M.D., *Demonstrator of Bandaging and Apparatus.*
 CHARLES S. MINOT, S.D., *Instructor in Histology and Embryology.*
 WILLIAM W. GANNETT, M.D., *Assistant in Pathological Anatomy.*
 CHARLES M. GREEN, M.D., *Assistant in Obstetrics.*
 FRANCIS H. WILLIAMS, M.D., *Instructor in Materia Medica and Therapeutics.*
 WILLIAM C. EMERSON, M.D., *Assistant in Chemistry.*
 SAMUEL J. MIXTER, M.D., *Assistant Demonstrator of Anatomy*
 WALTER J. OTIS, M.D., *Assistant in Operative Surgery.*
 HAROLD C. ERNST, M.D., *Demonstrator of Bacteriology.*
 CHARLES HARRINGTON, M.D., *Instructor in Hygiene, and Assistant in Chemistry.*
 OTIS K. NEWELL, M.D., *Assistant in Anatomy.*
 HERMAN F. VICKERY, M.D., *Assistant in Clinical Medicine.*
- The following gentlemen will give special clinical instruction:—
 JOHN HOMANS, M.D., *in the Diagnosis and Treatment of Ovarian Tumors.*
 THEODORE W. FISHER, M.D., and WILLIAM B. GOLDSMITH, M.D., *in Mental Diseases.*
 FRANCIS B. GREENOUGH, M.D., and ABNER POST, M.D., *in Syphilis.*
 OLIVER F. WADSWORTH, M.D., *in Ophthalmoscopy.*
 J. ORNE GREEN, M.D., and CLARENCE J. BLAKE, M.D., *in Otology.*
 SAMUEL G. WEBBER, M.D., and JAMES J. PUTNAM, M.D., *in Diseases of the Nervous System.*
 JAMES R. CHADWICK, M.D., *in Diseases of Women.*
 ELBRIDGE G. CUTLER, M.D., and WILLIAM W. GANNETT, M.D., *in Auscultation.*
 ARTHUR T. CABOT, M.D., *in Genito-Urinary Surgery.*

The Medical School is at the corner of Boylston and Exeter Streets, Boston, and the address of the Dean is Dr. H. P. Bowditch, Harvard Medical School, Boston.

STUDENTS.

COURSE FOR GRADUATES.

Abbot, Charles Henry, D.M.D.,	<i>Berlin, Germany.</i>
Huse, George Wood, A.B., M.D.,	<i>W. Quincy.</i>
Mansfield, Francis, A.B. (<i>Brown Univ.</i>), M.D., (<i>Coll. of Phys. and Surg., N. Y.</i>)	<i>Taunton.</i>
Peters, Austin, M.R.C.V.S.,	<i>Jamaica Plain.</i>
Sharp, Walter Nevin, M.D. (<i>Univ. of Vt.</i>),	<i>S. Acton.</i>
Simmons, William Turner, M.D.,	<i>Boston.</i>
Stevens, William Stanford, A.M., M.D.,	<i>Boston.</i>

FOURTH CLASS.

Babcock, James Woods, A.B.,	<i>Chester, S. C.</i>
Bullock, Edwin Warren,	<i>Wellesley.</i>
Cole, George Edward,	<i>Sheboygan, Wis.</i>
Collins, David Aloysius,	<i>Boston.</i>
Craig, James Wallace,	<i>Middletown, Conn.</i>
Danforth, William Henry, A.B.,	<i>Plymouth.</i>
Dunham, Edward Kellogg, PH.B. (<i>Columbia Coll.</i>),	<i>Irrington, N. Y.</i>
Durand, Henry Strong, A.B. (<i>Yale Coll.</i>),	<i>Rochester, N. Y.</i>
Gage, Homer, A.B.,	<i>Worcester.</i>
Holden, Austin,	<i>Cambridge.</i>
Locke, Horace Mann,	<i>Lockeford, Cal.</i>
Lyman, Charles Baldwin,	<i>Salem.</i>
McDonald, Edward Valentine, A.B.,	<i>Boston.</i>
Richardson, Benjamin Franklin,	<i>Middleton.</i>
Sweeney, Arthur Ambrose, A.B. (<i>St. John's Coll.,</i> <i>N. Y.</i>),	<i>Lawrence.</i>
Ward, George Otis, A.M. (<i>Brown Univ.</i>),	<i>Worcester.</i>
Whitney, Charles Melville,	<i>Winchendon.</i>
Woodbury, Frederick Clinton, A.B.,	<i>Boston.</i>

THIRD CLASS.

Aiken, William Ford,	<i>New York, N. Y.</i>
Baldwin, Frederick William,	<i>Danvers.</i>
Ball, Thomas Joseph, A.B. (<i>Boston Coll.</i>),	<i>E. Cambridge.</i>
Bancroft, Edward Erastus, A.B. (<i>Amherst Coll.</i>),	<i>Lancaster.</i>
Barnes, William, S.B.,	<i>Decatur, Ill.</i>
Brennan, John Joseph,	<i>Milford.</i>
Brownrigg, John Sylvester,	<i>Roxbury.</i>
Burrage, Walter Lincoln, A.B.,	<i>Boston.</i>
Cahill, Charles Sumner,	<i>Cambridge.</i>
Callanan, Samson Aloysius, A.M. (<i>Boston Coll.</i>),	<i>Boston.</i>

Carter, Cyrus Faulkner,	Millbury.
Cochran, William James,	Milford.
Cook, Irving Sherburne, A.B. (<i>Tufts Coll.</i>),	Woonsocket, R. I.
Cushing, Edward Fitch, PH.B. (<i>Cornell Univ.</i>),	Cleveland, O.
Dodge, William Wooldredge, A.B. (<i>Tufts Coll.</i>),	Marblehead.
Dow, Edmund Scott, A.B.,	Brookline.
Draper, Frank Eugene,	No. Attleboro'.
Eaton, Percival James, A.B.,	Maplewood.
Edmunds, Charles Dole, A.B. (<i>Colby Univ.</i>),	E. Corinth, Me.
Ehrlich, Henry,	Boston.
Ferry, James Francis,	Cambridge.
Fiske, Eustace Lincoln,	Holliston.
Foote, Charles Jenkins, A.B. (<i>Yale Coll.</i>),	New Haven, Conn.
Francis, Richard Pearce, A.B.,	New York, N. Y.
Greene, Ray Woodville, A.B. (<i>Brown Univ.</i>),	Westerly, R. I.
Greene, Robert Holmes, A.B. (<i>Bowdoin Coll.</i>),	Brunswick, Me.
Hallett, Walter Lewis, A.B. (<i>Amherst Coll.</i>),	Mansfield.
Harrington, Frank Abram, A.B.,	Orangeport, N. Y.
Heywood, George, A.B.,	Concord.
Jack, Ernest Sanford, A.B.,	Portland, Me.
Jacobs, Henry Barton, A.B.,	Cambridge.
Jillson, Franklin Campbell,	Worcester.
Leitch, John Alvin,	Andover.
Lewis, Edwin Ransome,	Westerly, R. I.
Lilienthal, Howard, A.B.,	Saratoga Springs, N. Y.
Lord, William Tyler, A.B.,	Boston.
McGlynn, Edward,	Boston.
Mahoney, John Bernard,	Peabody.
Manning, Charles Bolles,	Boston.
Mead, George Nathaniel Plumer,	Everett.
Moloney, Michael Francis,	W. Stockbridge.
Murphy, Daniel Francis,	Malden.
Nottage, Herbert Percy,	Chelsea.
O'Callaghan, Dennis Francis,	Salem.
O'Neill, James Bernard, A.B. (<i>Middlebury Coll.</i>),	Bristol, Vt.
Osgood, George Edward,	Everett.
Parker, Henry Ward, A.M. (<i>Brown Univ.</i>),	New Bedford.
Paul, Walter Everard, A.B.,	Auburn, Me.
Pomeroy, William Henry, A.M. (<i>Brown Univ.</i>),	Springfield.
Pulsifer, William Moor, A.B. (<i>Colby Univ.</i>),	Waterville, Me.
Richards, George Lyman,	Unionville, Conn.
Robinson, John Franklin,	Manchester, N. H.
Ross, Carroll Baldwin, A.B. (<i>Middlebury Coll.</i>),	Poultney, Vt.

Sargent, George Amory, A.B.,	Boston.
Scudder, Charles Locke, A.B., PH.B. (<i>Yale Coll.</i>),	Great Barrington.
Smith, Herbert Llewellyn, A.B. (<i>Dart. Coll.</i>),	Hudson Centre, N. H.
Sprague, Richard, A.B.,	Boston.
Stearns, Daniel Waldo,	Newton.
Stevens, Lewis Tebbetts, A.B. (<i>Johns Hopkins Univ.</i>),	Baltimore, Md.
Stone, Arthur Kingsbury, A.B.,	Framingham.
Stratton, William Edgar, A.B. (<i>Johns Hopkins Univ.</i>),	Baltimore, Md.
Supple, Bernard Francis,	Boston.
Thaw, Alexander Blair,	Pittsburg, Pa.
Tuttle, Albert Henry, S.B.,	Boston.
Williams, Charles Crosby, PH.G. (<i>Mass. Coll. of Pharm.</i>),	Boston.

SECOND CLASS.

Austin, Arthur Everett, A.B. (<i>Bowdoin Coll.</i>),	Readfield, Me.
Barnes, Francis John, A.B. (<i>Boston Coll.</i>),	Watertown.
Blodgett, Stephen Haskell,	Boston.
Bolton, Charles James,	Somerville.
Briggs, Charles Poor, A.B.,	Lawrence.
Bryant, William Sohier, A.B.,	Boston.
Bullard, John Thornton, A.B.,	New Bedford.
Bunker, Frederic Story, A.B.,	Cambridge, Me.
Burns, Hiram Hutchins, A.B. (<i>Tufts Coll.</i>),	Kingston.
Byron, James Tolman,	Stoneham.
Chandler, Norman Fitch,	Mooers, N. Y.
Clark, Nathaniel Herbert, PH.G. (<i>Coll. of Pharm.</i>),	Boston.
Cobb, Frederic Codman, A.B.,	Boston.
Cogan, Joseph Ambrose, A.B.,	Cambridge.
Collins, Orville William, A.M. (<i>Bates Coll.</i>),	So. Framingham.
Cowles, William Norman,	Ayer.
Cummings, Michael Aloysius,	Fall River.
Cummings, Mott Alvah, A.M. (<i>Dartmouth Coll.</i>),	Claremont, N. H.
Davis, Edward Curtis,	Central Falls, R. I.
Denton, Myron Preston, A.B.,	Saratoga Springs, N. Y.
Drummey, Nicholas Daniel,	Boston.
Ensworth, William Howard,	E. Boston.
Fallon, Michael Francis, A.B. (<i>Holy Cross Coll.</i>),	Worcester.
Fay, William Eastman, A.B. (<i>Univ. of Minn.</i>),	Cambridge.
Fillebrown, Charles Dalton,	Brookline.
Finney, John Miller Turpin, A.B. (<i>Princeton Coll.</i>),	Bel Air, Md.

Foley, Walter James Paul,	<i>Boston.</i>
Fox, William Yale,	<i>Taunton.</i>
Gilfether, Frank Emmet,	<i>So. Boston.</i>
Gilman, Warren Randall, A.B.,	<i>Boston.</i>
Goodale, Walter Temple, A.B. (<i>Bowdoin Coll.</i>),	<i>Saco, Me.</i>
Gould, Clarke Storer,	<i>So. Boston.</i>
Greene, Edward Miller, A.B. (<i>Amherst Coll.</i>),	<i>Boston.</i>
Hall, Henry Bailey, LL.B. (<i>Boston Univ.</i>),	<i>E. Boston.</i>
Harkins, Daniel Stanislaus,	<i>Newtonville.</i>
Hayes, Thomas Joseph,	<i>Beverly.</i>
Helm, Charles James, A.B. (<i>Georgetown Coll.</i>),	<i>Peru, Ind.</i>
Holmes, John Parker, A.B.,	<i>Philadelphia, Pa.</i>
Horgan, John Augustus,	<i>Boston.</i>
Hunting, Nathaniel Stevens, A.B.,	<i>Des Moines, Iowa.</i>
Hurley, Daniel Bartholomew,	<i>Arlington.</i>
Jack, Edwin Everett, A.B.,	<i>Boston.</i>
Jameson, Winthrop Marston,	<i>Cambridge.</i>
Jones, Gilbert Norris, A.B.,	<i>Bangor, Me.</i>
Kales, John Davis,	<i>Chicago, Ill.</i>
Kane, Thomas Francis, A.B. (<i>Holy Cross Coll.</i>),	<i>Hartford, Conn.</i>
Kaufman, Franklin John,	<i>Syracuse, N. Y.</i>
Kennon, Charles Edward Vere,	<i>Goshen, Conn.</i>
Lancaster, Walter Brackett, A.B.,	<i>Newton.</i>
Lewis, Joshua Francis, S.B. (<i>Dartmouth Coll.</i>),	<i>Malden.</i>
Libby, George Wesley Harding, A.B. (<i>Colby Univ.</i>),	<i>No. Gorham, Me.</i>
Leitch, John Goodrich,	<i>Boston.</i>
Lyon, Arthur Vinal, A.B. (<i>Amherst Coll.</i>),	<i>Brockton.</i>
McCarthy, Eugene Allen, A.B. (<i>Boston Coll.</i>),	<i>Cambridge.</i>
McNally, William Joseph,	<i>Charlestown.</i>
Mahoney, John Francis, A.B.,	<i>Waltham.</i>
Mara, Frank Timothy, A.B. (<i>Holy Cross Coll.</i>),	<i>Boston.</i>
Mayberry, Charles Bradford, A.M. (<i>Tufts Coll.</i>),	<i>East Weymouth.</i>
Metcalf, Harold, A.B. (<i>Brown Univ.</i>),	<i>Providence, R. I.</i>
Morris, James Stewart,	<i>So. Boston.</i>
Morrison, William Alexander,	<i>E. Boston.</i>
Morse, Frank Adelbert,	<i>Boston.</i>
Nelson, Henry David, A.B.,	<i>Milford.</i>
Nichols, John Holyoke,	<i>Danvers.</i>
O'Connor, John James,	<i>Springfield.</i>
O'Meara, Michael John, A.B. (<i>Holy Cross Coll.</i>),	<i>Worcester.</i>
Padula, Thomas Francis, A.B. (<i>Holy Cross Coll.</i>),	<i>Quincy.</i>
Peirson, Edward Lawrence, A.B.,	<i>Boston.</i>

Peters, John Matthews,	<i>Syracuse, N. Y.</i>
Phippen, Hardy, A.B.,	<i>Salem.</i>
Plummer, Henry Lincoln,	<i>E. Boston.</i>
Schaaake, Frederick Henry,	<i>Lawrence.</i>
Sears, Henry Francis, A.B.,	<i>Boston.</i>
Shea, Thomas Bernard, A.B. (<i>Holy Cross Coll.</i>),	<i>Boston.</i>
Thorndike, Augustus, A.B.,	<i>Brookline.</i>
Thorndike, Paul, A.B.,	<i>Milwaukee, Wis.</i>
Tigh, Frederick,	<i>Peabody.</i>
Treviño, Manuel Francisco, S.B. (<i>St. Joseph's Coll., Ky.</i>),	<i>Matamoras, Mexico.</i>
Tuck, Lorenzo Wadsworth, A.B. (<i>Amherst Coll.</i>),	<i>So. Weymouth.</i>
Walker, John Baldwin, A.B.,	<i>Boston.</i>
Webster, George Arthur,	<i>Boston.</i>
Wesselhoeft, William Fessenden, A.B.,	<i>Boston.</i>
Wilmarth, Frederick Augustus,	<i>Upton.</i>
Worcester, Charles Pomeroy, A.B.,	<i>Newtonville.</i>

FIRST CLASS.

Aldrich, Nathaniel Borden,	<i>Fall River.</i>
Anthony, Francis Wayland, A.B.,	<i>Bradford.</i>
Arnold, Horace David, A.B.,	<i>Newton.</i>
Bates, Frederick Seward,	<i>Newton.</i>
Bell, Robert Mowry, S.B. (<i>Univ. of Minn.</i>),	<i>Minneapolis, Minn.</i>
Biscoe, Ellis Franklin, D.B. (<i>Drew Theol. Sem.</i>),	<i>Boston.</i>
Blake, Harrison Gray,	<i>Woburn.</i>
Boynton, Charles Edgar, A.B.,	<i>Haverhill.</i>
Bradford, Martin Luther, A.B.,	<i>Boston.</i>
Brown, Walter Atwood,	<i>Salmon Falls, N. H.</i>
Burr, Chauncey Rea, Ph.B. (<i>Yale Coll.</i>),	<i>Portland, Me.</i>
Burrough, Thomas True,	<i>Jamaica Plain.</i>
Bustillo, Antonio, A.B. (<i>Inst. of Santander</i>),	<i>Boston.</i>
Carroll, Thomas Francis,	<i>Watertown.</i>
Chadbourne, Arthur Patterson, A.B.,	<i>Cambridge.</i>
Chamberlain, Allen Howard, A.B.,	<i>Foxcroft, Me.</i>
Clark, Frank Haven, A.B.,	<i>Boston.</i>
Clark, Horace, A.B.,	<i>Newton.</i>
Clark, Leonard Brown, A.B.,	<i>Weston.</i>
Craigin, George Arthur, A.B.,	<i>Boston.</i>
Darraha, Rufus Elmer,	<i>Newport, R. I.</i>
Day, Frank Leslie, A.B. (<i>Brown Univ.</i>),	<i>Keene, N. H.</i>
Donahue, Hugh,	<i>Haverhill.</i>
Draper, Joseph Rutter, A.B. (<i>Williams Coll.</i>),	<i>Boston.</i>

Dunham, Theodore, A.B.,	Newport, R. I.
Eliot, George,	Brookline.
Everett, Theodore,	Dover, N. H.
Fisk, Arthur Lyman, A.B. (<i>Fale Coll.</i>),	Northampton.
Fisk, George Herbert,	Boston.
Foltz, Jonathan Clinton, A.B. (<i>Princeton Coll.</i>),	Lancaster, Pa.
Frederiksen, John Ditley,	Chicago, Ill.
Frye, Gardiner,	Allston.
Gaffney, John Patrick, A.B. (<i>Holy Cross Coll.</i>),	Danvers.
Garceau, Edgar,	Boston.
Goldthwait, Joel Ernest, S.B. (<i>Mass. Agric. Coll.</i>),	Marblehead.
Goodwin, Richard Herbert,	E. Boston.
Green, William Lawrence,	Boston.
Greenwood, Allen,	Waltham.
Harding, George Franklin,	Boston.
Hare, Charles Henry, Ph.B. (<i>Brown Univ.</i>),	Suffield, Conn.
Harrington, Thomas Francis,	Lowell.
Hastings, Daniel Gott, A.B. (<i>Univ. of Rochester</i>),	Rochester, N. Y.
Heffernan, James Andrew,	Roslindale.
Herrick, William Hale, A.B.,	Cambridge.
Hurd, George Platt,	Cambridgeport.
Johnson, Edward Stearns,	Boston.
Kilroy, Philip, A.B. (<i>Holy Cross Coll.</i>),	Springfield.
Lewis, Henry Foster, A.B.,	Chicago, Ill.
Lincoln, Jacob Read,	Millbury.
Lippincott, Albert Church,	Columbia Falls, Me.
Litchfield, Lawrence, A.B.,	Davenport, Iowa.
Macdonald, Norman John,	Somerville.
McQueeney, Frank Joseph,	Boston.
Maguire, Thomas Ambrose,	So. Boston.
Mahoney, Stephen Andrew, A.B. (<i>Holy Cross Coll.</i>),	Gloucester.
Moras, Edmond Raymond,	Lawrence.
Morse, Charles Ellsworth,	Wareham.
Morse, Charles Francis, A.B.,	Boston.
Moulton, Rufus, A.B. (<i>Colby Univ.</i>),	Springvale, Me.
Mowry, Jesse Everett,	Greenville, R. I.
Mumford, James Gregor, A.B.,	Rochester, N. Y.
Neilson, Arthur,	Boston.
Paige, John Dudley,	Boston.
Perkins, Fred,	Manchester, N. H.
Peterson, Reuben, A.B.,	E. Boston.
Phillips, William Abbott, Ph.B. (<i>Northwestern Univ.</i>),	Evanston, Ill.

Pindar, Harry Cooper,	Woburn.
Remington, Frederick DeLoss,	Rochester, N. Y.
Robinson, Rowland Rodman,	Wakefield, R. I.
Shay, Thomas McGuire, A.B. (<i>Boston Coll.</i>),	Roxbury.
Stanard, Albert Cushman, B.L. (<i>Univ. of Michigan.</i>),	Ann Arbor, Mich.
Stewart, Ferdinand Augustus, A.B. (<i>Fisk Univ.</i>),	Mobile, Ala.
Stone, George Arthur,	Ipswich.
Storer, Malcolm, A.B.,	Newport, R. I.
Sullivan, John Francis, A.B. (<i>Mount St. Mary's Coll.</i>),	Charlestown.
Thayer, William Darwin,	Fredonia, N. Y.
Thayer, William Sydney, A.B.,	Cambridge.
Thompson, Fred,	Salem.
Tilton, Edward James, A.B.,	Andover.
Treviño, Donaciano, S.B. (<i>St. Joseph's Coll., Ky.</i>)	Matamoras, Mexico.
Underhill, Charles Dudley,	Chelsea.
Utley, Edward Roswell, A.B. (<i>Amherst Coll.</i>),	Newton.
Wardwell, William Tecumseh Sherman,	Boston.
Welch, Edward Augustus, S.B. (<i>Wesleyan Univ.</i>),	Worcester.
Wentworth, Arthur Howard,	Boston.
Wenzlick, William, LL.B. (<i>Univ. of California.</i>),	San Francisco, Cal.
Winn, Charles Henry, A.B. (<i>Boston Coll.</i>),	Boston.
Winslow, Herbert Freeman, A.B. (<i>Williams Coll.</i>),	Beverly.
Woodbury, William Richardson, A.B. (<i>Tufts Coll.</i>),	Melrose.
Yocom, James Reed, A.B.,	Richmond, Staten Island, N. Y.

SUMMARY.

RESIDENT GRADUATES	7
FOURTH CLASS	18
THIRD CLASS	65
SECOND CLASS	84
FIRST CLASS	90
TOTAL	<hr/> 264

THE MEDICAL SCHOOL.

REQUISITES FOR ADMISSION.

All candidates for admission, except those who have passed an examination for admission to Harvard College, must present a degree in Letters, Science, or Medicine, from a recognized college or scientific school, or pass an examination in the following subjects:—

1. ENGLISH. Every candidate will be required to write, legibly and correctly, an original English composition of not less than two hundred words, and also to write English prose from dictation.

2. LATIN. The translation of easy Latin prose.

3. PHYSICS. A competent knowledge of Physics (such as may be obtained from Balfour Stewart's Elements of Physics).

4. ELECTIVE SUBJECT. Each candidate must pass an approved examination in any *one* of the following subjects: French, German, the Elements of Algebra or of Plane Geometry, Botany.

Whenever the candidate shall give evidence of having passed a satisfactory examination in any of the above requirements either at Harvard College or at the Lawrence Scientific School, a subsequent examination in such subject or subjects will not be demanded for his admission to the Medical School.

Candidates will be admitted conditionally who pass in two of the four subjects; but, until these conditions are made up, no student will be permitted to take part in any exercises of the third class, or present himself for examination in the subjects of that class.

The examinations will be held at the Medical School and conducted in writing; specimens of the papers used will be found in the Catalogue to be obtained of the Dean. In judging the work of the candidate, the spelling, grammar, and construction will be considered.

The examinations for admission are held on the Thursday following the last Wednesday in June, and on the Monday preceding the last Wednesday in September, beginning at 10 A.M.

In 1886 the *examinations for admission* will ALSO be held at the following places, beginning at 8 A.M. on Thursday, July 1:—

In *Andover*, in rooms of the Phillips Academy; in *Quincy*, in rooms of the Adams Academy; in *Exeter, N.H.*, in rooms of the Phillips Exeter Academy; in *New York*, in the lecture-room of the Young Men's Christian

Association, Twenty-third Street, corner of Fourth Avenue; in *Philadelphia*, in the library-hall of the Academy of Natural Sciences, S. W. corner of Nineteenth and Race Streets; in *Cincinnati*, in the rooms of the Law School, College Building, Walnut Street; in *Chicago*, in the rooms of the Chicago Athenaeum, 50 Dearborn Street; in *St. Louis*, in the Central High School building, corner of Olive and Fifteenth Streets; in *San Francisco*, in rooms of the Boys' High School, on Sutter Street, between Gough and Octavia Streets; and in some convenient city in Europe, to be announced later.

DIVISION OF STUDIES.

FOUR YEARS' COURSE.

For the First Year.—Anatomy, Physiology, General Chemistry,* and Materia Medica.

For the Second Year.—Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, Surgery, and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, and Clinical Surgery.

For the Fourth Year.—Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Obstetrics, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, Legal Medicine and Hygiene.

THREE YEARS' COURSE.

For the First Year.—Anatomy, Physiology, General Chemistry,* and Materia Medica.

For the Second Year.—Practical and Topographical Anatomy, Medical Chemistry, Pathological Anatomy, Clinical Medicine, and Clinical Surgery.

For the Third Year.—Therapeutics, Obstetrics, Theory and Practice of Medicine, Clinical Medicine, Surgery, Clinical Surgery, Ophthalmology, Dermatology, Syphilis, Otology, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Legal Medicine.

* Any student who shall have previously passed in the Undergraduate department or Scientific School of Harvard University an examination in General Chemistry (including qualitative analysis) will be exempt from examination in this branch, and may pursue the study of Medical Chemistry during his first year. The latter privilege will be granted to students from other colleges and scientific schools who have received instruction in general chemistry equivalent in character and amount to that of the first year, on passing a satisfactory examination at the September examination, provided that satisfactory evidence of such previous study be sent to the Dean of the Faculty one month before the date of this examination.

METHODS 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 and demonstrations ; histology, and embryology. The histological department has been reorganized, and the laboratories have been placed under the charge of special instructors. General class instruction in the use of the microscope and in practical histology is offered to the first-year students. Accommodations will be provided for those students who wish to pursue special or advanced courses. Facilities for original work will be duly provided ; students wishing to carry out any histological or embryological research will receive all necessary assistance, and special efforts will be made to provide material for original work. Microscopes are provided for those whose means do not permit the purchase of these instruments.

Physiology. — Lectures, recitations, conferences, and practical demonstrations in the Laboratory. To students of the second, third, and fourth classes, 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 and qualitative analysis are taught during 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, recitations, and exercises in the Laboratory.

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 morbid specimens in a fresh state are shown at the recitations, where the student is called upon to describe the appearances. Students also receive practical instruction in the method of making autopsies, being present at those made at both hospitals. The instruction in pathological histology, including the diagnosis of tumors, is continued throughout the year. Each student, provided with a microscope, the necessary instruments and reagents, prepares the various objects and submits them for explanation and criticism. The formation of small classes for special work and the individual pursuit of original investigations are encouraged.

The school possesses a sufficient number of microscopes for the use of those students whose means will not permit the purchase of an instrument.

Materia Medica and Therapeutics. — *Materia Medica* is taught by lectures and recitations with exhibition of medicines and pharmaceutical processes. Besides the large and complete cabinet of *materia medica* in the Museum, a collection of officinal drugs and chemicals, and of all the important preparations is placed where it can be seen by the students at

all times. Therapeutics, or the physiological action of drugs and their application to disease, is taught in the third year by a course of lectures upon Clinical Therapeutics and by recitations and demonstrations. This subject also forms part of the hospital instruction.

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 criticised. 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 criticised 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, which affords 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 last, students of the third and fourth classes are supplied with material for repeating the usual surgical operations.

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

One clinical lecture, one clinical conference, two visits in the hospital wards, and two public operating days.

The clinical lecture is given over surgical cases brought into the operating theatre, and is illustrated by explorations and operations. At the surgical conference second and third year students make a full written report of a surgical case, which is then criticised by their fellow-students and by the Professor. Every candidate for a degree is required to report a case in clinical surgery.

Obstetrics. — Lectures and recitations. Students are instructed in the usual operations on the manikin, and are required to take charge of cases of obstetrics in their third year. A course on operative obstetrics, with practical illustrations on the cadaver, is given.

Diseases of Women. — Lectures, recitations, and practical instruction at the different dispensaries in the education of the touch. In these institutions every facility is given the student to become familiar with the different forms of uterine disease. A course in operative gynaecology extending throughout the year at the Free Hospital for Women is open to students of the third and fourth classes. To students of the fourth class and to post-

graduates cases are assigned for personal examination; these cases are reported in full at the clinical conference, and are made the subject of discussion by members of the class and the instructor. These students are also called upon to assist at the operations in the operative course.

Diseases of Children. — Lectures and clinical instruction.

Ophthalmology. — A complete course is delivered upon the diseases of the eye, including clinical instruction and the use of the ophthalmoscope.

Dermatology is taught by lectures and clinical illustrations. The special out-patient department at the Massachusetts General Hospital furnishes ample opportunities for illustration.

Syphilis. — Recitations and clinical instruction.

Otology. — Lectures and clinical instruction.

Laryngology. — Lectures and demonstrations.

Diseases of the Nervous System. — Lectures and demonstrations.

Legal Medicine. — Lectures, recitations, and demonstrations.

Embryology and Histology. — Lectures.

Hygiene. — Lectures and demonstrations.

TEXT-BOOKS.

The following works are recommended as text-books, and for collateral reading and consultation:—

ANATOMY.

Text-Books.—Gray (10th edition). Quain (9th edition). Wilson. Holden's Manual. Holden's Landmarks. Dwight's Frozen sections of a Child. Treves' Applied Anatomy.

Collateral Reading.—Harrison Allen's Anatomy. Tillaux, Anatomie Topographique. Dwight's Anatomy of the Head. Holden's Osteology. Humphrey's Human Skeleton. Morris, on the Joints. Klein's Atlas of Histology. Foster and Balfour's Embryology. Klein's Histology. Whitman's Methods in Microscopic Anatomy. Carnoy's Biologie cellulaire.

PHYSIOLOGY.

Text-Books.—Dalton's Human Physiology. Foster's Text-book of Physiology. Huxley's Elementary Lessons in Physiology. Martin, The Human Body.

Collateral Reading.—Pavy on Food and Dietetics. Fick, Compendium der Physiologie. Gamgee's Physiological Chemistry of the Animal Body. McGregor-Robertson's Elements of Physiological Physics. Landois' Manual of Human Physiology.

GENERAL CHEMISTRY.

Text-Books.—Bloxam's Chemistry, Inorganic and Organic. Clowes's Elementary Treatise on Practical and Qualitative Inorganic Analysis.

Collateral Reading—Roscoe and Schorlemmer's Treatise on Chemistry.

MEDICAL CHEMISTRY.

Text-Books.—Neubauer and Vogel, Analysis of the Urine. Tyson, Practical Examination of Urine. Wharton and Stillé's Medical Jurisprudence, Vol. II., on Poisons, 4th edition.

Collateral Reading. — Hoppe-Seyler, Physiologische Chemie. Taylor on Poisons. Tardieu, Étude médico-légale et clinique sur l'Empoisonnement. Wormley's Micro-Chemistry of Poisons.

MATERIA MEDICA

Text-Books. — United States Dispensatory. H. C. Wood's Therapeutics.
Collateral Reading. — United States Pharmacopoeia. National Dispensatory. Bentley and Trimmen's Medicinal Plants. Brunton's Pharmacology, Therapeutics, and Materia Medica.

PATHOLOGICAL ANATOMY.

Text-Books. — Ziegler's Pathological Anatomy and Pathogenesis. Orth's Compend of Diagnosis in Pathological Anatomy.

Collateral Reading. — Friedlaenders Use of the Microscope in Clinical and Pathological Examinations. Coats's Manual of Pathology.

THERAPEUTICS.

Text-Books. — H. C. Wood's Therapeutics. Mann's Prescription Writing. Chamber's Manual of Diet.

Collateral Reading. — Stillé's Therapeutics and Materia Medica. Bartholow's Materia Medica and Therapeutics. Ringer's Therapeutics.

OBSTETRICS.

Text-Books. — Lusk's Manual of Midwifery.

Collateral Reading. — Schroeder's Manual of Midwifery. Cazeaux's Midwifery. Winckel's Diseases of Childbed. Barker's Puerperal Diseases, Barnes's Obstetric Operations.

THEORY AND PRACTICE.

Text-Books. — Flint's Practice of Medicine.

Collateral Reading. — Jaccoud, Traité de Pathologie Interne. Flint's Clinical Medicine. Niemeyer's Text-book of Practical Medicine. Cutler and Garland's Percussion Outlines. Ziemssen's Cyclopaedia of the Practice of Medicine.

CLINICAL MEDICINE.

Text Books. — Flint's Practice of Medicine. Flint's Manual of Percussion and Auscultation.

Collateral Reading. — Same as in Theory and Practice.

SURGERY.

Text-Books. — Bryant's Practice of Surgery. Billroth's Surgical Pathology. Smith's Operative Surgery

Collateral Reading. — Holmes's System of Surgery. The International Encyclopedia of Surgery. Van Buren and Keyes's Genito-urinary Organs and Syphilis. Guérin, Éléments de Chirurgie Opératoire.

GYNAECOLOGY.

Text-Books. — Thomas on the Diseases of Women. Fifth Edition.

Collateral Reading. — Emmet's Principles and Practice of Gynaecology. Klob's Pathological Anatomy of the Female Sexual Organs. Savage, The Surgery, Surgical Pathology, and Surgical Anatomy of the Female Pelvic Organs.

OPHTHALMOLOGY.

Text-Books. — Williams, Soelberg Wells, Nettleship, Zehender

The following tabular view illustrates the distribution of studies throughout the year.

1885-86, FROM OCTOBER 1 TO JUNE 30.

First Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	†Materia M., L.	Histology.	*Practical Physiol.	Histology.	†Materia M.	Physiology, R.
10	†Embryolo'gy,				*Anatomy, R.	
11	Physiology, L. or Conf.	Physiology, L.	Chemistry, R.	Chemistry, L.	Physiology, L.	Chemis. R. or L. 1st 10 w. *Pract. Physiol.
12	Anatomy, L.	Anatomy, L.	Anatomy, L.	†Hygiene, L.	Laboratory.	
2	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
3	Laboratory.	Laboratory.	Laboratory.	Laboratory.	Laboratory.	
4		Laboratory.	Laboratory.	Laboratory.	Laboratory.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* In sections.

† During first half year.

‡ During second half year.

Second Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
8	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.	†Bandaging.
9	Clin. Med. B. C. H.	B. C. H. Med. Visit. Boston Disp.	M. G. H. Clin. Med. L.	M. G. H. Med. Visit.	Boston Disp.	Clin. Med. L. M. G. H.
10	*Laryngo'py. M. G. H. 10.30 Clin. Sur. after Dec.	*Laryngo'py. Clin. Surg. B. C. H.	*Laryngo'py.	*Laryngo'py.	*Laryngo'py. B. C. H. Surg. Visit.	*Laryngo'py. M. G. H. Surg. Visit.
11	*Auscultation M. G. H. and Bost. Disp.	*Auscultation	*Auscultation Surg. Conf. M. G. H.	*Auscultation †Bact. 6 L.	*Auscultation B. C. H. Operations.	*Auscult. M. G. H. Operations.
12					Pathology, L.	Museum.
2	Chemistry, L.	{ Path. Histology. }	Chemistry, R.		{ Path. Histology. }	
3	Pathology. R. & Dem.		Pathology, L.	Pathology. Dem. & R.		
4	Theo. & Pr. R.	Surgery, R.	Theo. & Pr. R.	Adv. Anat. L.	Clin. Conf.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* Till February in sections.

† Till January in sections.

‡ After February.

At five o'clock, practical exercises in anatomy, in which all classes may take part, will be conducted by the Demonstrator.

Clinical Surgery at M. G. H. & B. C. H. in sections, of which due notice will be given.

Third Class.

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday
9	Clin. Med. B. C. H.	Med. Visit. B. C. H. Boston Disp.	Clin. Med. L. M. G. H.	Otol. L., in Nov. Clin. E. & E. Inf. from Dec. till Feb. 15.	Ophthal. Clin. Clin. Otolaryng. Jan., Feb., Mar. B. C. H.	Clin. Med. L. M. G. H.
10	10.30 Surg. L., till Jan. Surg. Clin. M. G. H. after Dec.	Surg. Clin., Oct. till Apr. B. C. H. Gynaecol. Clin. Boston Disp.	Clin. Dermatology. M. G. H.	Dis. of Nerv. System. M. G. H.	Surg. Visit. B. C. H. Gynaecol. Clin. Boston Disp. till April.	Surg. Visit. M. G. H.
11			Diseases of Children.		Operations, B. C. H. Diseases of Children, Boston Disp.	Operations. M. G. H.
12	Obstetrics, L., Oct., Nov., Dec., Apr., May, June. Obstetrics, R., Jan., Feb., March.	Surg. Anat. L. Mar. & Apr.	Surg. Conf. M. G. H.	Surgery, L.	* Syphilis. Boston Disp. Surg. Anat., L. Mar. & Apr.	Museum.
2	Gynaecol. L.	Leg. Med. L. till Feb.	Clin. Med. L.	* Ophthal. L.		
3	Theo. & Prac. L.	* Ophthalmol- ogy, L.	Obstetrics, R., Oct., Nov., Dec., Apr., May, June. Lecture, Jan., Feb., Mar.	Theo. & Prac. L.	Obstetrics, L.	Mental Diseases. Clinic. * Danv. Asy. † Bos. Lun. Hosp.
4	Therapeutics,	Dermatology, L.	Therapeutics.	Therapeutics.	Clinical Conf.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* During first half year.

† During second half year.

Fourth Class.*

	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
9	Ophthalm. B.C.H., C & D Oct. Nov. Dec. A & B Ap. May, Jun. Otol. E. & E. Inf., A & B, Dec. Jan. Feb. B.C.H., C & D, Jan. Feb. Mar.	Clin. Med. M. G. H. during Oct. Dis. of Nerv. Sys. Laryngology, Feb. & Mar. M. G. H.	Ophthalm. B.C.H., C & D Oct. Nov. Dec. A & B Ap. May, Jun. Otol. E. & E. Inf., A & B, Dec. Jan. Feb. B.C.H., C & D, Jan. Feb. Mar.	Dis. of Nerv. Sys. M. G. H. Laryngology, Feb. & Mar.	Clin. Med. M. G. H., during Oct. Laryngology, Feb. & Mar.	Clin. Med. Bost. Disp.
10	Dis. of Chil., A & B till Feb. C & D after Jan.	Dermatol., A & B till Feb. C & D after Jan. M. G. H.	Dermatol., A & B till Feb. C & D after Jan. M. G. H. Gynaecology, C & D till Feb. A & B after Jan.	Dis. of Chil., A & B till Feb. C & D after Jan.	Dermatol., A & B till Feb. C & D after Jan.	Dis. of Chil., A & B till Feb. C & D after Jan. Gynaecol., C & D till Feb. A & B after Jan.
11	† Gynaecol. Clin. Obstet. B Oct., Nov., Dec. D Apr., May, June.	Ophthalm. A & B Dec. Jan. C & D Feb. Mar. M. G. H.	† Gynaecol.	Ophthalm. A & B Dec. Jan. C & D Feb. Mar. M. G. H.	† Gynaecol. Clin. Obst., A Oct., Nov., Dec. C Apr., May, June.	
11.30	Syphilis, A till Feb. C after Jan. Boston Disp.	12. Dis. Gen. Urin. M. G. H.	Syphilis, B till Feb. D after Jan. Boston Disp.	12. Dis. Gen. Urin. M. G. H.	12. Clin. Surg. M. G. H.	
2	Gynaecol. I.			† Ophthalm. L.		
3	§ Hygiene, L.	† Ophthalm. L.	§ Hygiene, L.	{ Gynaecol. Conf., L. }	Clin. Med. B. C. H.	Mtd. Dis., Cl. † Danv. Asy. § Bos. Lun. Hosp.
4	Orthop. Sur., Oct. Nov. Dec. Childr. Hosp.	Dermatology, L.	Orthop. Sur., Oct. Nov. Dec. Childr. Hosp. Ov. Tum'rs, L. Jan. & Feb.	{ & Opera- tions. Free Hos. for Wom. }	Legal Med. B. C. H.	
5	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	Pract. Anat.	

* Divided into Sections A, B, C, D.

† The clinical exercises in Gynaecology for A and C till Feb. and for B and D after Jan. are at the Dispensary for Women in Staniford St.

‡ During first half year.

§ In the second half year.

INSTRUCTION FOR 1885-86 TO STUDENTS OF THE THREE YEARS' COURSE.

Anatomy.

Descriptive Anatomy. *Four times a week.* Professor DWIGHT.

Practical Anatomy, with Exercises in Dissection. *Eight hours daily from October 15th till May.* Demonstrations and Recitations. Drs. RICHARDSON, MIXTER, and NEWELL.

Topographical and Advanced Anatomy. *Once a week.* Professor DWIGHT.

Laboratory Exercises in Histology. *Twice a week.* Drs. QUINCY and C. S. MINOT.

Histology and Embryology. *Twenty lectures during the first half-year.* Dr. C. S. MINOT.

Physiology.

Systematic and Experimental Physiology. *Four times a week.* Professor BOWDITCH.

Laboratory Exercises in Experimental Physiology. Dr. J. W. WARREN.

Chemistry.

General and Analytical Chemistry. *Twice a week, with an additional weekly exercise during the first ten weeks.* Assistant Professor HILLS.

Medical and Toxicological Chemistry. *Twice a week.* Professor WOOD. Practical Exercises in the Laboratory in General and Medical Chemistry. *Daily.* Professor WOOD, Assistant Professor HILLS, and Drs. EMERSON and HARRINGTON.

Materia Medica and Therapeutics.

Clinical Therapeutics. *Once a week.* Professor EDES.

Recitations and Demonstrations. *Twice a week.* Dr. F. H. WILLIAMS.

Materia Medica, with the Exhibition of Drugs. *Twice a week during the second half-year.* Dr. F. H. WILLIAMS.

Hygiene.

Lectures and Demonstrations. *Once a week during the second half-year.* Dr. C. HARRINGTON.

Pathology and Pathological Anatomy.

General Pathology and Pathological Anatomy. *Twice a week.* Professor FITZ.

Special Pathological Anatomy, with Demonstrations. *Twice a week.* Professor FITZ.

Laboratory Exercises in Pathological Histology. *Twice a week.* Drs. WHITNEY and GANNETT.

Practical Instruction in Performing Autopsies. *Throughout the year.* Professor FITZ and Dr. GANNETT.

Surgery.

Surgery. *Once a week.* Professor CHEEVER.

Surgical Pathology. *Once a week till January.* Assistant Professor WARREN.

Clinical Surgery. *Once a week till January.* Professor CHEEVER.
Once a week from January till March. Assistant Professor PORTER.
Once a week from March till June. Assistant Professor WARREN.

Surgical Conference. *Once a week from November till May.* Assistant Professor PORTER.

Operative Surgery, Demonstrative Course. *Fifteen practical exercises.* Assistant Professor PORTER assisted by Dr. OTIS.

Recitations in Surgery and Surgical Pathology. *Once a week.* Assistant Professor WARREN.

Surgical Anatomy and Operative Surgery. *Twice a week in March and April.* Assistant Professor PORTER.

Application of Bandages and Apparatus. *Laboratory exercises to the class in sections, from October till January.* Assistant Professor WARREN and Dr. WEST.

Surgical visits are made at the Massachusetts General Hospital by Professor BIGELOW, Assistant Professors PORTER and WARREN, and Drs. HODGES, BEACH and HOMANS. — At the City Hospital, by Professor CHEEVER and Drs. HOMANS, GAY, BOLLES, BRADFORD, and POST. — The Surgical Cases at the Eye and Ear Infirmary and at the Boston Dispensary are shown by the surgeons in charge.

Ophthalmology.

Diseases of the Eye. *Twice a week during the first half-year.* Professor WILLIAMS.

Clinical Ophthalmology. *Once a week till January, and after March.* Professor WILLIAMS.

Dermatology.

Diseases of the Skin. *Once a week.* Professor WHITE.

Clinical Dermatology. *Once a week.* Professor WHITE.

Syphilis.

Practical Diagnosis and Treatment of Syphilis. *Once a week for a half-year.* Dr. POST.

Otology.

Otology. *Once a week in November.* DR. GREEN.

Clinical Otology. *Once a week from November till April.* Drs. GREEN and BLAKE.

Special Pathology and Therapeutics.

Theory and Practice of Physic. *Twice a week.* Professor MINOT.
— *Twice a week.* Dr. SHATTUCK.

Clinical Medicine. *Twice a week.* Professor EDES. *Twice a week.*
Assistant Professor WHITTIER.

Clinical Conference. *Once a week.* Professor EDES, Assistant Professor WHITTIER, and Dr. GARLAND.

Practical Instruction in Auscultation and Percussion. *Five times a week during the first half-year.* Drs. GARLAND, CUTLER, and GANNETT.

Practical Diagnosis and Treatment of Diseases of the Larynx. *Six times a week, first half-year.* Assistant Professor KNIGHT.

Practical Diagnosis and Treatment of Diseases of Children. *Twice a week.* Dr. ROTCH.

Practical Diagnosis and Treatment of Diseases of the Nervous System. *Once a week.* Dr. PUTNAM.

Mental Diseases. *Once a week.* Drs. GOLDSMITH and FISHER.

Legal Medicine, with Demonstrations. *Twenty lectures.* Assistant Professor DRAPER.

Medical visits are made at the Massachusetts General Hospital by Professors MINOT and WHITTIER and by Drs. SHATTUCK, ABBOT, TARBELL, and W. L. RICHARDSON. — At the City Hospital, by Professor EDES and Drs. BLAKE, LYMAN, DRAPER, DOE, MASON, SUMNER, G. B. SHATTUCK, FORSTER and FOLSOM. — At the Danvers, South Boston, and Somerville Asylums for the Insane. — The Medical Cases at the Boston Dispensary are shown by the physicians in charge.

Obstetrics.

Theory and Practice of Obstetrics. *Twice a week.* Professor REYNOLDS.
Once a week. Assistant Professor RICHARDSON.

Operative Obstetrics. *Twelve practical exercises.* Assistant Professor RICHARDSON.

Practical Instruction in Clinical Obstetrics. *Throughout the year.*
Assistant Professor RICHARDSON and Dr. GREEN.

Gynaecology.

Twice a week. Assistant Professor BAKER. Two clinics each week during the second half-year. Assistant Professor BAKER. Two clinics each week during the first half-year. Dr. DAVENPORT.

INSTRUCTION FOR 1885-86 TO STUDENTS OF THE FOURTH YEAR.

Clinical Medicine.

Twice a week during October. Assistant Professor WHITTIER.

Once a week after October. Dr. DRAPER.

Once a week after October. Dr. GARLAND.

Surgery.

Clinical Surgery. *Once a week.* Assistant Professors PORTER and WARREN.

Operative Surgery. *Practical Exercises.* Assistant Professor PORTER and Drs. M. H. RICHARDSON, OTIS and MIXTER.

Orthopedic Surgery. *Twice a week for three months.* Dr. BRADFORD.

Obstetrics.

Clinical Obstetrics. *Twice a week for six months.* Operative Obstetrics. *Practical Exercises.* Assistant Professor W. L. RICHARDSON.

Ophthalmology.

Clinical Exercises. *Twice a week for six months.* Professor WILLIAMS.

Ophthalmoscopy. *Twice a week for four months.* Dr. WADSWORTH.

Dermatology.

Clinical Exercises. *Three times a week.* Lectures. *Once a week.* Professor WHITE.

Gynaecology.

Clinical Instruction and Operative Gynaecology. *Six hours a week.* Assistant Professor BAKER and Dr. DAVENPORT.

Clinical Instruction and Twelve Introductory Lectures. Dr. CHADWICK.

Diseases of Children.

Clinical Exercises. *Three times a week.* Dr. ROTCH.

Diseases of the Nervous System.

Clinical Exercises. *Twice a week.* Dr. PUTNAM.

Mental Diseases

Clinical Exercises. *Once a week.* Drs. GOLDSMITH and FISHER.

Laryngology.

Lectures and Clinical Exercises. *Three times a week for two months.* Assistant Professor KNIGHT.

Otology.

Clinical Instruction, Lectures, and Demonstrations, including Instruction in making Sections and Preparations. *Twice a week for three months.* Dr. BLAKE. *Twice a week for three months.* Dr. GREEN.

Legal Medicine.

Recitations and Demonstrations. *Once a week.* Assistant Professor DRAPER.

Demonstrations. Dr. HARRIS.

Syphilis.

Clinical Exercises. *Two hours a week.* Dr. GREENOUGH.

Ovarian Tumors.

Practical Diagnosis and Treatment. Six Introductory Lectures and occasional Clinical Exercises. Dr. HOMANS.

Hygiene.

Twelve Lectures during the second half-year. Dr. DURGIN.

Cookery.

Practical Instruction in preparing Food for Infants and Invalids. Six Exercises.

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, 2,096 patients were treated in the wards, and 14,824 in the out-patient departments, the building of which has just been greatly enlarged, and affords increased facilities for the reception and treatment of patients. Patients are received from all parts of the United States and the Provinces, and are visited by the students on four days in the week 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 been established in connection with the out-patient department. Dermatology, Laryngology, Diseases of the Nervous System, and Ophthalmology.

The City Hospital.—During the past year, 5,061 cases were treated in its wards, and 14,241 in its various out-patient departments. The medical wards always contain many cases of acute diseases, and changes are taking place constantly. The opportunities for seeing fractures, injuries, and traumatic cases of all kinds are excellent, since, on an average, 800 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 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 nine thousand patients annually treated at this institution present every variety of disease of the ear and eye, 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 forms, are treated annually.

The Boston Dispensary. — 30,781 patients were treated at this Public Charity during the past year. Students have excellent opportunities to see minor surgery, and many of the diseases of children, and to practise auscultation. A new building has just been erected at a cost of \$50,000, where students will have ample and excellent opportunity for seeing practical work in the diagnosis and treatment of cases illustrating the various specialties of medicine and surgery.

The Free Hospital for Women. — In the wards of this institution, which is devoted exclusively to the diseases peculiar to women, abundant opportunity is offered to study the severer forms of uterine disease and to witness operations, which are performed once a week throughout the year.

There are twenty-five appointments annually for Internes in the various hospitals, and as many more for Assistants in the out-patient departments. Appointments for the Massachusetts General and City Hospitals are for the term of eighteen months, for the Boston Lying-in Hospital for four months, and for the Free Hospital for Women for nine months.

Students are also permitted to visit the Children's Hospital and the Carney Hospital on application to the physicians on duty.

EXAMINATIONS.

The regular examinations are conducted in writing and 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.* They are held in the following order: —

At the End of the First Year. — Anatomy, Physiology, General Chemistry, † and Materia Medica.

The June examination is for those only who are members of the School at the time, and for those entitled to apply for the degree.

† See foot-note on page 197.

End of Second Year. — Topographical Anatomy, Medical Chemistry, and Pathological Anatomy.

End of Third Year. — Therapeutics, Obstetrics,* Theory and Practice of Medicine, and Surgery.*

End of Fourth Year. — Ophthalmology, Otology, Dermatology, Syphilis, Laryngology, Mental Diseases, Diseases of the Nervous System, Diseases of Women, Diseases of Children, Clinical and Operative Obstetrics, Clinical Medicine, Clinical and Operative Surgery, and Legal Medicine.

In addition to the above written examinations each student is required to present a written report of the analysis of a solution containing inorganic substances, and of a specimen of urine, to examine and report upon a clinical case in Surgery, and to take charge of and report upon two cases in Obstetrics; each student must also have satisfactorily dissected the three parts of the body.

Students attending the four years' course may be examined at the end of the third or fourth year, as preferred, in Clinical Medicine, Clinical Surgery, and Obstetrics. The examinations of the first two years are common to both groups of students. The final examinations at the close of the three years' course are in the following subjects: Therapeutics, Obstetrics, Surgery and Clinical Surgery, Theory and Practice, and Clinical Medicine.

No student is allowed to anticipate the examinations in the regular course of studies of his year, except by special permission of the Faculty. Those who fail in any subject may present themselves in that subject again, at the next regular examination.

All students are required to notify the Secretary in writing of their intention to present themselves for examination, either in June or September, one month before such examination is to be held.

The regular examinations for the year 1885-86 will begin June 14 and September 27.

The following was the order of the examinations held in June, 1885: —

Monday (June 8), Therapeutics, Ophthalmology, Otology, Laryngology, and Venereal Diseases; *Tuesday*, Diseases of Children, Gynaecology, Obstetrics, and Clinical and Operative Obstetrics; *Wednesday*, Clinical Surgery, Operative Surgery, and Dermatology; *Thursday*, Topographical Anatomy, and Clinical Medicine; *Friday*, Surgery, Diseases of the Nervous System, Mental Diseases, and Legal Medicine; *Saturday*, Theory and Practice; *Monday* (June 15), Pathological Anatomy; *Tuesday*, *Materia Medica*; *Wednesday*, Medical Chemistry; *Thursday*, Anatomy; *Friday*, Physiology; *Saturday*, General Chemistry.

* The examinations in Obstetrics and Surgery may be passed at the end of the fourth year if preferred.

DIVISION OF STUDENTS.

Students are divided into four classes, according to their time of study and proficiency, and during their last year will receive largely increased opportunities of instruction in the special branches mentioned. Students following the three years' course are classified as heretofore, and the instruction in the special branches is of the same character as that which has been given for several years. Students who began their professional studies elsewhere may be admitted to advanced standing; but all persons who apply for admission to the advanced classes must pass an examination in the branches already pursued by the class to which they seek admission, and furnish a satisfactory* certificate of time spent in medical studies. No student may advance with his class, or be admitted to advanced standing, until he has passed the required examinations in the studies of the previous year, or a majority of them; nor may he become a member of the third class, until he has passed all the examinations of the first, in addition to a majority of those of the second year.

In order that the time of study shall count as a full year, students of all classes must present themselves within the first week of the School year and register their names with the Secretary.

Students who do not intend to offer themselves for a degree will, however, be received for any portion of the course.

Any student may obtain a certificate of his period of connection with the School.

LIBRARIES.

The books belonging to the library of the School have been placed in the Study and in the rooms of the different departments. To these the students have access free of charge.

The College Library at Cambridge is open to the students of the Medical School.

The Boston Public Library, which contains a large collection of Medical books, is open to students who are inhabitants of Boston. Students, not inhabitants of Boston, who have filed a bond at the Treasurer's office, or deposited with the Treasurer the sum of fifty dollars, may also use this library.

REQUIREMENTS FOR THE DEGREE.

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

The course of study recommended by the Faculty covers four years; but, until further notice, the Degree of Doctor of Medicine will be given

* Certificates from teachers who practise any peculiar or exclusive system of medicine are not accepted.

as heretofore, upon the completion of three years of study, to applicants who have passed satisfactorily the above requirements.

The degree of Doctor of Medicine *cum laude* will be given to candidates who have pursued a complete four years' course, and obtained an average of seventy-five per cent upon all the examinations above stated. A certificate of attendance on the studies of the fourth year will be given to such graduates as have attended the course, and have passed a satisfactory examination in the studies of the same.

Theses of conspicuous merit are mentioned with honor, or read at the University Commencement.

The degree of Master of Arts is open to graduates of the School who are also Bachelors of Arts of Harvard College, and to Bachelors of Arts of other Colleges who shall be recommended by the Faculty of Harvard College. Candidates must pursue an approved course of study in Medicine for at least one year after taking the degree of Doctor of Medicine. Students who have taken the four years' course, and have passed the examinations "with high credit," may obtain the degree of Master of Arts by presenting their applications to the Faculty on or before the first of June in the year of their final examinations.

ANATOMICAL PRIZE.

Assistant Professor C. B. PORTER offers a prize of fifty dollars, open to all students, and graduates of not more than five years' standing, except teachers of anatomy, for the best dissection deserving the award illustrative of surgical anatomy, the specimen to be presented to the Museum.

PECUNIARY AID.

Four yearly scholarships have been established by the Faculty of the value of \$200 each, open to meritorious students who have been at the School for at least one year. The Barringer scholarships, of the value of \$300 and \$200 respectively, will be awarded to deserving students, preferably those of the fourth class. Only those needing assistance are expected to apply; and from such, those holding the highest rank will have the preference.

Two assistants in the Chemical Laboratory are appointed annually from such deserving students as need aid. Students holding this position are exempt from the payment of the fee for tuition during their term of service.

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 a half-year alone, one hundred and twenty dollars; for graduation, thirty dollars. During the first two years there are the

following additional expenses: Students are required to pay two dollars for each of the three parts required for dissection; and six dollars per year, in addition to their breakage of glass apparatus, for chemical material. Of students who do not pay in advance, a bond for \$300, executed by two sufficient bondsmen, one of whom must be a citizen of the United States, is required. A copy of such bond will be sent, on application to the Secretary of the Faculty, and all students are recommended to deposit such a bond. The bond of the "American Surety Company," if made in a form that shall be satisfactory to the Treasurer of the College, will also be accepted. To students depositing bonds, term-bills will be presented one week before the end of the first term, to be paid within two weeks; and also one week or more before Commencement, to be paid on or before the beginning of the next academic year. Such students will be held responsible for the payment of fees until they have notified the Dean of their intention to withdraw from the School, and have subsequently received their bond from the Treasurer. No degree can be conferred till all dues to the School are discharged. The student's general expenses may be reduced, in accordance with his means, to the standard which prevails in other cities. The janitor of the Medical College will always have a list of boarding-houses in the vicinity of the College building, varying in their rates of charges from five to ten dollars a week.

COURSE OF STUDY FOR GRADUATES.

For the purpose of affording to 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 Faculty have established a post-graduate course, of which the following is a programme. The fee in each branch is for a single half-year.

Anatomy. — Opportunities for advanced study and for special investigations. Fee, thirty dollars.

Histology. — The various methods of examining the different tissues are employed, and opportunities for original research are offered. Fee, twenty dollars.

Physiology. — Opportunities for original investigation in the Physiological Laboratory. Fee, thirty dollars.

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 water, of food and milk for the detection of adulteration, and 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.

Pathological Anatomy. — Practical instruction in Pathological Histology and the examination of specimens in the Microscopical Laboratory; and opportunity for witnessing and making autopsies. Fee, twenty dollars.

Surgery. — A practical course of operative surgery, and instruction in the application of bandages and apparatus. Fee, twenty-five dollars.

Laryngology. Lectures and clinical exercises. Fee, twenty dollars.

Ophthalmology. — Clinical instruction, 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.

Otology. — Lectures and clinical instruction in diseases of the ear. Fee, fifteen dollars.

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

Syphilis. — Clinical instruction at the Boston Dispensary. Fee, fifteen dollars.

Diseases of the Nervous System. — Lectures and practical instruction in the diagnosis and treatment of diseases of the nervous system. Fee, fifteen dollars.

Gynaecology. — Clinical instruction in diseases of women, and a practical course of operative gynaecology. Fee, twenty-five dollars.

Obstetrics. — Cases supplied, and clinical instruction given. A course on operative obstetrics. Fee, twenty-five dollars.

Diseases of Children. — Lectures and clinical instruction. Fee, twenty-five 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. They will be exempt, unless at their option, from examinations, and may obtain a certificate of attendance on this course of advanced study. On payment of the full fee for the course, 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.

Graduates of other medical schools may obtain the degree of M.D. at this University, after a year's study in the graduates' course. The required examinations are those of the three years' course, and may be passed in such order as is desired, but only at the stated seasons.

The fee for a year is	\$200
“ for a half-year	\$120

For any of the special courses, such fees as are above specified.

For further information or catalogue, address Dr. H. P. BOWDITCH, Dean, Harvard Medical School, Boston, Mass.

 The Medical School is on Boylston Street, Boston.

BOYLSTON MEDICAL PRIZES.

These prizes, open to public competition, are offered annually for the best dissertations on questions in medical science proposed by the Boylston Medical Committee.

For 1886 two prizes are offered:—

1. A prize of three hundred and fifty dollars for the best dissertation on *The Influence of the Soil as a Factor in the Causation and Spread of Typhoid Fever.*
2. A prize of two hundred dollars for the best dissertation on *The Relation of Hospitals to Medical Education.*

Dissertations on these subjects must be sent post-paid to MORRILL WYMAN, M.D., 24 Church St., Cambridge, Mass., on or before *Wednesday, April 7, 1886.*

For 1887 two prizes are offered:—

1. A prize of two hundred dollars for the best dissertation on *The Identification of Human Blood in Suspected Stains.*
2. A prize of two hundred dollars for the best dissertation on *Original Investigations on the Pathology of so-called Uraemic Symptoms.*

Dissertations on these subjects must be sent to the same address as above on or before *Wednesday, April 6, 1887.*

In awarding these prizes preference will be given to dissertations which exhibit original work, but if no dissertation is considered worthy of a prize, the award may be withheld.

Each dissertation must bear in place of its author's name some sentence or device and must be accompanied by a sealed packet bearing the same sentence or device and containing within the author's name and residence. *Any clew by which the authorship of a dissertation is made known to the committee will debar such dissertation from competition.*

Dissertations must be written in a distinct and plain hand, and their pages must be bound in book form.

All unsuccessful dissertations are deposited with the Secretary, from whom they may be obtained, with the sealed packet unopened, if called for within one year after they have been received.

By an order adopted in 1826, the Secretary was directed to publish annually the following votes:—

1. That the Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2. That in case of publication of a successful dissertation, the author be considered as bound to print the above vote in connection therewith.

The Boylston Medical Committee is appointed by the President and Fellows, and consists of the following physicians:—MORRILL WYMAN, M.D., *President*, GUSTAVUS HAY, M.D., ROBERT T. EDES, M.D., SAMUEL G. WEBBER, M.D., H. P. BOWDITCH, M.D., FRANCIS W. DRAPER, M.D., J. COLLINS WARREN, M.D., EDWARD S. WOOD, M.D., WILLIAM F. WHITNEY, M.D., *Secretary*, F. H. WILLIAMS, M.D.

The address of the *Secretary* is WILLIAM F. WHITNEY, M.D., Harvard Medical School, Boston, Mass.

AWARD OF PRIZES IN 1885.

At the annual meeting of the Committee for 1885 it was voted that a prize of two hundred dollars be awarded to EDWARD S. STEVENS, M.D., of Harveysburg, Ohio, for a dissertation on *The Best Preliminary Education for the Study of Medicine*.

No prize was awarded for any dissertation on the question, *The Alleged Reappearance of Intermittent Fever in New England; its History, and the Pathology of the Disease*.

EXAMINATION PAPERS.

(June Examination, 1885.)

First Year's Studies.

ANATOMY. — Professor DWIGHT.

1. Describe the sacrum.
2. Give the general shape and the arrangement of the bones of the tarsus.
3. Describe the muscle arising wholly or in part from the inner condyle of the humerus.
4. Describe the right auricle of the heart.
5. Describe the arteries about the scapula.
6. Describe the veins of the upper extremity.
7. Describe the division of the brain into lobes and the chief fissures.
8. What nerves supply the following muscles? (number the answers correspondingly) : —
(1) Deltoid, (2) serratus magnus, (3) genio-glossus, (4) diaphragm, (5) digastric, (6) triceps, (7) flexor profundus digitorum, (8) sartorius, (9) orbicularis palpebrarum, (10) levator palpebræ superioris.
9. The coarse and minute structure of the œsophagus.
10. The coarse and minute structure of the kidney (omitting the epithelium of the tubules).

PHYSIOLOGY. — Professor BOWDITCH.

[Number the answers to the questions without copying the questions themselves. Do not number the pages of the book. Answer the questions in order, writing on each page in succession.]

1. What is the difference between animal and vegetable foods with regard to the nutriments which they contain?
2. What is the nutritive value of alcohol?
3. How is the weight of the lower jaw supported when the mouth is closed and at rest?
4. What is the function of the pancreas?
5. What is the reaction to litmus paper of the various tissues and fluids of the body?
6. What organs of the body are richest in blood?
7. What is the function of hæmoglobin?

8. What is the cause of the heart sounds?
9. What proof is there of the existence of muscular, as distinct from nervous irritability?
10. How may a post-mortem rise of temperature be accounted for?
11. Mention the various ways in which the body loses heat in the order of their importance.
12. What is the function of glycogen in the animal economy?
13. How may the reflex irritability of the spinal cord be diminished?
14. What is the function of the seventh pair of cranial nerves?
15. What is the effect of extensive destruction of the cerebral cortex in dogs?
16. Why does the pupil of the eye appear dark?
17. Explain how the muscular sense aids the other senses.
18. Explain the significance of the "vital capacity."
19. How does expired air differ from inspired air?
20. What is the origin of animal fat?

GENERAL CHEMISTRY. — Assistant Professor HILLS.

[In addition to the following questions, a written report of the analysis of a solution containing inorganic substances was required.]

1. Write the reactions by which hydrogen, carbon dioxide, sulphuretted hydrogen, hydrochloric acid and nitric acid are usually prepared.
2. What is a base? An acid? A salt?
What are isomeric compounds? Homologous series?
3. How many grams of calcic carbonate are required to yield five liters of carbon dioxide?
$$\text{CaCO}_3 + 2\text{HCl} = \text{CaCl}_2 + \text{H}_2\text{O} + \text{CO}_2.$$
4. From what are the following substances obtained: Chlorine; Bromine; Iodine; Sulphur; Phosphorus? How may each be recognized?
5. Explain the presence of arsenic in wall-papers and fabrics. Analysis of wall-paper for arsenic?
6. Properties, physical and chemical, of copper; including the action of water and other substances employed in cooking?
7. What is the action of water on lead? What substances influence this action, and how?
8. Given five powders: Subnitrate of bismuth, corrosive sublimate, tartar emetic, white arsenic, Scheele's green. Describe the physical properties of each. How will you most readily recognize each by chemical tests?
9. Describe Marsh's test, giving all the reactions by which Arsenic and Antimony may be distinguished.
10. Barium Group. (a) Why necessary to add NH_4OH before $(\text{NH}_4)_2\text{CO}_3$? (b) Why precede this by the addition of NH_4Cl ? (c) Why, in the method of analysis employed by you, is it necessary to dissolve the car-

bonates in acetic acid and not in hydrochloric acid? (*d*) After removing Sr from the solution, why is it necessary to add NH_4OH before testing for Ca with $(\text{NH}_4)_2\text{C}_2\text{O}_4$?

11. From what are the following substances obtained: Ether; Chloroform; Hydrocyanic acid; Carbolic acid; Oxalic acid? Their most important physical properties and uses?

12. Define clearly the terms deodorizer, disinfectant, antiseptic. Efficiency and practical application of heat (dry and moist) and mercuric chloride as disinfectants?

Ca = 40. C = 12. O = 16. One liter hydrogen = 0.0896 gm.

MATERIA MEDICA.—Instructor F. H. WILLIAMS.

1. Three rules for prescription-writing.

2. Write a prescription for some powders, not for external use. Write two kinds of prescription for pills.

3. Write a prescription for suppositories.

What amount of enema should be used when it is intended for absorption? For evacuation of the bowels?

4. Precautions in giving drugs subcutaneously, solution, site of injection, &c.

5. Properties of ether and precautions to be taken when it is administered at night.

Properties and solubility in water of Iodoformum, Chloroformum, Oleum Theobromae, Acidum Carbolicum, Chloral, Sodii Salicylas.

6. Extract of malt, how is it prepared? What are its constituents?

7. What classes of substances are soluble in water only? What are almost insoluble in water?

8. Write a prescription for a good preparation of Podophyllum, of Senna, of Digitalis, of Pilocarpus.

9. Write a prescription for Potassii Iodidum with some Salt of Mercury.

Write a prescription for a preparation of Belladonna for a child five years old.

10. Active principles of Erythroxylon, Cinchona, Nux Vomica, Podophyllum, Aspidium. Doses and ingredients of Pilulae Catharticae Compositae, Liquor Iodi Compositus, Pulvis Ipecacuanhae et Opii.

Second Year's Studies.

MEDICAL CHEMISTRY.—Professor WOOD.

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

1. Of what importance is the detection of an absolute increase in the amount of indican in the urine?

2. What causes a relative increase in the amount of urea in the urine, and under what circumstances does such an increase occur?

3. Describe the method of estimating the amount of chlorine quantitatively.

4. What are the characteristics of the urine in carbolic-acid poisoning?

5. What characteristics of the urine would you expect to find in an advanced case of organic disease of the liver or heart?

6. What is the difference between fibrinous and waxy casts, and under what circumstances do waxy casts occur in the urinary sediment?

7. What substances may form the nucleus of urinary calculi?

8. What inferences can be drawn from urine having the following characteristics? Why?

Color = normal; acid; Sp. Gr. = $1013\frac{1}{2}$; amount of sediment = considerable.

Uph. = n.	\bar{U} . = n.	Cl. = —.	E.P. = —.
Ind. = n.	\bar{U} . = sl. +	Sf. = n.	A.P. = n.

Slight trace of albumen, no bile or sugar.

Sediment = Large amount of uric acid; numerous hyaline and finely granular casts; an occasional epithelial and fibrinous cast; little free blood and renal epithelium.

Total amount of urine =	1920	cub. cent.
“ “ “ urea =	41.500	grm.
“ “ “ Cl. =	7.52	“
“ “ “ P_2O_5 =	4.20	“

9. What are the physical properties of, and tests for, $HgCl_2$, As_2O_3 , and strychnine?

10. Sources of chronic arsenical poisoning?

11. Symptoms and post-mortem appearances of acute mercurial poisoning?

12. Symptoms of belladonna poisoning?

PATHOLOGICAL ANATOMY. — Professor FITZ.

1. Discriminate between necrosis and gangrene.

2. Distinguish between a mechanical and an inflammatory dropsy.

3. Describe the relation between a local and a general tuberculosis.

4. State the method of origin of cysts, and give examples of each variety.

5. Enumerate the causes of punctate hemorrhage of the brain.

6. Describe the appearances of softening of the brain.

7. State the changes in the heart which may result from the gradual closure of a coronary artery.

8. State the places of origin and possible results of cardiac thrombosis.

9. Distinguish between a compressed and a collapsed lung.

10. Describe the relation between the changes in an emphysematous lung and the resulting disturbances.
11. Explain the relation between diphtheritic enteritis and dysentery.
12. State the method of origin of intestinal hemorrhage in typhoid fever.
13. Describe the method of origin of cancer of the liver.
14. Define a catarrhal jaundice.
15. Describe the changes in the kidney which may result from poisoning with turpentine.
16. Describe the appearance of suppurative nephritis in connection with its various methods of origin.
17. Give the method of origin, appearances, and results of exstrophy of the bladder.
18. Enumerate the organs which may be diseased in genito-urinary tuberculosis, and state which are the most important for diagnostic purposes.
19. Discriminate between a hyperplastic endometritis and a cylindrical-celled cancer of the uterus.
20. State the secondary changes which may take place in a fibro-myoma of the uterus.

TOPOGRAPHICAL ANATOMY. — Professor DWIGHT.

The first two questions may be answered by diagrams with proper explanations.

1. Describe a horizontal section of the neck at the level of the lower border of the sixth cervical vertebra.
2. Describe a horizontal section of the walls and contents of the thorax at the level of the junction of the first and second pieces of the sternum.
3. Describe the fasciae of the pectoral and axillary regions.
4. What structures can be felt through the skin in the region of the knee?
5. Describe the muscles and fasciae of the male perineum.

Third Year's Studies.

THERAPEUTICS. — Professor EDES.

Say what you mean clearly and *only once*. Avoid vague phrases. Use the metric system.

1. Compare the therapeutic action of opium, bromides, chloral, cannabis. The toxic action.
2. In what respects are atropine and pilocarpine antagonistic? How would you use atropine in a case of opium poisoning?
3. Write prescriptions and state doses (metrically) for iron in three different forms.
Same for arsenic in two forms. Mercury, for its constitutional effect, in three forms.

4. What are diaphoretics? How do they act?
When are they useful? Which would you use in a case of cardiac dropsy? of incipient coryza?
5. Describe the local action of chloroform, aconite, cocaine.
Of cantharides, croton oil, ammonia liniment, flax seed.

OBSTETRICS. — Professor REYNOLDS.

- 1. How do the sides of the adult female pelvis differ from those of the child? To what mechanical action is the development due?
- 2. In a primipara, at five calendar months, how is the existence of pregnancy indicated? At that period, what signs afford certain proof of gestation?
- 3. Describe the influence of rickets in the production of pelvic deformity, and that of osteomalacia; bringing out the points of contrast.
4. State all that you can about using the foetal ear for diagnosis of position and of variety. If in cranial presentation a well-flexed head has descended in the pelvis somewhat more than half way, where will the anterior ear be found? Where the posterior? (O. L. A.)
5. Setting aside instances of severe pelvic deformity, recount all the causes which may produce faulty adaptation of the child to the inlet of the pelvis?
6. In trunk presentation, describe the entrance, descent and rotation of the body.
7. What are possible causes of real or of apparent undue uterine enlargement, existing in the last month of pregnancy?
8. Name the different varieties of placenta prævia. During the last two weeks of pregnancy, what evidences of this condition can be made out?
9. What management of the patient during pregnancy and what care throughout the labor will lessen the tendency to post partum hæmorrhage? (Placenta prævia is not to be considered.)
10. What are early symptoms of phlegmasia dolens? Does this disease ever endanger life? If so, in what way?

SURGERY. — Professor CHEEVER.

1. The nature and treatment of shock.
2. What are the appearances of scrofulous inflammation of the elbow-joint? What are the modes of treatment?
3. What is the difference between hyperaemia and inflammation?
4. What dangers may arise from a scalp-wound?
5. What form of bacteria may be found in suppuration, septicaemia, and pyaemia?
6. Describe and treat Pott's fracture of the leg.
7. What are the mechanical results of a penetrating wound of the lung?
8. Dislocations of the cervical vertebrae, their diagnosis and treatment.
9. Enumerate the inflammatory and common affections of the tonsil.
10. The varieties, symptoms, and treatment of intestinal obstruction.

CLINICAL SURGERY.—Assistant Professor PORTER.

I. What are the causes of stricture of the urethra? What is the clinical history of stricture from its inception to a fatal issue, when untreated? What pathological changes would you expect a post-mortem examination to reveal?

II. What constitutes Compound Pott's Fracture? Give diagnosis, treatment, and prognosis.

THEORY AND PRACTICE.—Professor MINOT.

1. Give an account of pneumonia and its varieties, with the diagnosis and treatment.

2. Give an account of acute tuberculosis, and its diagnosis.

3. In a case of unconsciousness in a middle-aged man, without any history, how would you determine the probable origin of his disability; and what would be your differential diagnosis and treatment?

4. Give an account of the varieties of intestinal obstruction, the differential diagnosis and treatment.

5. What are the indications and counter-indications for the employment of alcohol in the treatment of acute disease?

6. Describe a case of cirrhosis of the liver, and give the treatment.

7. What are the chief points of differential diagnosis between scarlet fever and measles? Describe a case of each disease with such complications as are specially related to it.

8. Give the pathology, symptoms, and treatment of cholera infantum.

CLINICAL MEDICINE.—Professors MINOT and EDES.

[Discuss as many of these cases as the time will allow, in the order in which they are arranged. Success will depend more upon the quality than the quantity of the work.

The intelligent discussion of the cases will have more weight than a hasty and inconclusive though correct diagnosis.

CASE 1.—A young lady, midway between her menstrual periods, and after several days of constipation, had a well-marked chill, followed by fever, thirst, headache, and great restlessness.

There was soon developed severe pain in right side of abdomen, quite low down, and tenderness on pressure was present.

Laxatives failed to produce their usual effect. External applications did not serve to allay the pain and soreness, which rapidly extended until the greater part of the right half of the abdomen was involved; within twenty-four hours there was painful distention of the whole abdomen. The patient was found in bed, position dorsal, knees flexed, countenance anxious, mind clear, tongue coated, —pasty on lobes, dry and brownish in centre. P. 126, Temp. 103°, Resp. 24. No cough and no expectoration. Examination showed abdomen uniformly distended and resonant except in right iliac region, where resonance was much diminished, and with an excess of tenderness and marked sense of resistance on palpation. Six

days had elapsed and no dejection; by night more than by day a mild form of delirium was present, and great suffering from intestinal flatus required active treatment. Frequent vomiting existed, but without distinctive characteristics other than odor. On the seventh day enemata, previously used without effect, resulted in escape of faeces, and much and offensive flatus, faecal dejections, aggregating large quantity took place in the following twenty-four hours; the subjective symptoms became much less marked, the rational signs referable to abdomen rapidly diminished, and within thirty-six hours convalescence was safely established.

CASE 2. — A commercial traveller aet. 44 consults a physician, saying that he had been in failing health for some months. His friends think his illness to be of older date.

He has been having vomiting in the morning, with some headache, although to this latter symptom he was always subject. His complexion is dusky or brownish, but the compactivae are clear and white. He thinks his sight is not good. He thinks he passes rather a large quantity of urine. There is some dyspnea and at times a rhythmical irregularity of respiration.

His headaches increased in severity and became intense. Some days afterward he noticed increasing weakness of the left arm and afterward of the foot on the same side. This continued for months. There was no difference in the two sides of the face. There was no attack of unconsciousness.

Later he had œdema of the legs, especially of the left, and also of the left hand.

The heart's dulness was not beyond the nipple, but the impulse was very strong. What diagnosis could you make as the case stands, and what further information should you seek for to enable you to complete it? Prognosis?

CASE 3. — A child 12 years of age is found to have been in poor condition for a month or six weeks.

The mother states that the child has had chills and fever by turns, that her appetite has failed her and that she has lost much flesh; further states that the child does not seem able to run about and play with the other children, and that on going up stairs seems to be much troubled in breathing. That at the outset there was some pain in left side with slight cough. None of late. Also that the child had been exceptionally well during the year previous.

The child was pale and thin, P. 110, Resp. 42, Temp. 102°. The heart was not found beating in normal position and the right and left chest were dissimilar in outline and movement. The right chest was hyperresonant front and back. The left chest dull at summit, rapidly changed to absence of pulmonary resonance from middle of scapula behind and from fourth rib in front to base of chest. On right side front and back respirating sounds were puerile and supplementary; left front broncho-vesicular at summit with increased vocal resonance to fourth rib in front and middle of scapula behind. Below these points similar auscultating sounds were heard, but very much lessened.

These general and local conditions were observed to be quite constant during the first week the child was under observation, with exception of the temperature which, at one time as high as 103°, gradually diminished to nearly normal; in the second week the remaining rational and physical

signs were markedly improved, and at the end of the third week the child was so far improved as to no longer require care.

CASE 4. — A young man presents himself with a history of headache upon the left side, which has nearly disappeared. There is some numbness of the left side of the face, but sensation is not diminished. The contractions of the muscles on closing the jaws firmly are equal on the two sides. The left side of the face, including the occipito-frontalis and orbicularis palpebrarum, is motionless. The mouth is drawn to the right and he cannot shut his left eye. The motions of the eyes are perfect, except that the left cannot make quite a complete excursion outward.

The uvula is strongly curved with its tip to the right.

There is no deafness, no defect of vision, no disturbance in the functions of the heart or lungs, and the tongue comes out nearly straight. The left hand is decidedly weaker than the right, but can make all motions. The muscles of the face at first did not react to the Faradic current, but did so to the Galvanic.

Diagnosis? prognosis? treatment?

Fourth Year's Studies.

OPERATIVE SURGERY. — Assistant Professor PORTER.

- I. Give rules for Ligature of the Subclavian Artery at point of election.
- II. Femoral at Hunter's Canal.
- III. Describe the operation of exsection of the Superior Maxilla.
- IV. Excision of the elbow joint.
- V. Describe Lesfranc's amputation of the foot.

CLINICAL AND OPERATIVE OBSTETRICS.

Assistant Professor RICHARDSON.

1. Treatment of premature children.
2. Treatment of a funis presentation.
3. Treatment of puerperal septicæmia.
4. Describe the application of the forceps reversed. Give the indications for this use of the forceps.
5. A primipara has been in labor twenty-two hours. Operative interference is demanded. Forceps or version is the alternative. Discuss the various conditions which would influence you in the choice.

OPHTHALMOLOGY. — Professor WILLIAMS.

1. What are some of the changes in the aspect of the optic disc discoverable with the ophthalmoscope?
2. What is the treatment of extensive burns or lacerations of the conjunctiva?

3. What are the causes and treatment of convergent strabismus?
 4. How may the ophthalmoscope aid in the diagnosis of Bright's disease?
 5. How should abscesses of the eyelids occurring in the course of erysipelas be treated?
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DERMATOLOGY. — Professor WHITE.

1. Pathology of chromidrosis.
 2. Description of erythema multiforme.
 3. Treatment of eczema.
 4. Causes of alopecia.
 5. Diagnosis of scabies.
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GYNAECOLOGY. — Assistant Professor BAKER.

1. Give diagnosis and treatment in the following case:—
 A woman 24 years old, married two years, well until the birth of her first child a year ago. The child was large, and the labor was rather quick. She got up in the usual time, but did not gain strength rapidly. Began to have some thick yellowish discharge, pain in the back, a feeling of weight in the pelvis. Menstruation, which formerly was regular, lasting 4 days and unaccompanied by pain, now comes two or three days too soon, is more profuse, and accompanied with a good deal of discomfort. Is unable to walk as far as she used. There is at times an escape of wind from the vagina on turning from one side to the other. Is more nervous than she used to be, and gets tired easily. Is troubled with frequent micturition and constipation. Examination showed the uterus in normal position as regards its relation to the vagina, but rather lower in the pelvis than usual. With the speculum there is seen to be a red granular surface about the external os which is larger than normal. This surface is studded with small shot-like bodies, and bleeds easily. There is a plug of tough yellow mucus in the canal. Depth of cavity 3 in. The vaginal outlet is relaxed, though there is no scar as from a tear of the perineum. Slight bulging of the posterior vaginal wall.
 2. Give the rules for measuring for a pessary for a case of (1) prolapse, (2) retroversion, (3) retroflexion, and draw diagrams of each illustrating the difference in curve.
 3. What would be your treatment for (1) acute and (2) chronic cystitis?
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DISEASES OF CHILDREN. — Dr. ROYCH.

1. Chronic Hydrocephalus: symptoms and course of the disease, with the differential diagnosis.
2. Empyema: diagnosis and treatment.
3. What advice would you give regarding the feeding of infants during their first year?

DISEASES OF THE NERVOUS SYSTEM.

Drs. WEBBER and PUTNAM.

[It will be sufficient to have answered four questions.]

1. Give (briefly) the pathological anatomy and clinical history of the different affections due to injury of peripheral nerves.
2. Describe the methods of applying electricity for purposes of diagnosis, and the cautions to be observed.
3. State the conditions under which the irritability of nerves is found, *a.* increased; *b.* diminished.
4. In connection with what diseases of the nervous system is optic neuritis found?
5. Describe the proper method of examining the size and mobility of the pupils, stating the precautions to be observed, and the inferences to be drawn from the changes found.
6. Under what conditions is the "knee-jerk" *a.* exaggerated; *b.* absent?
7. What are the nervous symptoms of Pott's disease? (Differential diagnosis from other forms of myelitis.)

 MENTAL DISEASES. — Assistant Professor FOLSOM.

1. What is monomania?
2. What are the characteristics of hebephrenia?
3. How does senile dementia differ from senility?
4. What is the essential pathological lesion in general paralysis?
5. What are the two distinctive symptoms of general paralysis?
6. How does syphilis affect the prognosis in mental disease?

 LARYNGOLOGY. — Assistant Professor KNIGHT.

[N. B. — Each student is expected to answer two of the following questions.]

1. What is the usual difference in appearance between the ulceration due to tuberculosis and that due to syphilis in the larynx?
2. To what is dysphagia in laryngeal tuberculosis due, and what would you do to relieve it?
3. What are the more common appearances in the larynx on attempted phonation in a case of "nervous" or functional aphonia?
4. What may cause paralysis of the left recurrent laryngeal nerve? of the right?
What effect does paralysis of one recurrent laryngeal nerve have upon the vocal cord of that side? What is the appearance of the glottis in quiet respiration, and on phonation, in case of such paralysis?
5. Symptoms of hypertrophy of the adenoid tissue at the vault of the pharynx? Methods of removal?

OTOLOGY.—Drs. GREEN AND BLAKE.

1. Describe the temporal bone and the location of the external, the middle, and the internal ear.
 2. Give the pathology of diffuse and furuncular inflammation of the external auditory canal and the differential diagnosis between these two diseases.
 3. Give the subjective and objective symptoms and the treatment of rupture of the membrana tympani from injury, not from disease.
 4. Given the case of a child eight years of age, wakened suddenly at night by a pain in the ear. State the possible diagnoses and the reasons therefor and indicate the treatment.
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LEGAL MEDICINE.—Assistant Professor DRAPER.

1. What is instantaneous *rigor mortis* and what conditions favor its manifestation?
 2. What are the anatomical appearances characterizing death by smothering?
 3. How does impotency differ from sterility; and what are some of the physical causes of impotency in the male?
 4. Name some of the principal drugs in use as abortives and give your estimate of their value for that purpose.
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VENEREAL DISEASES.—Dr. GREENOUGH.

A man consults you who has a long prepuce, which at its end is red, tender and swollen, and which can only be drawn back far enough to expose the meatus urinarius. As you attempt to retract it, a purulent discharge drops out. He states that before his present trouble his prepuce, although long enough to cover the glans, could be without difficulty drawn back so as to completely uncover it.

1. To which of the venereal diseases may these symptoms be due? (It is assumed that the case is an uncomplicated one; that is, that only one disease exists.)
2. State what further information you would endeavor to get, by physical examination and by questioning the patient, and give the differential diagnosis between the diseases you have mentioned in this case.
3. What symptoms in a case of syphilis call for the administration of the iodide of potassium?

ADMISSION EXAMINATION PAPERS.

LATIN.

TRANSLATE:—

Dum Porsena urbem obsidebat, Quintus Mucius Scaevola, juvenis fortis animi, in castra hostium se contulit eo consilio, ut regem occideret. At ibi scribam regis pro ipso rege interfecit. Tum a regis satellitibus comprehensus et ad regem deductus, quum Porsena eum ignibus allatis terreret, dextram arae accensae imposuit, donec flammis consumpta esset. Hoc facinus rex miratus juvenem dimisit incolumen. Tum hic, quasi beneficium referens, ait, trecentos alios juvenes in eum conjurasse. Hac re territus Porsena pacem cum Romanis fecit, Tarquinius autem Tusculum se contulit, ibique privatus consenuit.

FRENCH.

TRANSLATE:—

Le chien du jardinier est plus fidèle que celui de notre voisin.

Ce marchand vend du papier, de l'encre et des plumes.

Ma sœur chante mieux qu'elle ne joue.

Cet enfant est malade pour avoir trop mangé.

Je veux que tu fasses cela.

La Normandie est jointe à la Picardie; ses plus grandes villes sont Rouen et Caen. Il y croît une infinité de pommes, dont ils font du cidre; car pour du vin, on n'y en fait guère, non plus qu'en Picardie; parce qu'étant trop au nord, les raisins ne deviennent pas assez mûrs. Les Normands sont fameux pour les procès et la chicane. Ils ne répondent jamais directement à ce qu'on leur demande; de sorte qu'il est passé en proverbe, quand un homme ne répond pas directement, de dire, qu'il répond en Normand.

Henri VIII., roi d'Angleterre, s'étant brouillé avec le roi de France, François I^{er}, résolut de lui envoyer un ambassadeur, et de le charger pour ce prince de paroles fières et menaçantes: il choisit pour cela un évêque anglais, dans lequel il avait beaucoup de confiance, et qu'il croyait très propre à l'exécution de ce dessein. Le prélat ayant appris le sujet de son ambassade, et craignant pour sa vie, s'il traitait François I^{er} avec la fierté que son maître exigeait, lui représenta le danger auquel il l'exposait, et le pria instamment de ne pas lui donner cette commission. "Ne craignez rien," lui dit Henri VIII., "si le roi de France vous faisait mourir, je ferais couper la tête à tous les Français qui seraient dans mes états."—"Je vous crois, Sire," répondit l'évêque; "mais permettez-moi de vous dire, que de toutes les têtes que vous auriez fait couper, il n'y en a pas une qui revint si bien sur mon corps que la mienne."

Write a brief description of the City of Washington in the French language.

GERMAN.

TRANSLATE:—

Einige Monate waren seit diesem Tage vergangen; der nordische Winter lag schon auf dem Lande. Auf dem Gebirge waren die Pässe, welche nach den westlichen Fjorden führen, hoch verschneit, überall der Schneepflug thätig, um die Wege fahrbar zu machen. So auch um Christiania, der Landeshauptstadt, welche ihr weisses Winterkleid angezogen hatte. Der Arm des Meerbusens, welcher hier endet, bedeckte sich unlängst mit festem Eis; der Handel hatte aufgehört, die wenigen Schiffe im Hafen lagen abgetakelt* und eingefroren, nach den Inseln hinüber wurde Schlittschuh gelaufen, und auf dem felsigen Eggeberg standen die hohen Bäume vom Schnee eingehüllt, den der Wind in Wolken auftrieb.

Bei alledem regte sich viel Leben in den breiten geraden Strassen, eine Menge Volk befand sich auf den Beinen, denn man erwartete den König Karl Johann aus Stockholm; er sollte heut seinen Einzug halten. Den Schnee hatte man deswegen auch zur Seite geschafft und geebnet, frische Tannenzweige waren darüber gestreut, und an manchen Häusern hingen Kränze von Immergrün und Geblätter, mehr noch Teppiche an den Fenstern sammt Fahnen mit den norwegischen Farben. An einigen Häusern prangten aber nicht allein diese, sondern auch andere mit dem schwedischen Gelb, paarweise gekreuzt und vereinigt, als Zeichen der Vereinigung dieser Reiche unter der Regierung desselben Fürsten.

* *Stripped of their sails and rigging.*

PHYSICS.

1. Illustrate by examples the meaning of the term force.
2. What is meant by "great leverage"?
3. Explain the barometer.
4. What is the law of energy which applies to the case of the impact of two perfectly elastic bodies?
5. What is the effect of suddenly heating and cooling a thermometer?
6. How far is the evaporation of a liquid modified by taking place in air instead of *in vacuo*?
7. What is meant by refraction of light?
8. What is the condition of total internal reflection in a prism?
9. Describe the eye, regarded as an optical instrument.
10. What general connection is there between electrical separation and energy or mechanical work?

GEOMETRY.

- I. Define a straight line; an angle; an obtuse triangle; a trapezoid and a rhombus.
- II. If two parallel lines are cut by a third straight line the exterior-interior angles are equal.

III. Two right triangles are equal when a side and the hypotenuse of the one are equal respectively to a side and the hypotenuse of the other.

IV. The three bisectors of the angles of a triangle meet in a point.

V. The diagonals of a parallelogram bisect each other.

VI. The sum of the interior angles of a polygon is equal to two right angles taken as many times less two as the figure has sides.

VII. Define a circle; a diameter; a chord; an arc.

VIII. A straight line cannot intersect the circumference of a circle in more than two points.

ALGEBRA.

(Leave all the work.)

1. Give the numerical value of the following expression: —
when $a = 12$ $b = 3$ $c = 2$ $d = 4$
 $(6a + b^2)c + d.$
2. My horse and chaise together are worth \$340, and my horse is worth 3 times as much as the chaise; what is each worth?
3. Require the sum of $5(a + x)$, $6(a + x)$, $8(a + x)$, $3(a + x)$, and $(a + x)$.
4. Multiply $a^2 + ab + b^2$ by $a - b$.
5. Develop $(x^2 - xy + y^2)(x + y)$.
6. Divide $9a^2b - 12a^3c^3$ by $3a$.
7. Multiply $\frac{a + b}{ax}$ by $\frac{4ax^2}{6}$.
8. Divide $\frac{2b^2}{a^3 + b^3}$ by $\frac{b}{a + b}$.
9. The value of my two horses is such that if the value of the first be added to four times the value of the second the sum is \$580; and if the value of the second be added to four times that of the first the sum is \$520; require the value of each.
10. Find two numbers the greater of which shall be to 24 as their sum to 42, and the difference of which shall be to 6, as 4 is to 3.

ENGLISH COMPOSITION.

[A fair knowledge of spelling and grammar will be required.]

1. Write an original English composition (such as a letter, a description of a place, etc.) of not less than two hundred words.
2. Write from dictation for ten minutes.
3. Spell the following words: Conscious, attach, thoroughly, benefit, destruction, fever, inflammation, origin, adjacent, counterfeit.

BOTANY. — Mr. FAXON.

1. Give a description (and make a diagram if you can) of the parts of a flower. What are their uses?

2 and 3. Describe (and sketch if you can) two of the following-named plants: Buttercup (*Ranunculus bulbosus*), Wistaria (*W. frutescens*), Violet (*Viola pedata*), Monkshood (*Aconitum napellus*), Apple of Peru (*Datura stramonium*), Mountain Laurel (*Kalmia latifolia*), Dandelion (*Taraxacum dens-leonis*), Indian Corn (*Zea mays*), Sugar Maple (*Acer saccharinum*).

4. What medicinal plants in the orders Umbelliferæ; Ranunculaceæ; Papaveraceæ; Euphorbiaceæ; Convolvulaceæ; Cucurbitaceæ; Solanaceæ? (Answer three out of this list.)

5. With how many species of plants in your own neighborhood are you familiar? Describe one of them minutely and give its scientific name and classification.

