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JOURNAL OF SOCIAL SCIENCE,

CONTAINING THE
PROCEEDINGS OF THE AMERICAN ASSOCIATION.

NUMBER XLIII.

SEPTEMBER, 1905.

BOSTON PAPERS OF 1905.

PAPERS READ IN THE DEPARTMENTS OF JURISPRUDENCE,
SOCIAL ECONOMY, HEALTH, AND EDUCATION.



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1905.



EDITED BY
F. B. SANBORN
FOR
FREDERICK STANLEY ROOT,
GENERAL SECRETARY OF THE ASSOCIATION, 291 ORANGE STREET,
NEW HAVEN, CONN.



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INTRODUCTION.

The papers included in this number of the *Journal of Social Science* comprise all of the Boston addresses of 1905.

Since printing the Historical Address, the United States League of Co-operative Banks, etc., has met in New York, and Mr. Cellarius, its Secretary, reports as follows, in addition to the facts given on pp. 10 and 11:—

“The number of separate associations is now 5,265 as against 5,308 in 1904; but their total assets are now \$600,342,568,—a gain for the year of \$20,786,474. The total membership is 1,631,046,—a net increase of 64,346 members.”

It may be well in this place to remind essayists once more of the *invariable rule* of the Association, that all papers engaged for the General Meeting are so secured with the understanding that they may be published in the *Journal* if deemed advisable. The members of the Council, however, are not pledged in advance to the publication of any particular paper. If writers choose to publish elsewhere, it must be with the stipulation that their papers may also be printed in the *Journal*, at the option of the Council as to date of publication. Heads of departments are not solicitous to secure essays which, in general form and substance, have been read elsewhere before presentation at the Association Meeting.

A list of all addresses and papers will be found in the Table of Contents, and volumes published by the Association may be ordered of the Boston Book Company or of Damrell and Upham, Boston, Mass., the selling agents of the Association.

MEMBERS OF THE ASSOCIATION.

All officers are *ex-officio* members of the Association, but persons serving on the Department Committees may or may not be members of the Association.

In the list herewith submitted the annual and life members are given alphabetically, and the honorary and corresponding members according to nationality. The only distinction between honorary and corresponding members is that the former reside in the United States, and the latter in foreign countries. *It was voted at a meeting of the General Council that the "Journal" of the Association shall not be sent to any annual member who has not paid his dues for the year in which the convention is held which is reported in the "Journal."* *It was subsequently voted at a meeting held at Woodmont, Conn., July 6, 1898, that the General Secretary be permitted to use his discretion in carrying into effect this resolution.*

BUSINESS OF 1905.

The American Social Science Association held its Forty-third General Meeting at Boston, Mass., beginning Thursday morning, May 11, and closing with the session of Saturday morning, May 13. The proceedings of the convention were carried on in Huntington Hall, which was kindly placed at the disposal of the Association by the Faculty of the Massachusetts Institute of Technology.

Little formal business was transacted at this meeting of the Association. It was deemed expedient to defer the consideration of the routine affairs of the Association until the meeting of the General Council early in the fall.

The absence of Secretary Root in Europe during the summer of 1905 has left the work of editing the *Journal* to be done, as it was for many years before 1899, by the former General Secretary, Mr. Sanborn. The material had been carefully collected by Mr. Root, and the task was a pleasant one, in view of the instructive character of the papers. No attempt was made to report the debates stenographically, and the abundance of papers read left less time than usual for discussion.

The editor in charge is struck, in looking over the long list of our publications, with the great variety of topics treated during the forty years' life of the Association and the high excellence of most of the papers. Adapted usually to the varying needs of the time, there are yet many which are of permanent importance, and which, if preserved in libraries, will be useful for reference in future years. It is therefore urged upon librarians, since the editions of the *Journal* are small, to secure copies of the series before they go out of print.

CONSTITUTION, BY-LAWS,
LIST OF OFFICERS, MEMBERS, ETC.,
OF THE
American Social Science Association
SEPTEMBER, 1905.



CONSTITUTION.

I. This society shall be called the AMERICAN SOCIAL SCIENCE ASSOCIATION.

II. Its objects shall be classified in five departments: the first, of Education and Art; the second, of Health; the third, of Trade and Finance; the fourth, of Social Economy; the fifth, of Jurisprudence.

III. It shall be administered by a President, as many Vice-Presidents as may be chosen, a Treasurer, a Secretary, and a Council, charged with general supervision; five Department Committees, established by the Council, charged with the supervision of their respective departments; and such Local Committees as may be established by the Council at different points, to serve as branch associations. *The Council shall consist of President, Treasurer, Secretary, First and Second Vice-Presidents, the Chairman and Secretary of each Department, and ten Directors, with power to fill vacancies and to make their own By-laws.* The President, Vice-Presidents, Treasurer, Chairman, and Secretaries of Departments, and Directors shall be chosen annually by members of the Association, and shall hold office till their successors are chosen. The President, or in his absence a Director, shall be chairman of the Council. The Chairmen of the Local Committees shall be chosen at the pleasure of their respective committees. Whenever a Branch Association shall be organized and recognized as such by the Council, its President shall be *ex officio* one of the Vice-Presidents of the American Association, and, together with the Secretary and Treasurer, shall be entitled to all the privileges of membership in that Association. And, whenever a Local Department shall be organized and recognized as such by the Council, its Chairman shall become *ex officio* a member of the parent Association. The Chairman and Secretary of each Department, with the consent of the President of the Association, may appoint such special Department Committees as they may think best. The General Secretary shall be elected for three years, unless he resigns, or is removed by a two-thirds vote of the members present and voting in a regular meeting of the Council; and out of his compensation he may pay the salary of an Assistant Secretary, who may also be Secretary of one Department.

IV. Elections to membership shall be made by Standing Committee appointed by the Council in such manner as Council may provide. Any person so elected, and on payment of annual membership fee of five dollars, may continue a member by paying annually such further sum as may be fixed at the Annual Meeting of the Association, not exceeding ten dollars. On payment of one hundred dollars any person may become a life member, exempt from assessments. Honorary and corresponding members may be elected and exempted from the payment of assessments.

V. The Council shall have sole power to call and conduct General Meetings, and to publish the Transactions and other documents of the Association. The Department Committee shall have power to call and conduct Department Meetings.

VI. No amendment of this Constitution shall be made, except at an annual meeting, with public notice of the proposed amendment.

BY-LAWS OF THE ASSOCIATION.

[NOTE.— At a meeting of the Council of the Association, held May 9, 1900, at Washington, a committee of three was appointed to revise the Constitution and formulate By-laws to be considered and adopted by the Council at the earliest opportunity. That committee consisted of the Hon. S. E. Baldwin, the Hon. Francis Wayland, and the General Secretary.

At a subsequent meeting of the Council of the Association, held in New Haven, Conn., Oct. 12, 1900, this committee reported the following By-laws, which were unanimously adopted by the Council. Since the Constitution confers upon the Council power to enact its own By-laws, no further action by the Association is necessary.]

ARTICLE I.

ORDER OF BUSINESS.

The following order of business shall be observed at all meetings of the General Council of the Association :—

- | | |
|----------------------------------|---------------------------|
| (a) Reading of minutes. | (d) Report of committees. |
| (b) Report of Treasurer. | (e) Unfinished business. |
| (c) Report of General Secretary. | (f) New business. |

ARTICLE II.

QUORUM.

The quorum of the Council at all regular and special meetings shall consist of five members, of whom three shall be of the *ex-officio* members of the Council.

ARTICLE III.

VACANCIES.

SECTION 1. A committee shall be appointed on the first day of the general session of the Association to nominate officers, and such committee shall report upon the morning of the last day of the general session.

SECT. 2. The President may fill any vacancy occurring during the year in any office.

ARTICLE IV.

AMENDMENTS.

The By-laws of the Association may be altered, amended, or repealed by the Council at any meeting by a two-thirds vote of the members present.

ARTICLE V.

TREASURER.

SECTION 1. It shall be the duty of the Treasurer to forward bills for annual dues on the first day of January of each successive year, and to meet all bills for printing, publishing, salaries, etc., on presentation of vouchers approved by President or First Vice-President, and the General Secretary.

SECT. 2. No funds shall be set apart for permanent investment without vote of Council; and all funds so set apart may be invested by the Treasurer at his discretion.

SECT. 3. The President or First Vice-President may draw on the Treasurer in favor of the General Secretary at any time for such sums, not exceeding one hundred dollars at any one time, as the President or First Vice-President may deem necessary to meet any proper expenses incident to the management of the Association or the proceedings of the Committee on Elections to Membership.

ARTICLE VI.

PRINTING.

SECTION 1. The selection of papers for publication in the *Journal* shall be left with the President and General Secretary, the latter serving also as editor of the *Journal*, and with the Heads of Departments. The Chairman of each Department will indicate to the General Secretary what papers, in his judgment, are available for publication in the report of proceedings.

SECT. 2. It shall be the duty of the General Secretary to print and distribute such information concerning the objects and purposes of the Association as may be useful in securing new members.

SECT. 3. It shall be the duty of the General Secretary to publish and distribute a cloth-bound copy of the annual *Journal* of the Association to each member in accordance with provisions under article referring to *Memberships*. Each essayist will be entitled to twenty-five reprints of his paper at the expense of the Association, on condition that his application is placed on file prior to the printing of his paper.

SECT. 4. If, in the judgment of the Treasurer and General Secretary, the funds of the Association will not justify publication in cloth, the current edition of the *Journal* shall appear in paper. The uniform date of publication shall be within six months of the Annual Meeting of the Association. Distribution of the *Journal* shall be effected as soon thereafter as possible.

ARTICLE VII.

MEMBERSHIPS.

SECTION 1. Elections to membership shall be made in accordance with provisions contained in Article IV. of the Constitution.

SECT. 2. After initial payment of assessment fee, all members in arrearages for the next following fiscal year of the Association shall not be entitled to the

Journal. Failure to remit annual dues for two consecutive years shall result in loss of membership in the Association. The General Secretary, however, may exercise his discretion as to the application of this rule in given cases.

ARTICLE VIII.

SALARIES.

The General Secretary shall be paid the amount of his salary in quarterly instalments upon the first days of October, January, April, and July, respectively; and he shall draw upon the Treasurer at his discretion such sums as may be allotted by vote of Council for clerical assistance.

OFFICERS OF THE ASSOCIATION.

1904-1905.

President, JOHN GRAHAM BROOKS, Cambridge, Mass.

Honorary President, F. B. SANBORN, Concord, Mass.

First Vice-President, Hon. OSCAR S. STRAUS, LL.D., New York City.

Second Vice-President, Hon. FREDERICK J. KINGSBURY, Waterbury, Conn.

DIRECTORS.

President CHARLES W. ELIOT, LL.D., Cambridge, Mass.

W. A. GILES, Esq., 64 Borden Block, Chicago, Ill.

Hon. CARROLL D. WRIGHT, LL.D., Worcester, Mass.

EUGENE SMITH, Esq., New York City.

BOOKER T. WASHINGTON, Esq., Tuskegee, Ala.

Hon. ST. CLAIR MCKELWAY, Brooklyn, N.Y.

WM. M. F. ROUND, Esq., Boston, Mass.

Hon. C. S. HAMLIN, Boston, Mass.

Prest. JOHN H. FINLAY, LL.D., Coll. City of New York, New York City.

Prof. HARRY A. GARFIELD, Princeton, N.J.

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Prest. DANIEL C. GILMAN, LL.D., Baltimore, Md.

Hon. WILLIAM T. HARRIS, LL.D., Washington, D.C.

F. B. SANBORN, Concord, Mass.

Prest. J. B. ANGELL, LL.D., Ann Arbor, Mich.

Hon. A. D. WHITE, LL.D., Ithaca, N.Y.

Hon. JOHN EATON, Washington, D.C.

Mr. GEORGE WESTINGHOUSE, Washington, D.C.

Hon. SETH LOW, LL.D., New York City.

Hon. JOHN W. FOSTER, LL.D., Washington, D.C.

Mrs. CAROLINE H. DALL, Washington, D.C.
GRACE PECKHAM MURRAY, M.D., 10 E. 60th St., New York.

H. HOLBROOK CURTIS, M.D., 118 Madison Ave., New York.

Rev. F. G. PEABODY, D.D., Cambridge, Mass.

Prof. GEORGE L. RAYMOND, L.H.D., Princeton, N.J.

Mrs. VIRGINIA B. MCKELWAY, 121 Hicks St., Brooklyn, N.Y.

Hon. C. A. WOODS, LL.D., Marion, S.C.

Rev. JOSEPH ANDERSON, D.D., Waterbury, Conn.

General Secretary, FREDERICK STANLEY ROOT, M.A., 291 Orange St., New Haven, Conn.

Treasurer, W. C. LEGENDRE, 59 Wall St., New York.

Department Officers.

I. *Education and Art*.—Mr. S. T. DUTTON, Teachers' College, New York City, *Chairman*; Mr. JAMES P. MUNROE, 79 Summer St., Boston, Mass., *Secretary*.

II. *Health*.—SAMUEL H. DURGIN, M.D., Boston, Mass., *Chairman*; Dr. HIBBERT W. HILL, Boston, Mass., *Secretary*.

III. *Social Economy*.—JOHN GRAHAM BROOKS, Cambridge, Mass., *Chairman*.

IV. *Jurisprudence*.—Hon. CHARLES BULKLEY HUBBELL, 31 Nassau Street, New York City, *Chairman*; Prof. ISAAC FRANKLIN RUSSELL, 120 Broadway, New York City, *Secretary*.

LIFE MEMBERS.

Extract from Constitution: "On payment of one hundred dollars any person may become a Life Member, exempt from assessments."

- | | |
|---|--|
| Angell, Mr. George T., 19 Milk St., Boston, Mass. | Sanborn, F. B., Concord, Mass. |
| Baldwin, Hon. S. E., LL.D., New Haven, Conn. | Sanborn, Mrs. Louisa L., Concord, Mass. |
| Barnard, Mrs. James M., 140 Beacon St., Boston, Mass. | Smith, Prof. Goldwin, LL.D., Toronto, Canada. |
| Blatchford, Mr. J. S., Boston, Mass. | Stokes, Mr. Anson Phelps, 45 Cedar St., New York City. |
| Bradford, Mr. Gamaliel, 502 Beacon St., Boston, Mass. | Stokes, Mr. I. N. Phelps, 47 Cedar St., New York City. |
| Dodge, Mr. Charles C., 33 Broadway, New York City. | Stokes, Mr. Thomas, 47 Cedar St., New York City. |
| Dodge, William E., Jr., 99 John St., New York City. | Straus, Hon. Oscar S., 42 Warren St., New York City. |
| Eliot, Mrs. Samuel, Boston, Mass. | Villard, Mrs. Henry, 145 W. 38th St., New York City. |
| Endicott, William, Jr., Boston, Mass. | Ward, Mr. J. Q. A., 119 W. 52d St., New York City. |
| Hermann, Mrs. H., 59 W. 56th St., New York City. | Ware, Mr. William R., 130 E. 27th St., New York City. |
| Hoyt, Hon. J. W., The "Victoria," Washington, D.C. | White, Hon. Andrew Dickson, LL.D., Ithaca, N.Y. |
| James, Hon. D. Willis, 45 Wall St., New York City. | Wolcott, Miss Ella L., Elmira, N.Y. |
| Kingsbury, Hon. Frederick J., Waterbury, Conn. | Young, Mr. J. Edward, 130 William St., New York City. |
| Letchworth, Mr. W. P., Portageville, N.Y. | |
| Libbey, Mr. Jonas M., New York City. | |

HONORARY AND CORRESPONDING MEMBERS.

In America.

Moncure D. Conway, Esq., 22 E. 10th St., New York City.
Prof. J. Irving Manatt, Providence, R.I.
Major-Gen. O. O. Howard, Burlington, Vt.
Edmund A. Meredith, Esq., care The Toronto Income Trust Co., Yonge St., Toronto, Can.
Hon. Domingo F. Sarmiento, Buenos Ayres.

In Great Britain and Ireland.

Sir Walter Crofton, The Close, Winchester.
Lord Radstock, London.
Henry Dunning McLeod, Esq., Oxford and Cambridge Club, London.
Alfred Field, Esq., Birmingham.
Thomas H. Barker, Esq., Manchester.
Henry W. Acland, M.D., F.R.S., Oxford.
Miss Louisa Innes Lumsden, Glenbogie, Rhynie, Scotland.
Miss J. Frances Dove, Wycombe Abbey, Bucks, England.

Lord Hobhouse, 15 Bruton Street, London.
Prof. James Bryce, M.P., London.
Geoffrey Drage, Esq., London.

In France.

M. August Laugel, 12 Rue de la d'Anjou, Paris.
M. Émile Cacheux, 25 Quai St., Michel, Paris.
M. F. Buisson, Bd. 163 Montparnasse, Paris.
M. Émil Levasseur, 24 Rue Monsieur le Prince, Paris.
M. Arthur Raffalovich, 19 Avenue Hoche, Paris.
M. Pierre Claudio Jannet, 22 Rue Oudinot, Paris.

In Italy.

Signor Martino Beltrani-Scalia, Rome.
Prof. C. F. Gabba, Pisa.
*Prof. Alberto de Errea, Cavaliere della Corna d' Italia, Venice.

In Belgium.

M. Van de Rest, Brussels.

[The names on this list marked with a (*) are those of persons who cannot be found by post-office officials.]

LIST OF ANNUAL MEMBERS, 1905.

[NOTE.— With reference to this enrollment some explanations are essential, and they are as follows:—

The "National Institute of Arts and Letters," organized under the auspices of the American Social Science Association, but now an independent body, still retains a certain connection with the Association in the form of Associate Memberships. The following clauses from vote passed at the Saratoga meeting of the Association define the existing status:—

Voted, That the members of the Institute be *ipso facto* associate members of the Association in return for the courtesy of the Institute in making members of the Association associate members of the Institute.

In the list subjoined, such associate members are marked with a *star*. In the matter of academic titles, such only are given as are known. Members are earnestly solicited to communicate with the editor at once respecting academic titles, and also to correct any errors which may be found upon the roll. All resignations should also be promptly reported to the General Secretary, 291 Orange St., New Haven, Conn.]

- | | |
|--|---|
| *Abbey, Edwin A., Fairford, England. | Allen, William A., Madison, Neb. |
| Abrahams, A., 800 St. Marks Ave., Brooklyn. | Allison, Hon. W. B., 1124 N St., Washington, D.C. |
| *Adams, Henry, 1603 H St., N.W., Washington, D.C. | Ames, Gen. Adelbert, Lowell, Mass. |
| Adams, Oscar Fay, 41 Marlboro St., Boston. | Ames, James Barr, Cambridge, Mass. |
| Addams, Miss Jane, Hull House, Chicago. | Amory, Robert, M.D., 279 Beacon St., Boston. |
| Ade, George, New York City. | Anderson, E. Ellery, 27 William St., New York. |
| Agar, John G., 31 Nassau St., New York. | Anderson, Rev. Joseph, D.D., Waterbury, Conn |
| Aiken, W. M., 33 Union Sq., W., New York City. | Anderson, Warren E., Pensacola, Fla. |
| *Alden, Henry M., care of Harper & Brothers, New York. | Anderson, Winslow, M.D., 1220 Sulton St., San Francisco. |
| Aldrich, Charles F., Home Insurance Building, Chicago. | Andrews, Charles, Syracuse, N.Y. |
| Aldrich, Nelson W., Providence, R.I. | Andrews, Hon. Charles B., LL.D., Litchfield, Conn. |
| *Aldrich, Thomas Bailey, Boston, Mass. | Anthony, Prof. Wm. A., Cooper Union, New York. |
| Aldridge, George W., Rochester, N.Y. | Archer, Frederick, Carnegie Institute, Pittsburg, Pa. |
| *Alexander, John W., 120 Broadway, New York City. | Ashley, Prof. Clarence D., I.L.D., N.Y. Un. Law School, New York. |
| *Allen, James Lane, 66 5th Ave., New York. | Ashley, George Hall, 15 W. 22d St., Indianapolis, Ind. |
| Allen, Thomas, 12 Commonwealth Ave., Boston. | Ashmore, George C., M.D., 794 Republic St., Cleveland, Ohio. |
| Allen, Miss Viola, 27 W. 93d St., New York City. | Atwood, Charles E., M.D., "Bloomingdale," White Plains, N.Y. |
| | Atwood, I. M., 189 Harvard St., Rochester, N.Y. |

- Audsley, G. A., Bowling Green Office, 11 Broadway, New York.
- Austen, Peter T., 218 St. Johns Pl., Brooklyn.
- Avery, A. C., Morganton, N.C.
- Avery, Edward H., Auburn, N.Y.
- Ayer, Benjamin F., 99 Pine St., Chicago.
- Ayers, Howard, University of Cincinnati, Cincinnati, Ohio.
- Bacon, Edwin M., 6 Beacon St., Boston.
- Bacon, Robert, 33 Wall St., New York City.
- Baker, David L., Wickford, R.I.
- Baker, Prof. George S., 190 Brattle St., Cambridge.
- Baker, Hon. John H., Indianapolis, Ind.
- Bakewell, Prof. Charles Montague, Bryn Mawr, Pa.
- Baldwin, Hon. S. E., LL.D., New Haven, Conn.
- Bangs, John Kendrick, Yonkers, N.Y.
- Barber, Walter L., M.D., Waterbury, Conn.
- Barclay, Shepard, 705 Olive St., St. Louis, Mo.
- Barr, Mrs. Amelia E., Cornwall-on-Hudson, N.Y.
- Barrows, Charles Clifford, M.D., 8 W. 36th St., New York.
- Bartlett, Franklin, Hanover Bank Bldg., New York.
- Baylor, Mrs. Frances C., 313 Hall St., West Savannah, Ga.
- Beard, Daniel C., 204 Amity St., Flushing, L.I.
- Beates, Henry, Jr., M.D., 1504 Walnut St., Philadelphia.
- Beaver, Hon. James A., Bellefonte, Pa.
- *Beckwith, J. Carroll, 58 W. 57th St., New York City.
- Bell, Clark, M.D., 39 Broadway, New York.
- Bélmont, August, 23 Nassau St., New York City.
- Benedict, E. C., Greenwich, Conn.
- Bentley, Edwin, M.D., 617 Main St., Little Rock, Ark.
- Bergen, Van Brunt, Shore Road and 77th St., Brooklyn.
- Berger, Victor L., 1229 Second St., Milwaukee, Wis.
- Bernays, August C., M.D., 3623 Laclede Ave., St. Louis.
- Betts, B. Frank, M.D., 1609 Girard Ave., Philadelphia.
- *Bigelow, Hon. John, Highland Falls-on-Hudson, N.Y.
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- Bishop, J. Remsen, 117 Huntington Pl., Mt. Vernon, Cincinnati, Ohio.
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- Bixler, James W., D.D., 5 Broad St., New London, Conn.
- Bjorksten, Meodove, 95 Carnegie Hall, New York City.
- *Blashfield, Edwin H., 48 W. 59th St., New York.
- Blenner, Carle J., 58 W. 57th St., New York.
- Blumenberg, Marc A., Broadway and 70th St., The Ormonde, New York.
- Bonaparte, Hon. Charles J., Washington, D.C.
- Bonney, Charles C., 511 Tacoma Building, Chicago.
- Bowker, R. R., 274 Lafayette Ave., Brooklyn.
- Bowles, Samuel, Springfield, Mass.
- Boyde, David R., Norman, Okla.
- Boynton, F. D., 114 So. Geneva St., Ithaca, N.Y.
- Bracken, H. M., M.D., 1010 4th St., South Minneapolis.
- Bradley, A. C., 2013 Q St., N.W., Washington, D.C.
- Braislin, Miss Alice G., Burlington, N.J.
- Branner, J. C., Stanford University, Balo Alto, Cal.
- Brantley, W. G., Brunswick, Ga.
- Breaux, Hon. Joa. A., 1728 Canal St., New Orleans.
- Breed, William J., 1227 W. 8th St., Cincinnati.
- Brett, George P., 66 5th Ave., New York.
- Brevoort, James R., 390 N. Broadway, Yonkers, N.Y.
- Brewer, Hon. David J., LL.D., Supreme Court U.S., Washington, D.C.
- Brickell, Robert C., 634 Franklin St., Huntsville, Ala.
- Brinkerhoff, Roeliff, Mansfield, Ohio.
- Bristol, J. J. D., 1 Madison Ave., New York.
- Broadhead, G. C., Columbia, Mo.
- Bronson, J. H., Waterbury, Conn.
- Brooks, Edward, 5971 Drexel Road, Philadelphia.
- Brooks, Noah, Castine, Me.
- Brown, Amos P., 20 E. Penn St., Germantown, Pa.
- Brown, Glenn, 918 F St., Washington, D.C.
- Brown, J. Stanford, 1 Broadway, New York City.

- Brown, John Howard, 378 Boylston St., Boston.
- Brown, Julius L., J. E. Brown Bldg., Atlanta, Ga.
- Brown, W. L., 42 W. 72d St., New York.
- Bruce, A. C., Atlanta, Ga.
- Brush, Edward N., M.D., Sheppard & Enoch Pratt Hosp., Baltimore.
- *Brush, George de Forest, Dublin, N.H.
- Buchanan, John L., Fayetteville, Ark.
- Buchanan, Joseph R., 45 Park Pl., New York.
- *Buck, Dudley, 34 Sidney Pl., Brooklyn, New York.
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PAST AND PRESENT IN SOCIAL SCIENCE.

AN ADDRESS BEFORE THE AMERICAN SOCIAL SCIENCE ASSOCIATION AT ITS GENERAL MEETING IN BOSTON, MAY 11, 1905, BY F. B. SANBORN, HONORARY PRESIDENT.

Ladies and Gentlemen,—When the sombre and epigrammatic Roman historian, Tacitus, sat down, after fifteen years of the heavy, suspicious tyranny of Domitian, to write the life of his father-in-law Agricola (a model of concise biography), he indulged in some (oft-quoted) reflections on the sad influence of such periods of oppression on the human intellect. Spies and prosecutions had deprived illustrious Romans in senatorial and knightly rank, of free speech even in conversation. The lecture-rooms were shut, the Platonic and Stoic philosophers banished, and their books burnt in the Forum, “as if, forsooth,” says the ironical author, “the notion ran that the same fire could silence the voice of the Roman people, stifle freedom of debate in the Senate, and abolish the consciousness of mankind.” “We might even,” he adds, “have lost our memory when our lips were sealed up, had it been as much in our power to forget as to keep silence.” Now, under a good emperor, the weight was removed, but the spring of intellectual freedom was slow to regain its tension and rebound. Many had paid the debt of nature. “A few of us have outlived it,—survivors, if I may say so, not only of our friends, but of ourselves, so many years have been torn in silence from the pages of existence,—years that have brought youths to old age, and old men to the bourne and last limit of permitted life.” Still, he will try, says Tacitus, not unwillingly, though with rude and artless speech, to recall the remembrance of past servility, and bear witness to the blessings of the present time.

You have imposed on me a duty at once pleasant and

mournful, like the music of Caryl in Ossian, not merely to re-vile the past and glorify the present with Tacitus, but to remember those, by far the majority in our long list of members, who have left to our assembly so very few of the earnest band that, forty years ago, began the work which younger men and women are now carrying forward. They were persons always active and often famous in their day and generation, who responded to the call which I had the honor to sign and issue, as the youngest among seven, members of the first Board of State Charities, in August, 1865. They were of New England almost wholly, and of Massachusetts mainly, who met in yonder State House in October, not quite forty years ago, to be called to order by the beloved and long lamented war governor, John Albion Andrew. Their names remain, but borne by sons and grandsons and great-grand-daughters,—Allens, Apthorpes, Barnards, Bradfords, Boutwells, Dalls, Davises, Earles, Eliots, Forbeses, Garrisons, Gilmans, Hills, Howes, Higginsons, Hubbards, Jacksons, Lees, Lodges, Ly-mans, Mays, Mortons, Newells, Olivers, Paines, Parkmans, Pea-bodys, Phillipses, Pierces, Quincys, Russells, Rogers, Ropes, Sewalls, Shaws, Sullivans, Talbots, Villards, Walkers, Wares, Wellses, Whitmans, Winthrops, Wolcotts, Woods, Wrights,—an alphabet of genius, goodness, and public spirit. Does not every one of these names, and twice as many more which I might pronounce, recall some ancient or recent loss that the whole country, as well as this community, had reason long to lament?

And what was the condition of the country when our three hundred assembled here in Boston to plan measures of public improvement? Just emerged from a long civil war, victorious, indeed, but over misguided brethren, and at enormous sacrifice of life and property, the free institutions of America almost all needed to be reconstituted, or carried forward to a result as gratifying as the newly won peace and freedom had been. In every department of our quadrilateral of education, health, jurisprudence, and finance, principles were to be settled, for wild notions were prevalent. The education of the freedmen, sanitary science in its mere rudiments (even the bacillus was not yet recognized, and cholera was a disease to be feared), penal and financial legislation mainly awaiting the advent of

good sense,—such were some of the general problems confronting us. Charities were unorganized, Prison Science was unborn, political amnesty unrecognized, and medicine had but just begun, in America, to specialize. Trade schools were beginning to be talked about, and in New England the Pennsylvania Building Associations (co-operative banks) were almost unheard of, where now there are some hundreds. Even our name, "Social Science," was almost unheard, and required much definition and explanation, as it still does, here and there.

It seems that Robert Owen, the English socialist, for whose presentation at the English court Lord Melbourne thought it needful to make an explanation, was the first user of the phrase "social science" in English. But the French positivist, Comte, was employing it about that time, in a different sense, as if there was a science of society not less strict than any of the sciences. The European philanthropists, before Lord Brougham initiated the British Social Science Association in 1856-57, had spoken of "social sciences" in the plural, and applied the term to those numerous and rather indefinite branches of knowledge which concern the existence and activity of mankind in civil society. I suppose it was in this sense, and following the lead of the British Association, that we employed the phrase. But it gave us trouble, more or less. Some dull people, easily shocked by that bugbear of modern society, Socialism (which hardly any two persons understand in the same sense), stood aloof from us as "Socialists." Others said, with more point, but captiously, "Do you mean to assert there is a *science* of society in the same sense as of mathematics, or even of chemistry and physics?" To which we could only reply, meekly, that provisionally we would use the strict term more loosely, for convenience. What we really meant, most of us, was to apply the methods of research and reasoning to those institutions and necessities of society which we saw daily treated unreasonably or merely by tradition. Thus we appealed at first to those persons interested in education, economics, philanthropy, and law or legislation, who had seen for years what needed to be done, and hoped by combination with each other to bring about more quickly the desired change. We elected honorary and corresponding members at home and abroad, with a view to obtaining from them

those advices and suggestions which the more advanced state of civilization in several European nations, and in certain parts of our own country, seemed to warrant; and we were not wholly disappointed in this hope. In one celebrated case, that of the aged Lord Brougham, we even got more than we bargained for. In responding to my notification, as Corresponding Secretary, of his election to membership, he wrote me a letter of some length, taking the United States to task for its conduct of the slavery question during and after the Civil War, and pointing out the way which he would have followed if our national and social affairs had been placed by divine Providence in his Lordship's hands. Professor William Barton Rogers, then at the head of the Institute of Technology, which he founded with so much wisdom and foresight, who was our first President, heard this instruction with that wise and gentle smile so natural to him, and did not consider any reply needful.

Our early meetings were of necessity held in Boston, because the great majority of our first members were conveniently near. But in our second year, 1866, we met at New Haven and enjoyed the hospitalities of Yale College, and in December, 1867, we held our first New York meeting, in the hall of the Young Men's Christian Association, where the two secretaries, the late Dr. Samuel Eliot and myself, duly made our annual reports. Dr. Eliot's did not come into my hands, but my own, never printed in any permanent form, has remained with me among many time-worn manuscripts, and I may quote from it a few passages, to indicate what the year 1867 had brought forth of interest to our youthful Association, and how some of our members, long since deceased, were engaged. The report said:—

Although our Association, as an organized body, cannot claim to have exerted a very wide influence during the year, yet it has not been idle, while many of its members, in their individual capacity, or in some of the many forms of associated activity which the freedom of our institutions opens to us, have rendered important and even conspicuous service. In the general work of adapting the machinery of our national government to the enormous changes brought about by the recent war, several of our associates have a leading part. General Howard is still at the head of the Freedmen's Bureau, an organization which has done more than we can well esti-

mate to bring order out of the chaos into which the Rebellion threw the Southern portion of our country. Except in the wise provision made for the emancipated serfs of Russia, where shall we find a policy so comprehensive, for the regulation of such vast interests, personal, political, and social, as that intrusted to the integrity, patience, and discretion of General Howard? His success may best be seen by the obstacles he has overcome, and by the general and peaceful progress made by the freedmen under his direction.

Another honorary member, Dr. Henry Barnard, a veteran in the cause of public instruction, has been placed at the head of the newly established Bureau of Education, with the task, which to any other would be a most difficult one, of organizing a department that has thus far been almost wholly neglected by the national government.

I may pause here to say that two of Dr. Barnard's successors in this work—General John Eaton and the present Commissioner, Dr. W. T. Harris—were many years active members of our Association, and the first was our President. Dr. Harris would have been, had he not persistently declined the position. Both of them have called on us for furtherance in their extensive and expanding work, and I think it an occasion for regret that we allowed the scruples of a few of our members to hinder us, as an Association, from following up our initiative in urging upon Congress a national provision for the education of the freedmen and their children, in common schools, high schools, and industrial training,—the field where private munificence has done so much, but less than half of what the resources of the nation could have done. In the present disturbed and, I may say, distracted state of opinion at the South on this question, we may see, I think, the natural consequence of the nation's neglecting this opportunity to perform a duty distinctly national.

I resume quotation:—

It is worthy of remark that, while one of our members (Mr. Boutwell), gave its first form and efficacy to our national Bureau of Internal Revenue, another member, at present one of our Vice-Presidents (Mr. David Ames Wells), has rendered an equal service in devising and elucidating a system of taxation which should co-ordinate and harmonize our import duties with our inland taxation, now so often conflicting with and neutralizing each other.

The fact that the wisdom of Mr. Wells (afterward one of our most energetic Presidents) was itself neutralized and nullified, in great part, by selfish private interests lobbying at Washington, does not diminish the value of his effort to make taxation reasonable, and prevent those accumulations of harmful surplus which in public treasuries, or in the coffers of gigantic insurance companies, are so certain to ensure extravagance and entail corruption. Mr. Wells did not live to see his well-digested plans carried out, but their underlying principle is making its way into revenue systems wherever, in our unsystematic country, real progress is made in adjusting the needful burdens of taxation. I now go on:—

Equally national in its character, though carried on under the less formal direction of private munificence, is the work of increasing educational facilities in the Southern States, in the manner pointed out by George Peabody, the benefactor of two nations. Two eminent past members of our executive committee (Mr. R. C. Winthrop and Rev. Dr. Sears) are among the active dispensers of this unexampled charity; and their well-matured scheme, combined with the long-established methods of the Freedmen's Commission, will go far towards supplying the South with the means of ultimately educating the whole class of unlettered persons there.

Another of our Vice-Presidents (Professor T. W. Dwight), in conjunction with a most diligent colleague (Rev. Dr. E. C. Wines), has seen the completion of an undertaking which, in its aims and results, warrants admiration. Appointed in 1865 by the New York Prison Association to report the condition of the prisons and reformatories of the United States and Canada, Dr. Wines and Professor Dwight have visited a great number of them, and collected invaluable information, till now inaccessible. Within the last few months their copious report has been given to the public.

This topic of prison reform continued to occupy the attention of many of our Association for years, drawing forth essays and debates from Brockway, Wines, the father and son, Wayland, Warner, Brinkerhoff, and others, who after 1870 joined the National Prison Association, founded by the elder Dr. Wines and his associates in 1870, at the Cincinnati Prison Congress, and reorganized, after Dr. Wines's death, at Saratoga in 1882. At the very first of our general meetings, held at the Lowell Institute in Boston in December, 1865, I had read a letter

from Captain Maconochie to our reformer of education, Horace Mann, and sent me by his widow,—Maconochie being the actual father of the reformed prison system afterwards set up in Ireland by Crofton, and at Elmira (with many improvements) by Mr. Brockway. In this body and the Prison Association we kept up the agitation and indoctrination, until what we now properly call Prison Science has become the accepted system for more than half the States of our Union, and is viewed with favor over half Europe, to the discountenancing of both the older systems of Auburn and Philadelphia, —the congregate and the cellular.

The year 1867 proved to be our high-water mark in practical achievement for many years. It saw the prison reform movement well on foot, the instruction of the deaf by articulation (which had been debated at New Haven) well begun in Massachusetts and since extended considerably through the country; it saw the chartering of an Infant Asylum here, which for the first time checked the extreme mortality of motherless infants, and the establishment of boards of public charities in New York, Ohio, and perhaps elsewhere. In education new plans were formed that have been taking effect ever since, and in finance and taxation some evils were checked and some improvements made. The politics of the country were wrangling and confused, for it was the period of Southern reconstruction; but all the more, perchance, it was easy to carry measures of social science through State legislatures. The enthusiasms of the war period had not wholly abated, and the earnestness with which our Association was formed still animated its members. Then came a period of comparative stagnation, when our activity was in abeyance, until in the autumn of 1872 the late James Barnard of Boston and some of his friends came to the rescue, and the local work in this city was reorganized, with Professors Agassiz and Peirce of Harvard University, and others who had not been actively interested before. Soon afterwards George William Curtis was chosen President, and held the position while he was also in the front of the contest for Civil Service Reform, in which the initial campaign was organized by our Association during the vigorous secretaryship of the late Henry Villard. It was first suggested, however, as I remember, by our second Presi-

dent, the predecessor of Mr. Curtis, Dr. Samuel Eliot; and when Mr. Curtis, as chairman of the first Civil Service Commission, announced its first success,—the conversion of President Grant to the reforming principle,—he wrote to Dr. Eliot (Dec. 20, 1871),—

The Social Science Association has a very large share in the result of yesterday,—the message of the President announcing the Civil Service Reform,—and I send you with all my heart one of the earliest copies of our Report upon which I can lay my hand.

It is worth mentioning that, in our very first general meeting for the reading of papers, William P. Atkinson, brother of our still active member, Edward Atkinson, read a paper on the English Civil Service and its Methods, which were in 1865 still on trial, and encountered much opposition, as similar methods long did in this country. Indeed, President Grant, after once putting his hand to the plough, turned back, in the stress of politics and personal friendship, and left Mr. Curtis unsupported, so that the new reform was at its lowest point of depression in 1873, when we elected Mr. Curtis President. We kept up the contest, as did Mr. Curtis, so that in 1877 he became president of the New York Civil Service Reform Association, and in 1881 of a National Reform League, both of which carried forward more actively the work for which our Association, from its more general character, was less adapted.

In this year, 1874, however, we laid the foundation of another organization, the National Conference of Charities, which has existed, with growing strength and much official support, for more than thirty years, and has introduced better civil service methods into the public charities and corrections of the United States. The first of these annual conferences was called to meet in New York in May, 1874, at the general meeting where Mr. Curtis presided, by the committee of our then new Fifth Department of Social Economy, of which Professor Rogers was the first chairman. The New York Conference of that year was small, only four or five State Boards being then represented. But among them were the active and progressive Boards of New York, Pennsylvania, Wisconsin, and

Massachusetts; and they took pains to extend the infant Conference until, by 1879, it became strong enough to detach itself from our parent body, and hold its meetings, then become quite large, apart from our General Meetings, with which the Conference was connected at Detroit, twice at Saratoga, and finally at Cincinnati in 1878. Of the founders of this important national body, which this year will hold its session of a week at Portland, Ore., in July, some six or eight survive, including the present speaker, Mr. Letchworth of New York, the veteran Mr. Elmore of Wisconsin, Dr. F. H. Wines of Illinois, Mr. Brockway, then of Michigan, General Brinkerhoff of Ohio, and one or two others.

It was in 1874, also, that the late Josiah Quincy, grandfather of the last mayor of Boston of that name, drew the attention of our Association to the little known organizations called "Building Associations" existing in Pennsylvania, New Jersey, Maryland, and Ohio. This proved to be for twenty years one of the most fruitful topics for our meetings, and it was by the activity of several of our members—notably Mr. R. T. Paine and Gamaliel Bradford of Boston—that these modest financial institutions (really co-operative banks) were established in Massachusetts, where now 130 of them exist and flourish. In the whole country their number is between five and six thousand, and they now flourish in two-thirds of the States, partly in consequence of the investigations made and the propaganda promoted by some twenty of our members, including Colonel Carroll D. Wright, afterwards our President.

At one of the last annual meetings held in Boston for some twenty-five years, in January, 1879, Mr. Quincy, who first introduced this subject to our notice, wrote as follows:—

WOLLASTON, MASS., Jan. 5, 1879.

Dear Sir,—I shall probably not be able to be present at the annual meeting of the Social Science Association on Wednesday. As to my two pet schemes, one of them, Co-operative Fund and Loan Associations, is, I think, fully established. There are a dozen in this State that I understand are doing well. The two in Boston have together nearly one thousand members, and loan \$5,000 or \$6,000 a month. The other scheme, Co-operative Stores, promises well. More than half

the stock has been taken, and subscriptions are coming in daily, which, considering that the shares are but \$4 each, and most take but a single share, ought to be satisfactory for a new enterprise.

It was fated, however, that only the first of these two schemes should brilliantly succeed in this country. The co-operative stores, so prosperous in England and elsewhere, have not had good fortune here. But it has been otherwise with Mr. Quincy's first "pet scheme," as he called it. Beginning in this country some seventy-four years ago, at Frankford, now a part of Philadelphia, with one small society, these co-operative banks have become broadly national in their distribution, though strictly local in their administration; as they ought to be, if they would avoid the risk of such failure as has already overtaken many of the too ambitious "national" loan associations. When the United States League of these local Associations met last year in Michigan, the secretary, Mr. Cellarius, exhibited an interesting table, copied below, to show what was then the latest situation of the local

TABLE SHOWING THE NUMBER AND CONDITION OF THE CO-OPERATIVE BANKS (1903-04).

| States. | Associa- tions. | Members. | Assets. | Increase. | Decrease. |
|----------------------|--------------------|-----------|---------------|-------------|----------------|
| Pennsylvania . . . | 1,196 | 313,193 | \$117,861,779 | \$3,975,759 | — |
| Ohio | 731 | 301,460 | 101,221,442 | — | \$9,729,815 |
| New Jersey | 353 | 112,539 | 51,466,688 | 2,980,311 | — |
| Illinois | 500 | 83,000 | 39,432,282 | — | 871,570 |
| New York | 300 | 90,429 | 33,342,475 | — | 543,267 |
| Massachusetts . . . | 130 | 84,527 | 32,919,738 | 2,528,073 | — |
| Indiana | 379 | 97,213 | 30,035,098 | 16,691 | — |
| California | 146 | 53,376 | 19,963,852 | 1,663,985 | — |
| Michigan | 58 | 32,391 | 10,746,298 | 840,225 | — |
| Missouri | 134 | 9,996 | 7,771,790 | — | 456,475 |
| Louisiana | 39 | 18,150 | 6,609,242 | 109,242 | — |
| Iowa | 72 | 20,000 | 5,656,469 | — | — |
| Nebraska | 59 | 20,446 | 5,343,429 | 585,136 | — |
| Connecticut | 18 | 8,035 | 3,851,539 | — | 293,658 |
| Wisconsin | 53 | 13,250 | 3,819,768 | 223,835 | — |
| Kansas | 40 | 11,259 | 3,417,114 | 297,596 | — |
| Maine | 35 | 8,444 | 2,932,206 | 77,580 | — |
| Tennessee | 21 | 3,417 | 2,321,663 | — | 77,580 |
| New Hampshire . . . | 15 | 5,175 | 1,753,560 | 13,444 | — |
| Minnesota | 16 | 2,200 | 1,066,680 | — | — |
| All other States . . | 1,015 | 278,200 | 98,129,000 | 929,000 | — |
| Totals. | 5,308 | 1,566,700 | \$579,556,112 | \$2,338,098 | (net increase) |

societies in twenty States, individually presented, and in the rest of the country in one mass. Several things will be worthy of note in this table, which would not be much altered by the figures for 1904-05, not yet available. One is the large increase in assets in some States, and a considerable decrease in others, the latter resulting, in case of Ohio, from the change of several large and prosperous associations into trust companies. Another is the great number of shareholders (more than a million and a half), and their annual increase of more than 2 per cent. The total expenses of management of this business of nearly \$600,000,000 was less than 1 per cent.: the interest received on loans was nearly \$30,000,000. All this indicates general prosperity in these genuine "People's Banks," and fully verifies the hopes of Mr. Quincy six-and-twenty years ago.

In one of these distant States, Louisiana, which had not a single co-operative bank in 1879, we have the report for the present year, which shows forty-five of them in 1905 (instead of the thirty-nine in the table), and assets increased to \$7,423,968, or more than \$814,000 in a single year. And the Louisiana bank examiner, a State official, who gives these figures, adds:—

The Building and Loan Associations of Louisiana in the past twenty-five years have either erected, bought, or improved seven thousand homes at a cost of \$8,000,000, and there are to-day invested by them in homes for the citizens of this State more than \$7,000,000. You can thus form some conception of the incalculable amount of good that has been accomplished in this direction. Then, if we consider that this vast amount of money has been invested in homes by those who without them (in the main) could not have owned a home, and when we further consider the great good which flows from the softening and refining influences of the home life, we can have some small idea of the beneficent results that come from a careful, well-managed, and liberal building association.

This benefit extends also to negroes. At the Atlanta Conference, May 21, 1905, Mr. Henderson gave an interesting résumé of the conditions of the negro in Louisiana, saying:—

To sum up the situation, I should say that the people have, on the whole, caught the spirit of acquisitiveness, and are mak-

ing good progress in acquiring property and owning their own homes. The Building and Loan Associations have been of great service to them. So have the savings-banks. In the country, land is being acquired, in small portions especially, and an increasing number are renting or working land on shares, which is an excellent school for business training, and leads ultimately to ownership.

In Louisiana, as in other Southern States, the dangers which threatened the common schools seem less, but less and less will apparently be done for secondary, higher, and professional education. This demand must be met for years to come, probably, by the people themselves and the missionary societies. Private schools taught by graduates of our higher institutions and supported by the people are springing up throughout the State.

1. The people have learned how to earn, and also the importance of education. What they now need is the wisdom to use and to spend; how to invest not only in real estate, but in institutions for the common good and in innocent and mutual enjoyment. It is this practical moral education which is a condition to greater progress.

2. Greater protection of life and property involves the co-operation of the other race. Material progress is hindered by the lack of the sense of safety to life and property, owing to mob violence.

3. The Christian ministers and leaders of the two races must find some common platform in mutual co-operation. The Southern churches have not yet taken hold of this race question. Some of its difficulties cannot be solved without their co-operation. The homes and virtue of multitudes of our women who work out in service are at the mercy of the white men. Their husbands and fathers are unable to protect them while in this service. Unfortunately, white men do not regard illicit relations with colored women apparently as forbidden by the commandment against adultery. The colored people cannot remedy this situation themselves. It becomes the duty of the white people to take it up.

Mr. Starboro, one of the prominent foreign-born citizens of San Francisco, long active in promoting these banks, said lately:—

The wage-earners and middle-class people of California, through the building and loan associations, within the past thirty years have built thousands of homes and saved millions of dollars, which would otherwise have been squandered. Not a single member of my associations, numbering many

thousands, has ever left my office without receiving every dollar which he had paid in, and a reasonable rate of interest on the same, whether he remained in the association three months or three years.

Let us hope that the great life insurance companies, whose methods our Association for several years sought to improve, and in some States with success, may be able at the settlement of their accounts to make as fair a statement, and as Equitable an arrangement.

You will naturally infer, from this very incomplete statement of national movements which we initiated or have actively joined in, that the United States, at the formation of our society, was very ill supplied with important agencies for social and economic improvement. This would be a true inference. Imperfect as those agencies may yet seem, and incredibly as they are perverted and abused in the management of our great cities,—St. Louis and Philadelphia having lately furnished striking examples of this abuse,—we were much worse off in 1865, so far as the mechanism of administration went. Our people were probably more honest, and they certainly had less wealth to lose by the misgovernment of cities, the frenzies of finance, and the inequalities of taxation. When resigning the office of President of the Social Science Association in 1879, after holding it for several years, Mr. David Ames Wells drew a picture of what might be expected in the years then to come, which has only in part been justified, though it then seemed reasonable enough. He said:—

Never before in the history of the world were so many and so important questions—fiscal, economic, educational, sanitary, and moral,—pressing themselves upon the attention of the public. Social science questions have, through the force of recent circumstances, come to be *the* questions of the day, paramount to all others, and the ones on which parties and governments are to stand and be called into existence in the future. Indeed, it seems to me that since the year 1860, or the outbreak of our Civil War, a change has come over the habits and thoughts of men, and their methods of doing business, very much akin to what occurred at the epoch of the Crusades, and of the Reformation, or later through the American and French Revolutions. Old creeds and faiths are weakening, slipping away, or recrystallizing. The steamship, the

railroad, and the telegraph are breaking down the old and formidable barriers of nationalities, and for the purpose of business are making the whole world one country,—a condition of things under which the great fundamental truth of modern political economy, that nations and individuals are alike benefited and never injured by the prosperity of their neighbors, will be more than ever manifested. All methods of production and exchanging are also undergoing modification, with the certain result, which no legislation can prevent, even if it were desirable that it should, of economizing labor and material and the cheapening of production.

During and in consequence of these changes, and for years to come, there will be much of **discomfort, and undoubtedly, also, of suffering, from the displacement of individuals from occupations,** and their readjustment in new positions or locations. Millions of capital now useful and returning an income to their possessors are certain in the not distant future to be also made worthless, as the course of improvement requires that they shall be, in order that production may be cheapened and made better. But the ultimate result will be, undoubtedly, greater abundance, less poverty, and a higher elevation of the race. To forecast the course of economic agencies and events, to help make the burden of disturbance and change in occupation less grievous to the people, to help overcome that moral inertia among the masses which greatly prevents them from helping themselves and accommodating themselves with rapidity to the demands of progress, are all questions and problems pre-eminently within the domain of Social Science. And, if associated effort offers anything of advantage in the way of determining and disseminating truth over individual and isolated effort, then the American Social Science Association has the largest of opportunities before it for future public benefaction.

We certainly began our career with few of the public and private agencies which now exist in most States. In 1865 there was but one State Board of Charities in the whole nation; no State Board of Health with competent powers, no Lunacy Commission, no Prison Commission, no Societies for Good Government in cities and States, no reformed Civil Service, no colleges for the freedmen, and none for women except those pioneer experiments at Elmira and at Poughkeepsie (where Mr. Vassar's benefaction was just beginning to take effect); no negro suffrage, except in a few Northern States; no woman suffrage; comparatively few public libraries and art museums;

no National Bureau of Education; no general supervision of immigration; no Hull House or other neighborhood Settlement for social betterment; and, most wonderful of all, no women's clubs, such as are now numbered by thousands. In promoting nearly all these agencies of civilization, our society has been prominent, and our publications, though they have seldom reached a large circle of readers, will be found, on examination, to have covered the early stages of almost every movement for the betterment of the people, and often to have set the fashion for thousands of writers who may never have heard of our modest efforts. We have emulated, and in some measure we have merited, that amiable and magnanimous character which the poet Channing ascribed to his friend and neighbor Emerson, whose humility he respected by calling him Vernon:—

“So Vernon lived
 Considerate to his kind. His love bestowed
 Was not a thing of fractions, half-way done,
 But with a mellow goodness like the sun
 He shone o'er mortal hearts, and brought their buds
 To blossom early,—thence to fruits and seed.

“Forbearing too much counsel, yet with blows
 In pleasing reason urged, he took their thoughts
 As with a mild surprise; and they were good,
 Even though they knew not whence the influence came,
 Or once suspected that from Vernon's heart—
 That warm, o'er-circling heart—their impulse flowed.”

Yet we must often be discouraged in view of the little that has been permanently effected by all our activities and by the thousand kindred efforts to improve mankind. It was at the same annual meeting where Mr. Wells's reassuring letter was read that Mr. Angell, of our Association, began his crusade against quack medicines and adulterations. He then said:—

This is a free country. In France I was assured that no medicine could be sold in Paris which had not been approved by a “board” composed of some of the best chemists of Paris. No physician could practise who had not been examined and approved by a “board” composed of some of the best physicians of Paris. Deadly poisons could only be sold by persons of good character, licensed by the police authorities to sell them. They were required to be kept under lock and key,

and the key kept in the personal possession of the person licensed to sell, and every sale was required to be registered, and the registry preserved twenty years for the inspection of the police. These and other regulations to prevent the improper sale of poisonous, dangerous, and adulterated articles, and to protect public health, were, as I was informed, most vigorously and efficiently enforced. Perhaps no stronger evidence of the comparative freedom in this country can be adduced than that millions of dollars' worth of quack medicines, which no respectable physician would prescribe, are widely sold; that most dangerous poisons can be bought at hundreds of places in any of our large cities, without restriction; and that it was shown to a committee of the Massachusetts legislature in February, 1878, that more than three hundred ignorant and uneducated persons were practising medicine at that time in the city of Boston; and that the signs of thirty-four of them were on the doors or walls of houses of ill-repute. But these are only a few of the evidences that may be easily adduced to show the perfect freedom which prevails in this country. Take the adulteration of foods, for instance. One of the most eminent chemists of Massachusetts tells me that almost every class of articles now sold in this country for food is more or less adulterated, and that many of these adulterations are poisonous.

Is there any remedy for these things? They are increasing every year. They poison and cheat the consumer; affect, and in many cases destroy, the health not only of the rich, but of the poor, whose health is their only capital. They are little or no profit to the seller, who in ninety-nine cases out of a hundred would prefer to sell honest goods, and enrich only those manufacturers and adulterators, some of whom, regardless of the laws of God and man, are little, if any, better than the pirates that plunder our ships on the ocean, or the highwaymen who rob and murder on the land. I say that laws should be enacted and enforced prohibiting the manufacture and sale of these poisonous and dangerous articles under severe penalties, and compelling the manufacturers and sellers of adulterated articles to tell buyers the precise character of the adulterations. I think the sale of deadly poisons should be restricted and carefully guarded here, as it is in other countries. I think that no medicine should be permitted to be sold unless approved by competent chemists, and that no criminal or ignorant person should be permitted to tamper with human life by pretending to be a physician.

In the twenty-six years since elapsed, as Dr. Harrington will show, much has been done to remedy this state of things; but

the ingenuity of the adulterators and deceivers has often kept pace with the efforts of law and gospel to thwart them. The press has become their great agency, and millions of dollars are yearly paid for advertisements and "inspired" editorials or correspondence, to keep up the sale of drugs and liquors of useless or hurtful tendency. And what is true in this respect is quite as true in others. What is called "business" is in too many cases fraud or gambling; and the whole country now resounds with the exposure of one gang after another of conspirators against old-fashioned finance and fair dealing.

What, then, is the moral to be drawn from our society's experience of forty years, and what is the present most pressing duty of our members in the ever-broadening field of Social Science?

It is plain to every observer that a great change has taken place since 1865 in the relative attitude of capital and labor—of wealth and poverty—toward each other and toward the community. It is not true that, while "the rich have been growing richer" (which nobody denies), "the poor have been growing poorer,"—at least absolutely. But, relatively and with respect to their liberty of action, the laborious many have grown poorer and less free to engage in paying industry than they were at the close of our Civil War. At the end of the eighteenth century, Burns, the peasant poet, complained in verse,⁹ sometimes pathetic, sometimes satiric, and sometimes indignant, of the dependence of the many in Scotland on the titled few.

"See yonder poor, o'erlabored wight,
 So abject, mean and vile,
 Who begs a brother of the earth
 To give him leave to toil;
 And see his lordly fellow-worm
 The poor petition spurn,
 Unmindful, though a weeping wife
 And helpless children mourn.
 If I'm designed yon lordling's slave,
 By Nature's law designed,
 Why was an independent wish
 E'er planted in my mind?"

This condition of things was formerly almost unknown in America. In the North the scarcity of labor, in the South

the existence of slavery, made the free laborer little dependent on the caprice or the convenience of his employer. The distance between them in the social scale was less visible than now. The drift of population to great cities, and the constant improvements in machinery, superseding the skill of the laborious hand, had not produced their full effect, as we now see it. Great numbers of the industrious may be thrown out of employment, either by the ebb and undertow of prosperity in a panic, or by the turning aside of the stream of industry from a particular city, or in a special employment; or else by the determination of combined capital to destroy competition, or the equally censurable combination of laborers to force employers to their unjust terms. It is the age of strikes and lockouts, an age whose passing away in a better adjustment of the working point where labor and capital meet we must all desire, but which now seems likely to abide for years, with results of a deplorable kind, hard to foresee, but likely to have the worst results on individual prosperity, and perhaps on national security.

One reason for this unhappy situation is the enormous contrast, more noticeable than ever before (unless it were in the comparison of the wealthiest Roman senators with the mob of penniless citizens, fed on their bounty or hired to do their ambitious work), which we witness in the United States between the uncounted dollars of the magnates of monopoly and the lean purses of the workmen in their mines or mills, their furnaces or railways. There have been centuries when the peaceful and laborious mass of men had most to fear from the commanders of great armies, marching across many lands to conquer and pillage and destroy. The Cæsars and Tamerlanes and Napoleons were the worst enemies of mankind then, while ravaging and bloody war was their delighted employment. What those chiefs were with their armies, these "captains of industry"—rather field marshals and major-generals of monopoly—are now, with their hundreds or thousands of millions, partly locked up in lines of railroad or acres of mills, or square miles of coal mines or copper mines, and partly left free for raids and duels of paper securities, which may destroy in a week the practical value of billions of fancied wealth, held in the tin boxes of individuals or in the

safes and deposit vaults of banks or trust companies. The movements of some of these magnates appear to the eye of envious poverty like the landing of a fleet's company of pirates on some rich and populous shore in the ages when piracy was as legal and as respectable as Standard Oil production or the cornering of beef and mutton is now. They may claim to be beneficent, and often they are so to individuals, as Robin Hood and Rob Roy were; but they are harmful to the community, from the grasping and insatiable selfishness which dictates the daily course of their operations. The protection of property is one of the best objects of governments and constitutions; but piratical and anti-social property, used as I have hinted, and as you constantly see or suspect, is not entitled to governmental protection. It is held and abused at its owners' personal risk, like the gains of the pirate and the gambler. Why should the people arm themselves with weapons, or with laws, to guard the strong box of the men who use their monetary power to raise the price of the necessities of daily life, to buy their way into public office, or to disturb the peace of nations? My objection to what has lately been called "tainted money" is not so much that it was tainted in the acquisition as that it is used for the injury of society. The taint of money can be removed by putting it to pure uses; but to give tithes of all you possess, so that you may use your other nine-tenths for my discomfort or social ruin, does not commend itself to me as a virtuous or a justifiable act. These overgrown riches—what I have long called "dropsical wealth"—do not indicate prosperity, but disease. They are the wens and tumors of what should be a wholesome economic condition. They evidence a sort of blood-poisoning in the body politic, which calls for drastic remedies. The historical remedy for it has commonly been the downfall, generally the suicide, of the patient. Nations that escape this fatal ending must have taken the patient in hand early, and adopted a strict regimen.

It is, therefore, the business of the Social Science Association, in this state of things, to seek out the causes, publish the facts, and announce the remedy. We may both exaggerate and understate these facts; but they will disclose their true character and furnish their own commentary as time goes on.

They are a part, not only of those inevitable changes which Mr. Wells foretold us in 1879, but of that ever-renewed stock of human depravity embodying itself in social conditions, which has kept mankind in agitation for thousands of years.

As to the remedies for the present or future evils and defects in our social relations, we must trust, in more cases than we are apt to think, to Time, that grand healer and destroyer of earthly things, who heals and restores by decay and replacement. There is, as the old physicians have told us, a *vis medicatrix*, a medicinal and restoring force in Nature herself; and this shows itself in the convalescence of States and communities, as in the human individual. Here, for example, is the sad question of despised and despising races at the South, over which our brethren of the former slave States are now exciting themselves so needlessly, as I think. Things are bad there, we say. So they are; but they have been greatly worse, and the lapse of forty years has in many ways improved them wonderfully. The change from brutal or even kindly slavery to emancipation, especially when that change has been wrought by invading war, cannot occur without much social upheaval and reconstruction, during which the short-sighted will become impatient, the timid discouraged, the enraged furious, the oppressed and the unfortunate beside themselves. But the progress of time has shown, and will yet further prove, that Justice and Mercy are the only safe foundation and binding forces in social and political architecture. They have had their operation disturbed by many cruel events, many sordid ambitions, and much ignorant mistake at the South, as at the North, since the emancipation of our black brothers, whom their former masters and forefathers are slow to regard as other than intelligent brutes or very backward and ill-disposed children. Yet those admired and admirable virtues, which their former masters say they displayed in slavery, still exist by nature and training in the race, are showing themselves here and there in different forms of manifestation, and will not disappear under injustice or unwise exaltation of mind and misdirection of will. The two races must be recognized as brethren, with different qualities and some difference in vices and follies, but essentially human, and therefore to be dealt with, on both sides, as human and capable of regenera-

tion. And the mission of Social Science is to promote the temporal regeneration of depraved societies, as the spiritual regeneration of evil and ignorant souls is wrought by divine grace.

THE DISCUSSION.

The President of the Association, John Graham Brooks, of Cambridge, who had introduced Mr. Sanborn as the first speaker at the morning session of Thursday, May 11, 1905, and who said he had recently returned from a visit of some days in Eastern Virginia, spoke strongly in support of the view expressed in the concluding page of the Historical Address. He instanced the progress made by the freedmen of Virginia in particular, and the support which they had given to sound morals by checking the sale of intoxicants where they were in the majority of voters; the increase in their ownership and skilled management of land, and in general of the excellent results following the schools at Hampton, Tuskegee, Calhoun, and elsewhere in the former slave States. They are supported, too, he said, by the more intelligent and philanthropic of the white inhabitants; and the relations between the two races are steadily growing better, in spite of manifestations to the contrary here and there.

Joining in the discussion, Mr. Sanborn said that he had taken part in a most interesting and instructive Conference at the Atlanta University May 21, 1904, in which the questions concerning negro crime were treated by negroes themselves (ministers, school-teachers, and others) with a directness and practical good sense not always seen by him in meetings of the Prison Association since 1870, when it was organized by members of the Social Science Association, as shown in the Address. The general results of this Conference have since appeared in a pamphlet of seventy-five pages, published by the university, and edited by one of its professors, W. E. B. Du Bois, a colored native of Massachusetts, who was educated at Harvard and in Germany. Some extracts from this work will have a bearing on one marked aspect of the race question much debated of late. The statistics came mostly from Georgia, which, however, is a typical Southern State, and what is true there is probably true in other regions not so carefully examined and reported. Crime among negroes in Georgia increased from 1879 to 1895, and has sensibly decreased in the last ten years, as education and property-holding have increased. Their assessed property in all Georgia in 1895 was less than \$13,000,000, in 1904 it was more than \$18,000,000, which represented only about half its market value. In all the centres of crime (the cities) the poor and ignorant whites were associated with the poor and ignorant blacks in vice and crime; but proportionately there is much more punished crime among the blacks. The assigned causes of this are various. The negro faults are given as:—

1. Abuse of their new freedom and tendency toward idleness and vagrancy.
2. Loose ideas of property, learned in slavery, petty pilfering, etc.

3. Unreliability, lying, and deception.
4. Exaggerated ideas of personal rights, irritability and suspicion.
5. Sexual looseness, weak family life, and poor training of children; lack of respect for parents.
6. Lack of proper self-respect; low or extravagant ideals.
7. Poverty, low wages, and lack of accumulated property.
8. Lack of thrift and prevalence of the gambling spirit.
9. Waywardness of the "second generation."
10. The use of liquor and drugs.

Professor Du Bois says:—

All these faults are real and important causes of negro crime. They are not racial traits, but due to evident historic causes. Slavery could not survive as an institution, and teach thrift; and its great evil in the United States was its low sexual morals. Emancipation meant for the negroes poverty and a great stress of life due to sudden change. These and other considerations explain negro crime. They do not excuse it, however, and a great burden of pressing reform from within lies upon the negro's shoulders. Especially is this true with regard to the atrocious crime of rape. This is not, to be sure, a crime peculiar to the negro race. An Englishman, Sidney Olivier, resident of Jamaica, tells us that in Jamaica justice has been dealt out impartially; and this has not resulted in "impudence" on the part of the blacks towards the whites. Indeed, when reasonably treated, they are remarkably courteous,—more so than the average Teuton. Attacks by black men on white women are absolutely unknown. A young white woman is safe anywhere, the only terror being from white sailors. There are offences against black women and children, but not whites. He infers from this that the danger of such attacks on white women, if it exists in the United States, is not really due to race. For his own part he is sure that the evil, where it exists, is augmented by the state of frenzy with which it is met.

But granting this and making allowance for all exaggeration in attributing this crime to negroes, there still remain enough well-authenticated cases of brutal assault on women by black men in America to make every negro bow his head in shame. Negroes must recognize their responsibility for their own worst classes, and never let resentment against slander allow them even to seem to palliate an awful deed. This crime must at all hazards stop. Lynching is awful, and injustice and caste are hard to bear; but, if they are to be successfully attacked, they must cease to have even this terrible justification.

The faults of the whites are:—

1. A double standard of justice in the courts, one for negroes and one for whites.
2. The election of judges for short terms, making them subservient to waves of public opinion in a white electorate.
3. The shirking of jury duty by the best class of whites, leaving it to the most ignorant and prejudiced.
4. Laws so drawn as to entangle the ignorant (as in the case of laws for labor contracts), and to leave wide discretion as to punishment in the hands of juries and petty officials.
5. Peonage and debt slavery as methods of securing cheap and steady labor.
6. The tendency to encourage ignorance and subserviency among negroes instead of intelligence, ambition, and independence.
7. The taking of all rights of political self-defence from the negro either by direct law or custom, or by the "white primary" system.

8. The punishment of crime as a means of public and private revenue rather than as a means of preventing the making of criminals.

9. The rendering of the chastity of negro women difficult of defence in law or custom against the aggressions of white men.

10. Enforcing a caste system in such a way as to humiliate negroes and kill their self-respect.

Mr. Sanborn thought that these conditions of society at the South really exist, and will only give way gradually to enlightenment and the not improbable introduction of a system of national education for whites and blacks, as intimated in the Address, and now favored by some of the numerous women's clubs at the South and the North.

[As we go to press, we receive from Atlanta, in the *Bulletin* for June, 1905, the resolutions of a more recent Atlanta Conference. These resolutions were written and signed by Walter F. Willcox, of Cornell University, special agent of the Twelfth United States Census, Mr. L. M. Hershaw of the United States Land Office, and Professor Du Bois, secretary of the Conference and editor of its publications. They are as follows:—

The Tenth Atlanta Conference for the study of the negro problems believes that the results of ten years' study of these social questions have justified the meetings and the methods of study employed.

We believe that there has grown in the last ten years a larger scientific spirit in dealing with the negro problems, and a demand for verifiable knowledge rather than mere opinion, as a basis for sound judgment and philanthropic effort.

The investigations of the last ten years seem on the whole to indicate:—

- (a) A progressive differentiation of the negro race into social and economic classes.
- (b) A slow recognition that this fact makes it more and more unjust to characterize the race as if it were a unit.
- (c) A large but slowly decreasing negro mortality.
- (d) An encouraging decrease of infant and child mortality.
- (e) An increase in the number of good homes.
- (f) An increase in the kind and number of efforts for social betterment among negroes.
- (g) An increase in the number of business enterprises and in economic co-operation.
- (h) A rapid decrease in illiteracy, especially in cities, and a large percentage of success among college-bred negroes.
- (i) A severe economic crisis among negro artisans.
- (j) An increase in the social and economic activities of the negro church.
- (k) A large increase of crime up till 1895 and a considerable decrease since that date.

We believe that future investigations ought to lay especial stress on the many unsettled questions as to the vitality of the negro, his economic efficiency, his moral habits, and his capacity for government, and on the means of improving all these. We recommend that these studies be carried on in ten-year cycles, and include statistical and historical research and investigation into African conditions.

Finally, we recommend the co-operation of all agencies now engaged in studying the negro problems, and an attempt to secure an endowment for the work of this Conference.]

Dismissing this special question, the meeting then listened to an interesting statement by Professor Raymond, of Washington and Princeton,

concerning the newly designated "George Washington University" taking the place and funds of the former Columbia University at Washington, D.C. A specialty of this institution is the giving of instruction by lectures to hundreds of young men, college graduates, and others, residing in the national capital as officials, and with time at their disposal for evening lectures, etc. In this way they may acquire at a small cost a considerable post-graduate instruction in history, philosophy, economics, and certain branches of science; the libraries and scientific collections at the seat of government being practically open to them. Dr. W. T. Harris, Commissioner of Education, and other well-known persons are among the lecturing force. The change of name was made in deference to the expressed wish of General Washington, as declared in his Will, for the education of his young countrymen at the national capital. The property left by him for that purpose had not become available; but the tendency now is strong to carry out his wishes in some way or other, and Professor Raymond thought this a very good way, so far as the facilities of the University would go.

DECEASED OFFICERS OF THE ASSOCIATION.

FRANCIS WAYLAND.

A TRIBUTE BY HIS LIFELONG FRIEND AND SUCCESSOR IN THE
PRESIDENCY, FREDERICK JOHN KINGSBURY,
OF WATERBURY, CONN.

Francis Wayland was born in Boston, Aug. 23, 1826. When he was six months old, his father was elected president of Brown University at Providence, R.I., and the family removed thither. The younger Wayland, who bore his father's name, graduated from Brown in 1846. Once during his college course, and under his father's advice, he, being then about eighteen, acted as principal for some time, probably one term, of the Pierce Academy at Middleboro, Mass.; and again, for some trouble with his eyes, he went on a cod-fishing voyage from Gloucester. The trip was a success, both as a fishing expedition and as an eye restorative, to which perhaps the crew, or some members of it, contributed their fair share by stealing all his cigars the first day out.

After graduating he read law for a while in the office of W. H. Potter, Esq., of Providence, and then entered the Harvard Law School. From there he went to the office of Chapman & Ashmun in Springfield, Mass. In 1850 he opened an office in Worcester. He was an intimate friend of Senator Hoar. They had been fellow-students at Cambridge, and there was but six days' difference in their ages, Hoar being that much younger. Their friendship continued through life.

In 1858 Wayland married Miss Martha Read, daughter of Ezra C. Read, Esq., of New Haven, Conn. Miss Read was an only child. Her father's health was not good, and at his request Wayland removed to New Haven, and made his residence with his wife's parents. In 1864 he became judge of probate for that district, and in 1869 was elected lieutenant governor of Connecticut, with Marshall Jewell as governor. In

1872 he became a professor in the Yale Law School, and henceforth directed his life to the development of this institution. As an indication of the success of his work, it may be mentioned that, when he became professor, the number of students was twenty-one and the number of instructors three. When he left it, the number of students was two hundred and forty-eight and the instructors thirty-six. Instead of a couple of moderate rooms in one of the county buildings, occupied by sufferance, a large and elegant block of buildings, with ample accommodations for the administrative force, lecture-rooms, and classrooms, and with library and hall for large gatherings, is now the home of the school. And this is almost entirely the result of Dean Wayland's tireless and unceasing labors.

In the earlier days of his connection with the school he took his share of the instruction; but, as the school increased, he gradually laid aside this part of the work until, for some years toward the end, his duties had been wholly administrative. This suited him best. He was a born organizer and administrator. He knew what men he could influence and how to do it. His acquaintance with men, and the best men in the country, was very extensive.

His interest in all matters relating to social reform was great and active. He was one of the officers of the great American Conference of Charities, which, taking birth in the American Social Science Association, soon outgrew its parent in importance, and attracts to its annual councils the interest of the philanthropists of the world. He was for years the presiding member of the Board of Directors of the Connecticut State Prison and a member of the Board of Pardons. He was president of the Society of Organized Charities in New Haven, which has been markedly successful in its work. He was president of the Connecticut General Hospital, of the American Baptist Union, of the Board of West Point Visitors for 1880. A member of the corporation of Brown University, he received from that institution and from Rochester University the degree of Doctor of Laws; and he was interested in many other philanthropic and charitable organizations.

Wayland became a member of the Social Science Association in 1878, soon after took charge of the Jurisprudence

Department, and remained its head until he was compelled to withdraw by illness in 1902. He was almost always the first of the chairmen of departments to report his programme complete. His wide acquaintance with prominent men throughout the country, and his convincing, not to say dominating, way of compelling compliance, with his requests, was doubtless the reason of this. Many of the most interesting and valuable contributions to the papers of the society were in his department. For three years he acted as President of the society, still retaining his chairmanship; and he was always most active in the society's interests, attending with great punctuality all the council meetings. For many years, when the meetings were at Saratoga, and the session began on Monday evening, he came up on the Saturday before, saw that the posters were ready and that some one was ready to put them up, that the hall was in order and a janitor properly instructed. He saw the editors of the newspapers, and arranged, or at least tried to arrange, to have the meetings noticed and the papers reported. At the meetings he was always ready with a word, when a word seemed to be needed, and with a flash of humor to enliven a period of dulness. His commanding presence, his genial smile, his ready humor, made him a central figure of our meetings. One of the contributors to our exercises told his people at home that he had found the *raison d'être* of the Social Science Association,—it was invented and kept up so that Wayland and X. could have a good time at Saratoga. That he had a good time there was obvious, and that he assisted at other people's good time was no less so. The conversations in the reading-room of the United States Hotel, participated in by Mr. Sanborn, Andrew D. White, President Adams, President Gilman, Eugene Schuyler, Judge Dillon, Edward Pierce, John G. Brooks, Rev. Dr. Wayland, Edward Atkinson, and many others whose names I cannot now recall, and prolonged until the elevator was about to make its last ascent, and sometimes, indeed, beyond that time, will be recalled by all the participants as among the most delightful, if not the most instructive, feature of the meetings of the Association.

His article in Volume VIII. of the *Atlantic*, entitled "A Field Night in the House of Commons," shows he might have

been a brilliant magazine writer; and his articles on Tramps and Out-of-door Life in the *Atlantic* and elsewhere, and on various social reform topics, notably Prisons and Prison Discipline, are marked by maturity of judgment and clearness of thought. He had travelled widely. Europe, Mexico, the Sandwich Islands, were among the places visited by himself and Mrs. Wayland; for, despite his vigorous looks, and perhaps one could add despite his general good health, he had from time to time various ailments and troubles which seemed to require change of climate. And Mrs. Wayland, who was not vigorous, was helped by travelling, so they went their foreign tours together. They spent several seasons in England and France, where they had many friends, and were always welcome.

A little leaflet describing a trial for murder in the Sandwich Islands will be remembered by those who read it as a graphic account of the very dignified and complete manner in which justice is administered at Honolulu.

His favorite exercise was horseback riding. It took a stout horse to carry him, but he had one. He was an early riser, and his habit was to spend an hour or more in the saddle before going to his office. There were few roads or paths in the vicinity of New Haven where he was not a familiar and welcome figure. He was fond of stopping to talk with the people he met on the road, and so picked up many quaint and amusing sayings. I remember his being particularly amused at a terse statement of the times of starting one of the trolley lines. It was "quarter after, half after, quarter of and at."

He was a charming correspondent. Sometimes he would write daily for two or three days, sometimes even twice a day, the second letter being a postscript to the first. He would seize his pen when an idea occurred to him, scratch it down, and send it off. Usually his letters were short, but not always. The style of his letters was much like that of Thackeray in his letters to the Baxter family, recently published, but on the whole more varied and sprightly. He did not illustrate his letters, as Thackeray did, but he had a way of putting a meaning into his words which was as graphic as illustration. If he wanted to make a word very emphatic,

he would write in large letters, stretching it across the whole page. If he despised a man,—and there were some such,—he would write his name in the smallest of letters without capitals. He was very fond of nonsense rhymes, and would frequently close a letter with one, prefacing it with, “How’s this?” Sometimes, when he found a new one which particularly pleased him, he would send it in a letter with nothing else. He told me some years before his brother’s death that he wrote to him every day. He was very fond of his brother. He had a great admiration for his intellect and his wit in addition to a warm personal and brotherly affection.

Wayland was a Baptist by inheritance and probably by conviction. He was a prominent man in that denomination, presiding at conventions and holding various offices and addressing religious gatherings and Sunday-schools. His house was frequented by many distinguished Baptist clergymen, among whom he had several intimate and valued friends, and he and his wife built and carried on a Baptist church in one of the environs of New Haven; but he was not narrow in his views, and all good men of every faith were his friends.

JAMES MUNSON BARNARD.

At the session of Saturday, May 13, Mr. F. B. Sanborn offered the following vote, and supported it by the subsequent remarks on the character of the late J. M. Barnard, of Boston, and his connection with the American Social Science Association:—

Resolved, That in the recent death of James Munson Barnard, at a ripe age, this Association laments the loss of one of its early and efficient members, who for several years after 1870 devoted himself to its social and economic interests, and to the extension of its work in education and art, with zeal and with important results. He seconded the activity of Professors Agassiz and Peirce, and for some time, during a vacancy in the office of secretary, maintained the office of the Association in Boston, and made it the headquarters of department committees, which promoted useful inquiries into matters of public health and special education; while

his presence and that of his circle of friends at our general meetings added much to their interest and success.

Mr. President,—It is peculiarly appropriate that this resolution should be offered at a session where educational matters are specially considered; for the attention of Mr. Barnard was first given to that side of our general work, although his interest was far from specialized in the many questions we had to discuss in the years from 1870 to 1876. He belonged to a family conspicuous in Boston for its philanthropic enthusiasm and its practical undertakings; and his alliance in marriage with a lady of noteworthy grace and social talent furnished that connection between abstruse discussion and the converse of society in drawing-rooms, which preceded the establishment, by Mrs. Dr. Talbot, of that club long existent here under the name of "The Round Table" for the more permanent refreshment of the philosophic mind of Boston.

A long period of invalidism withdrew Mr. Barnard from our meetings at a later date, but his interest continued in the topics we considered; and, when he could again give himself to the affairs of the public, he made himself specially useful by procuring and publishing, at his own expense, works on the important subject of nervous and mental diseases, so often debated in our general meetings. In all his activity at home or in Europe, where he travelled much and made many acquaintances, he manifested that public spirit and that amiable devotion to the cause of the unfortunate, which we have learned to consider a "Boston notion," so much has it characterized the citizens of this town for two centuries.

I. DEPARTMENT OF JURISPRUDENCE.

I. ADDRESS ON MUNICIPAL OWNERSHIP.

BY R. G. MONROE, OF NEW YORK.

[Read Thursday evening, May 11.]

The advantages and disadvantages of municipal ownership as a general policy present perplexities and paradoxes for indefinite debate. The reasons advanced by opponents against the extension of municipal ownership are, as a rule, as unwarranted as the promises of those in favor are visionary and impossible. Certain cities have operated public utilities with success, while other cities have failed. Comparative statistics on the subject of municipal ownership and operation are difficult of clear analysis. "The future is always more logical than our imaginings," and the prophet who will take into account all the varying conditions of time and place, and foretell accurately the results to follow the application of municipal ownership and operation to a specified service in a particular place, will rank high in his profession.

The American public are fully impressed with the shortcomings of their municipal governments, but this realization is not likely to deter a community from extending the functions of its local government in order to protect itself from manifest imposition. New Yorkers may doubt the excellence of their municipal administration; but, unless there is a change in public sentiment, that city will soon install a municipal electric lighting plant for lighting its streets and public buildings.

When franchises are granted to an electric company to install its equipment or to a gas company to lay its mains in a public street, the structures implanted become a part of the realty itself, and the granting of such franchises is equivalent to a transfer of public land. Monopoly always attaches

to land, and the giving of a franchise to a public service corporation to operate in a city street naturally tends to monopoly,—the power to sell alone,—private control of a public market. The combination, by means of a holding company, of a number of independent corporations having separate franchises, is the next step to perfect the monopoly.

Every manufacturer is entitled to receive for his wares the cost of making and delivering commodities supplied, plus a profit upon his investment. When, however, an exorbitant price is fixed by a monopoly controlling a public utility or a necessity of life, the maintenance of such a price is equivalent to the imposition of an unjust tax upon the entire community. Dividends of a corporation are supposed to indicate the earnings. The rate of dividends may, however, be kept down, and exorbitant profits hidden by excessive issues of capital stock.

The sale of light throughout the city of New York is to-day in the hands of a private monopoly. As business grew and earnings increased, the corporations which have provided light for the city of New York have been recapitalized on their earning capacity. As consolidations were effected and a complete monopoly secured by one company, holding a controlling interest in the stock of all other companies operating in the same district, the monopoly itself was capitalized. The actual cash investment was lost sight of, and the strength of tremendous issues of stocks and bonds was based on the control of the market. Mr. Low, as mayor of the city of New York, denied the right of companies, so capitalized, to fix any price for their commodity that might be required to pay interest and dividends on whatever securities they saw fit to issue. The mayor said that, so far as the bills rendered the city were concerned, the lighting companies should receive what their services were reasonably worth,—that is, the cost of manufacture and delivery of the commodity supplied, plus a reasonable profit on the actual capital invested; and he further expressed the opinion that it might be advisable to install a municipal electric plant. Mr. Low also thought that, if there were any differences between the companies and the city as to what was a *reasonable* price, they could properly be settled by the courts, but his suggestion of a *quantum meruit* was termed a

crusade against the lighting companies. The companies refused to sue the city. On the other hand, they devoted their energies to defeating Mr. Low for re-election. But Mr. McClellan, the present mayor, has taken the same position held by his predecessor, and for upwards of two years the lighting bills of the city of New York have remained unpaid. Mayor McClellan has also had plans prepared and funds appropriated for the construction of a municipal plant. A settlement of the claims of the lighting companies was attempted by the commissioner in charge of lighting last October; but public opposition was so strong that the settlement agreed upon was never carried into effect, and the only result of the commissioner's negotiations with the monopoly was the appointment of an investigating committee by the legislature of the State. This committee found that the companies were grossly over-capitalized, and recommended that prices should be lowered and a permanent commission appointed, to regulate rates and exercise general supervision.

The Consolidated Gas Company is capitalized at eighty million dollars, and for some time has been paying dividends at the rate of 8 per cent. per annum. The investigating committee of the legislature reported that the plants operated by the Consolidated Gas Company were worth less than thirty millions. This committee further reported the Brooklyn Union Gas Company, the company controlling the supply of gas in the second largest borough of the city, to be also grossly over-capitalized.

A few years ago a number of electric companies were combined. The aggregate stock of the constituent companies amounted to about thirteen million dollars, and back of this was an equal amount of bonded indebtedness, so the total capitalization of the constituent companies before the consolidation was, in round numbers, twenty-six million dollars. Four million dollars in cash was added and the Edison Company was floated with forty-five millions of stock and forty millions of bonds.

If the city of New York goes ahead and builds its lighting plant, the fixed charges, the interest on the capital investment, will be comparatively small, because New York can borrow money at lower rates of interest than private bodies,

and there will be no incentive to over-capitalization. The maintenance and operation of the city plant will be less economical than the running expenses of a plant managed by a private company. But in this particular instance there is a wide margin for laxity in municipal management before such laxity balances the weight of over-capitalization carried by the private companies supplying electric light.

In taking the step now contemplated, New York has practical experience of its own to go upon, since for many years it has been engaged as a municipal corporation in distributing and selling water to its citizens. More than half a century ago New York, which for forty years had been supplied by a private company, started on an extensive scale to construct public water-works. This municipal enterprise was undertaken, not because the people had determined that municipal ownership was a wise policy, but because the works required were so gigantic, for those days, that no private body was willing to enter upon the undertaking. There has been much to criticise concerning their management, but, on the whole, the results have been satisfactory. In the year 1903 the water revenue amounted to nearly nine million dollars. That year the total outstanding water bonds and corporate stock issued for construction aggregated seventy-seven million dollars. The year's interest charges on this debt were about two millions six hundred thousand dollars. To maintain and operate the water system that year, the city also expended about two million six hundred thousand dollars. If these two sums are added together, and 1 per cent. on the outstanding water bonds and corporate stock of seventy-seven million dollars is set aside as a sinking fund, there still remains a net revenue to the city of three million dollars. Much more than seventy-seven millions has been expended on New York's water system, but year by year the debt has been gradually reduced, so that the public to-day have the benefit of what might be called an under-capitalization of their water supply. The interest payments upon a water system which is worth at least one hundred and twenty-five million dollars in the year 1903 were about two million six hundred thousand dollars. With a plant upon which less than thirty millions had been expended, the Consolidated Gas Company distributed the

same year 8 per cent. dividends on eighty millions of capital stock.

The proposition before New York is merely to light public property,—the streets and public buildings,—a very moderate step in municipal ownership. If successfully carried out, all must realize that the extension of the service to provide for private consumers will follow.

As a result of the legislative investigation, laws have recently been passed regulating the price of electricity, and an act was introduced and defeated reducing the price of gas to consumers from one dollar to eighty cents per thousand cubic feet. The legislative committee reported that gas at eighty cents would insure a reasonable profit on the amount of capital actually invested; but the gas companies contended that such a step would amount to confiscation of their property. It would certainly make less valuable their tremendous issues of watered stock. The only argument worthy of consideration advanced against the reduction was the oft-made statement that the innocent would suffer most from such an exercise of legislative power. A number of leading citizens forwarded a petition to the legislature urging that, if the price of gas were reduced, many poor people who held stock in gas companies would be deprived of their income. The plea was made on behalf of widows and orphans. On the other hand, the district attorney of New York, who lives upon the crowded East Side, thinking also of the poor and helpless, said that, if the price of gas could be reduced to eighty cents per thousand cubic feet, gas ranges would come into general use, that coal stoves could be dispensed with, and suffocating rooms made habitable in tenements. The price of gas will be adjusted on the lines indicated in the report of the investigating committee, or municipal ownership and operation will extend generally to lighting in New York City.

A municipality must respect the rights of private property. At the same time public property held by the municipality for the use of the entire community should, so far as possible, be kept free from exclusive occupancy by private bodies. The main function of city government is the control of city gates and highways, the charge, direction, conduct, and disposal of streets, terminals, and docks, and the equal administration of

these assets for the benefit of the community at large. These assets are the city's principal, the basis of its business life, an inheritance to be forever safeguarded, an inalienable birth-right, never to be absolutely transferred if the municipality is to remain a free city. The city may most properly claim the right to hold and operate its own estate. Municipal ownership is, therefore, not aggression. The position is one of defence against invasion rather than that of encroachment upon private domain.

Our traditions incline us to the belief that we are best governed when least governed. We are disinclined to increase the functions of government, extending opportunities of political corruption. We prefer to have private agencies render public service rather than to multiply the number of office-holders. We look with alarm upon increasing numbers of public employees. We anticipate the time when officials shall so increase in number as to be able to perpetuate themselves in office, become rulers, and be no longer servants, of the people. But facts do not warrant the conclusion that, if other and further business operations were added to municipal service, political corruption would run unchecked. Neither does the history of municipal politics in this country record that any set of officials have for a long period been able themselves to perpetuate their tenure of office. On the other hand, the records show that unworthy officials have been held in office from year to year by outside beneficiaries,—by men who were specially interested in public service apart from the government, by men who protested that they belonged to the business, and not to the political world.

Municipal government in this country is about as good as traction, gas, electric, and other public service corporations will permit it to be, and, as a rule, about as bad as these financial institutions find it in their interest to make it. As the protective tariff is the root of national corruption, so, in the acquisition and extension of their franchises and special privileges, public service corporations have been the debauchers of State legislators and local officials.

The public service corporation touches the life of the community in many points and comes close to the people. To the local government it stands closer than a brother: to the local

boss it is guide, counsellor, and friend. New York to-day is not weighing the merits of Fourteenth Street and Wall Street, but considering how to protect itself from a combination of the two.

Refuse, if you will, to adopt municipal ownership and operation as a fixed and universal policy, but at the same time keep it near as an ever-ready and available alternative. Do not throw away your most effective weapon of attack against the wrongs that are. Do not drop from your hand the one card your opponent knows he cannot take. Many of the ignorant, the dissatisfied, and the restless are shouting for municipal ownership, with no possible idea of the consequences; but their attitude is preferable to that of the man who, after partial view, would irrevocably reject municipal ownership, and thereby abandon the one strategic position from which the city may successfully cope with the public service corporations as they are entrenched to-day.

2. CRIMINAL COURTS IN GENERAL.

SOME OBSERVATIONS BY A CITY MAGISTRATE.

BY HON. ALFRED E. OMMEN, OF NEW YORK CITY

[Read Thursday evening, May 11.]

The City Magistrate Court has jurisdiction to inquire into all crimes committed within the county of New York. This includes felonies, misdemeanors, and minor offences or violations of city ordinances. It has also jurisdiction in extradition proceedings. Its power is purely statutory. In felonies, if the magistrate is satisfied from the evidence presented to him that a crime has been committed, and there is probable cause to believe the defendant has committed it, he thereupon holds the defendant for the action of the grand jury, where, if an indictment is found, he must be tried by a petit jury. In misdemeanors the defendant, if he is held by the magistrate, is tried before the Court of Special Sessions, upon an information presented by the district attorney. There is no jury trial. In minor offences, such as intoxication, violations of many city ordinances, abandonment of wife or children by the husband or father, vagrancy, disorderly conduct tending to a breach of the peace, the magistrate has original jurisdiction, and hears and determines from the evidence whether the defendant is guilty or not guilty of the crime charged, and, if guilty, passes sentence. If a magistrate, upon inquiry into a felony or misdemeanor, should discharge the defendant, it does not act as a bar against another prosecution. The matter may be brought before another magistrate, and the defendant again arrested, or the district attorney may lay the matter before the grand jury, and, if that body deems the evidence sufficient, it can find an indictment. The grand jury can find an indictment without the case having ever been presented to a magistrate. There are many cases where a magistrate holds the defendant for the grand jury, but where the grand jury refuses to indict.

Take, for example, this actual case: A policeman in plain clothes, who was unknown to the habitués of the neighborhood, was solicited on the street by a colored woman for the purpose of prostitution. It was after midnight. They stopped and entered into a conversation, the officer leaning against the railing. The colored woman put her arms about the officer and began to hug him, and with her right hand took his pocket-book out of his left hip-pocket, and he then arrested her for larceny from the person. I knew him to be a reliable officer from previous cases before me, while the woman was a well-known prostitute, had been arrested and convicted many times as such. She had also been frequently arrested on charges of a similar nature. It appeared to me that a crime had been committed, and there was probable cause to believe the defendant guilty thereof. The grand jury refused to indict, because they would not accept the uncorroborated testimony of the officer.

Because of the peculiar nature of the crime, it is difficult to procure corroboration. Generally, in these cases, the victim says nothing, and enters it in his book of experiences as very well paid for. Sometimes he goes to the police station, makes a complaint, the woman is arrested, and sometimes she gives up the stolen property; but in most cases she does not. The man, in addition to the loss of his property, suffers unpleasant notoriety, and there is no punishment for the thief. It may be that the average grand jurymen, in refusing to find indictments in these cases, proceeds on the theory that it serves the victim right, and that he should know better; but the jurymen should remember that he is there to determine violations of the penal code, and not to pass upon principles of ethics. The social evil is perhaps necessary, else many women would not be safe on the streets; but it does appear to me that, because the social evil is necessary, men, under the circumstances, should not be freely robbed, and there be no redress under the laws.

There being no convictions and very few indictments in these cases, it has always proved a great source of "graft" for the police department. I simply mention this as an incident of crime in New York that goes on day after day without punishment. It is multiplying constantly. I think it is

a fair statement that the average prostitute who plies her trade on the street of a city will rob and steal if she has any opportunity. The temper of the people of most of the cities, regarding the social evil, is against segregation; but some day there will be a tremendous upheaval on this question, and perhaps then thoughtful men and women will devise some plan that will change the awfulness of the present situation. Our hearts go out in sympathy for these unfortunate women, and yet there is no reason why they should be allowed to fill tenement houses, crowd our streets, be constant examples for poor working-girls who are enticed by fine raiment, hours of leisure, etc., and to rob and steal freely without punishment, and be to unscrupulous policemen constant opportunities for plunder. It is a serious question, and requires a drastic remedy.

There are also cases that the magistrate discharges, where the grand jury, upon the request of the district attorney and the presentation of the evidence, finds an indictment. A recent statute in New York also provides that, if the magistrate discharges in a misdemeanor, the district attorney can file an information, and the defendant be brought before the Court of Special Sessions, and that court can proceed to try the case *de novo*. A magistrate has original jurisdiction in the matter of disorderly persons, some of whom are thus defined:—

The following are disorderly persons:—

Subd. 1. Persons who actually abandon their wives or children, without adequate support, or leave them in danger of becoming a burden upon the public, or who neglect to provide for them according to their means;

Subd. 2. Persons who threaten to run away, and leave their wives or children a burden upon the public.

There are at present in New York County seven City Magistrates' Courts. The average number of persons arraigned in each court is, approximately, from eighty to one hundred and twenty a day. There is not sufficient time, under the present conditions, for a magistrate to do full and substantial justice to all the parties concerned, where a complaint has been made under this section of the Code of Criminal Procedure. In my opinion (and I speak from experience), jurisdiction should be taken away from the magistrates' courts in these cases.

I have known cases of this kind to take an entire day for trial. The trial is not very different from that in the Supreme Court on the question of separation or divorce. The higher courts have decided that evidence of adultery on the part of the wife is entirely competent as a defence where the husband abandons the woman. You can imagine the amount of testimony that might be produced where that issue is raised. Often, while the magistrate is engaged in a trial of this kind, the courtroom is crowded with people. Prisoners, policemen, and witnesses are sometimes kept waiting for hours until such a case is disposed of. The magistrate must either sit far into the night, or hasten the trial by hurrying the attorneys and witnesses, or adjourn the case to some other day. The remedy I suggest is the establishment of abandonment courts. Complete records can then be kept, a probation officer attached to each court will become familiar with the cases, the matter will be handled systematically, and persons will have a better opportunity to be heard.

Sometimes complainants come into magistrates' courts many times. There is often a different magistrate, and one who is not familiar with the prior proceedings of the case. The matter is referred to a probation officer, who knows nothing about previous dispositions. There are often very nice points of law involved, and a judge who was engaged solely in trying these cases would make it his business to familiarize himself with all the details of the decisions, the wife would have a better opportunity to present her case, and the husband would be able to make a proper defence. In the hurry and bustle of the magistrates' courts, often, instead of proceeding in a proper way by taking the evidence with a stenographer, and making a final order fixing a bond, drawing full papers, the magistrate simply has a conversation with the parties, asks the woman how much she wants, asks the man how much he wants to give. The magistrate then says to the man, "You must pay her so many dollars a week"; and he promises to do so, and the parties are turned over to the probation officer. They go out of court, the man never pays, and in a month the wife returns, says nothing about the previous proceeding, obtains another warrant, and the same thing is gone over again before another magistrate. It is not because

the magistrates do not want to do full justice, but because the business is sometimes of such volume that it is absolutely impossible to give the closest and strictest attention to these cases. The matter is very important, since a great deal of the work of the charity organizations is concerned with abandoned wives and children.

Another class of cases that magistrates have to deal with, in which the conditions should be changed, is in the matter of disorderly conduct, tending to a breach of the peace. A man becomes intoxicated: he curses and swears in the public street, he fights with the policeman, and sometimes causes more trouble than if there was a fire in the neighborhood. Or he comes home drunk, immediately starts in to curse and swear at his wife and children, drives them out of the house, arouses all the occupants of the tenement in which he lives, and finally, after a great struggle, is arrested. It sometimes takes two or three policemen and the patrol wagon to get this man to the station house. The wife appears against him the next morning, and she brings the children. They look clean and neat and well taken care of. The wife tells her story of bruises and blows, profanity and wretched existence, sometimes covering many years. She tells you that she cannot stand it any longer, that the man does not work and that she by her daily labor has supported him and the children. Now that man ought to go to the workhouse from one to six months beyond any question, yet there is but one of three penalties open to the magistrate. He can fine the defendant ten dollars, he can send him to the workhouse for five days, or can put him under bonds to keep the peace for a period not exceeding six months. To fine him ten dollars or send him to the workhouse for five days is absurd. The magistrate generally puts him under bonds to keep the peace for six months. The chances are very favorable that the defendant is useful on election day. So within a few minutes there comes a man to bail him out, and he goes back that night, and does the same thing. Even though he does break the peace within six months, there does not seem to be any proper provisions of law to procure forfeiture of the bond. The whole thing is a farce.

It is one of the constant criticisms made against the magis-

trates' courts that people do not understand them, and claim that there is no justice. Of course, you cannot blame people who criticise under the foregoing circumstances. They leave court, having heard the judge say "six months," and all the way home they breathe freely and are happy because they think their thralldom is over for a while; and then they may find the man sitting on the stoop when they get back. The magistrate must accept bail, if it be proper bail, and the man must go free, even though it sounds tremendous to put him under bonds for six months.

Of course there are many times when the defendant cannot get bail, and must then serve the time in prison. I became so disgusted with this kind of proceeding that in cases where it appeared that bail would be immediately forthcoming I committed the man to the workhouse for five days, without bail. This, you can readily see, is an entirely inadequate sentence. The law ought to be amended so as to give the magistrate power to commit absolutely for any time up to six months. The case is not of sufficient gravity to be sent to the Special Sessions as a misdemeanor. The man is simply a nuisance who makes trouble for the whole neighborhood, and really all he does is to disturb the peace. If the magistrate had power to commit absolutely up to six months, and subsequently should find it was a case deserving of clemency, he could put the prisoner on probation, and, if he then behaves himself, the object will be gained, because he will contribute to the support of his wife and children. If he does not behave himself, the parole could be revoked and he sent back to jail to serve out his time. Under the present conditions of giving bonds to keep the peace, giving of the bond ends it. The probation system does not enter into such cases.

I wish now to speak generally of the conditions surrounding persons charged with crime in New York. If I were Commissioner of the Health Department, I would immediately order the closing of most of the station houses and some of the magistrates' courts. They are absolutely unsanitary, filthy, and in an awful condition,—a disgrace to the community. Say a person is arrested either for some trifling indiscretion or perhaps for no crime at all (for there are many such), or perhaps for a serious offence. He is taken to the station house;

—for example, the Nineteenth Precinct in West 30th Street, an old ramshackle building. In the large room, where the sergeant sits, the floor is filthy, the walls and ceilings are black with dirt from a former generation. There is a big stove, like that in a country store, around which sit policemen, professional bondsmen, messenger boys, every one except the prisoner and the officer making the arrest, smoking or chewing tobacco, and occasionally spitting on the stove. The air is strong and thick. The prisoner's pedigree is taken. He is then searched, and given a receipt for whatever property is taken from him. He is put in a cell, and, if your imagination is not similar to that of Edgar Allan Poe, you can hardly imagine such a place as it is. In this station house there are two tiers of cells, the lower one for men, the upper for women. The lower has no ventilation, and the upper gets its ventilation from the lower one. The lower is about ten feet below the level of the sidewalk. There is no heat in winter, except from one gas jet. The smell of the place, if the prisoner is sober, ought to make him sea-sick in twenty minutes. If he is drunk, he is better off. There is an old-fashioned toilet in every cell, no seat, no cover, with running water from a faucet three feet above the toilet. Most of the cells are as dark as pitch, so that you could not see your hand before your face.

Here the prisoner is put. Perhaps there are a great many arrests, for it is a busy precinct; and yet the cells do not number more than a dozen. Before long an old, besotted, vermin-covered man is put in the cell with the first man, perhaps two or three. The other day a man put in a cell with another proceeded to beat him until he was unconscious, and had to be taken to a hospital where he may die. The size of such cells is about five by eight feet. Imagine the horror of all this to a man of any decency or refinement who has never been arrested before. Pray believe me, when I tell you this is no exaggeration, but absolute truth.

Is it any wonder that here is fertile ground for the professional bail-giver to do a thriving business? If the prisoner stays in all night, the next morning he is taken to court and put in what is called the pen. There is one pen for male prisoners, and one for females. The pen for males is generally about twenty feet wide by twenty deep; for women prisoners,

about ten feet wide by ten deep. The seating capacity in the men's pen is sufficient for about ten, and about the same in the women's. There is room for about twenty-five men, under not very pleasant conditions, in the men's pen, and for twelve to fifteen in the women's pen. Frequently as many as seventy-five men are jammed into these pens, and thirty to forty women, packed in like sardines, stand up there for hours,—some old habitués covered with vermin, others with sores, others with bleeding heads. Some have been to the hospital or treated by the ambulance doctors; are bandaged with gauze, and have a strong smell of iodoform; others are just dirty and filthy; some swearing and cursing, some singing nasty songs, some crying and bewailing their fate,—the whole thing a veritable hell. Half these persons are immediately discharged when arraigned, but the effect of that night in the station house or that morning in the pen will last with many all their lives. Perhaps some get diseases, perhaps a blow to their moral nature, at any rate a feeling of horror for all time.

It seems to me that the great city of New York ought to provide sufficient room for people so unfortunate as to be arrested. There would be no difficulty in separating the clean from the unclean, in putting those who are beastly intoxicated and dirty in one part of the building, and those who are clean and never arrested before, who realize their situation, in another part of the building. It should not be necessary in station houses to put in cells all who are arrested. They could be in a large room, and, if any one of those present disturbs another, put him in a cell where he will not disturb anybody. There is no need to thrust three or four men into a five by eight cell, with a broken closet, some of the men drunk, to sit there for hours and hours in the dark.

In the Essex Market Court the pens are directly underneath the court-room, in (practically) an old damp cellar. A stove heats the place, a stairway leads directly into the court-room from the pen, which, together with the crowd in the court-room, furnishes an air better imagined than described. The place must be ventilated in the winter time, and that is no easy task. The magistrate debates with himself whether he will freeze or choke, and finally decides to alternate with a

little of each. Is there any wonder that policemen fall over, and are taken home to die of pneumonia in a few days? that clerks faint at their desk, and physicians have to be brought in to give stimulants, so the clerk can be sent home? that magistrates get typhoid fever, and are in bed for months? These are actual happenings. The authorities have provided, for \$300,000, a stable in the Street Cleaning Department for the proper keeping of horses, horses cost money, and so must be well taken care of; but human life is cheap.

While there is a rule in the Police Department allowing prisoners to get a meal to the amount of twenty-five cents at the expense of the city, if the prisoner has no money of his own, I find that in some of the station houses no such thing is done. In others this is looked after, and prisoners are well taken care of.

Saturdays and Sundays in the magistrates' courts are short days, when morning sessions only are held, and sometimes the court is closed by twelve o'clock. If a man is arrested after that time, he remains in the station house until eight the next morning, and stays in the court-house pen until his case is called, sometimes until twelve o'clock,—twenty-four hours during which he has received no food or sustenance. I went to one station house, and there found that only four meals had been brought to prisoners in seven years; to another where only remanded prisoners were fed; at a third, care was taken, and a number of prisoners had been fed, but the system is not uniform.

Should the prisoner be charged with a serious offence, and, in the opinion of the police, be a dangerous criminal (whether this opinion is well founded or not), he is, in most cases, taken from the station house to police headquarters, and there measured and photographed, and thence brought to the magistrates' court. His measurements and photographs are put in the Rogues' Gallery; but often men who have suffered in this manner are discharged when they come up for trial, their pictures remaining in the gallery. It seems to me (while it is a proper regulation of police power for the authorities to be constantly familiar with the criminal class) that the Rogues' Gallery ought to consist simply of persons who have been convicted of crime. Where the photograph is taken of a prisoner

who is subsequently discharged upon trial, the photograph and the records ought to be destroyed; because, if the man is innocent, there is no reason why his picture and measurements and pedigree and the crime with which he was charged should be open to the public gaze. The Rogues' Gallery is a public record. The man has committed no crime, for a jury of his peers have said so. In my opinion, it ought to be made a misdemeanor for the Police Department to photograph or measure a man merely *charged* with a crime. That ought to be done only after he is convicted, and should form part of the records in the Police Department of convicted criminals.

There are very few station houses in the city of New York that are sanitary. I have seen none that are comfortable. We hear constant criticism of the Police Department, but I assure you the average policeman in New York does not have a pleasant time of it. If you should go to some of the station houses, you would find large rooms where a great number of men sleep, some of the rooms never ventilated, most of them never heated, with no system of heating in the entire building except one large stove in the main room. Imagine an officer in the middle of winter, who has patrolled his beat for eight hours (and under the present system he must faithfully do it, for the telephone system by which he communicates with the station house every hour, and with the roundsman constantly watching to see that he is attending to duty, does not leave him much opportunity to shirk). This man comes to the station house. The temperature is zero in the room in which he goes to bed, with no warmth, no comfort, no conveniences. He has to buy the bed, he pays for washing his bed clothes and for the making of the bed. If any serious situation arises while he is asleep, he is immediately routed out to face, perhaps, some serious danger. Sometimes he has no chance to go to bed at all for sixteen or twenty-four hours. The place is not kept clean. The windows are generally covered with dirt, the floor is not swept. It is very hard to expect absolutely good police duty under these circumstances. He has no comfort when he is in the station house, and on duty he is hounded and bothered by very unpleasant conditions.

I do not believe it possible to get proper police duty by expecting a man to patrol a beat conscientiously and thor-

oughly for eight continuous hours with no time to get a bite to eat. If he should go into a restaurant for a cup of coffee during his tour, it is a reason for complaint against him. In the weather conditions that sometimes prevail, it is beyond endurance for a man to work for eight hours, constantly patrolling, with nothing to eat. I am safe in saying that, if it was not for the police pension fund, the best element of the police force would resign. This fund not only induces many to do their duty so as to avoid charges and dismissal, but it keeps many good officers in the department.

The probation system gives a salutary line of work in the magistrates' courts, for each magistrate has assigned to him a probation officer, who is usually a member of the Police Department. Then in the police courts there are women probation officers who now receive compensation from the city for their services. For years many of these women have worked without pay, and have done remarkable good. The probation system, to my mind, is the best thing in connection with our courts. The officers are faithful men who seek to help the unfortunates that come under their observation. They frequently go into the prisons, have talks with the men, and obtain information about them that the magistrate is unable to have time for while hearing the case, and which the prisoner very often, out of shame and fear, does not wish to tell in open court. Such information often changes the entire aspect of the case.

The probation women, with gentle voice and kindness of heart and the best of spirit, seek to alleviate the conditions and sufferings of those with whom they deal. There is no gush or cant about it. They are whole-souled, pure, and reasonably sympathetic. If a man or woman has been found guilty of some crime, and it appears to the magistrate that they should be given an opportunity to reform, the prisoner is given in charge to the probation officer. Sometimes several such opportunities are given; but, if a person after a fair chance does not change his ways, then he is committed to prison.

Take the case of a wayward boy. His mother has done all she could to bring him up properly. Her husband is dead. She works in the day-time to support him. He gets into bad company, smokes cigarettes, reads dime novels, spends a good

many nights in variety theatres, stands on the street corners, and becomes thoroughly "tough." His mother is in despair. She does not want to have him committed, but she feels that she must do something, and finally comes to a magistrate for advice. He sends his probation officer, has the boy brought before him, and talks to him, and finally puts him in the custody of that officer for six months or longer, warning the boy that, if he does not mend his ways, he will go to prison. The probation officer makes it his duty, week in and week out, at all hours of the day and night, to keep surveillance over that boy, and I have known a great many instances where boys who were starting wrong have been saved. The prayers of their mothers are nightly going to the skies for the saving work done by these officers in the courts, who changed the lives of such boys.

Or a girl has got in with bad associations, perhaps has been seduced. She is arrested, and brought into the court. The magistrate learns her story, talks with her, tries to show her that the life she is leading comes to no other result except the gutter, and then he puts her in the custody of one of these women who devote their lives to this work. She tries to get the girl employment, visits her, encourages her, and sometimes gets her to become a decent and respectable woman in the community. These are but a few simple instances, but there are many others that might be recited.

A conscientious magistrate in any city who faithfully performs his duty earns his salary. The work is hard and trying, and there are many difficulties. The court is open every day in the year. In New York 500,000 persons each year go in and out of these courts. Last year 124,000 persons were arrested. In one court there were 24,000 prisoners, almost 500 a week. Each one of these cases has to be heard. In each one the magistrate must sign his name from three to six times. The average magistrate, besides other duties, signs his name over 600 times a day. He must be quick in his judgment of a case: there is not sufficient time for the full detail of a trial. He must be a shrewd judge of human nature, and familiar with all the conditions of life in the city, the bad as well as the good. The work is enormous, and yet he must be very careful, for every act of his decides whether a person

shall be free or in prison. He is freely the subject of political influence. Men who would hesitate to go to judges of the higher courts think it a matter of course to "see the magistrate." They do not stop at speaking a kind word for a person charged with intoxication or with disorderly conduct, but they expect a magistrate to discharge burglars, thieves, and forgers against whom the evidence is complete. It is remarkable, the number of good people interested in keepers of disorderly houses. I have been often shocked at having men of position ask me to release women convicted of prostitution in tenement houses whom I had committed to prison.

For a magistrate to perform his duty conscientiously, and do justice without fear or favor, keep inviolate his personal and political friendships, is almost an impossible task. His heart must be in the work. He must extend a helping hand wherever he can. He is a court of equity, and disposes of many things without jurisdiction, but as a sort of arbitrator. To my mind, it is a most responsible position. It is the people's court. Thousands judge the character of the government from the treatment they receive in these courts: the magistrate is to them the test of justice in America. Oh, may we never get back to the old conditions, when these courts were used to oppress, when the only law was the man "with a pull," and whatever he ordered the judge decided!

Some of the attorneys who practise in these courts are good fellows, others not so good. If the magistrate is alert, he soon learns whom to trust and whom to distrust. The unfortunate who tumbles into crime deserves consideration. The man who deliberately sets up a business against the law—a policy shop, a gambling house, or a house of assignation—deserves no consideration. The war between the police and the law-breaker goes on constantly, and it is a bitter fight. Every means possible is used to thwart the police. Pool-rooms formerly had steel bars and many strong doors, so that between the time the police tried to enter and the time they finally did enter the place might change from a pool-room to a prayer-meeting. Now it is easier; the pool-room keeper may get an injunction from the Supreme Court restraining the police from interfering with his business, and keepers of houses of assignation also get injunctions. Of course, the

judges who grant them do not live in the neighborhood. I hardly think the police are interfering with people who live decent lives and obey the law.

Have I told you many things you never knew of? They are all true. If you have any doubt about the conditions of the station houses or the magistrates' courts in New York, get arrested some time, and see what will happen to you there.

[No discussion following these papers was reported. Several of the papers announced for this department failed to be sent in.]

II. DEPARTMENT OF HEALTH.

I. THE INFLUENCE OF DAMPNES OF SOIL AND CLIMATE ON THE DISEASES OF RESPIRATION.

BY HENRY J. BARNES, M.D., OF TUFTS COLLEGE.

Forty-three years ago the late Dr. Henry I. Bowditch, of this city, in an address before the Massachusetts Medical Society, after a very laborious inquiry throughout the State, concluded "a residence on or near a damp soil, whether that dampness be inherent in the soil itself or caused by the percolation from adjacent ponds, rivers, meadows, marshes, or springy soil, is one of the primal causes of consumption in Massachusetts, probably in New England, and possibly in other portions of the globe." To this address and the report of Dr. Buchanan, of England, in 1867, on the "Distribution of Phthisis as affected by Dampness of Soil," reference is often made by writers of text-books now in use as authority for the opinion that dampness is not only a cause of this disease, but others of respiration. Since the recognition of the bacillus of tuberculosis by Koch in 1882, dampness can only be considered a predisposing or contributing cause by authors quoting from the works of Drs. Bowditch and Buchanan. Little, if any, effort is made to show why this condition of soil should cause disease, although Dr. Billings writes, "It would be easy to construct a plausible theory in connection with the supposed cause of phthisis by a bacillus."

If the bacillus of tuberculosis or any of the known pathogenic organisms causing disease of the respiratory tract can preserve their virility in a damp soil, of which there is much doubt, chiefly because of the bactericidal influence of sunlight, the condition of dampness must be unfavorable for their transportation to the respiratory tract. Their presence in indoor air has been abundantly demonstrated. They may be wafted on particles of dust; but how they would be

detached from damp surfaces is difficult to understand, unless released and transported by an intermediary host, of which we have no evidence. So long, then, as they remain in or on a damp soil, they can have no influence on the organs of respiration.

If damp soil, then, is a factor in promoting diseases of respiration, it must be through the changes it produces in the air in the vicinity of such a soil. In warm or hot weather it may produce a fog, raising the relative humidity several per cent., either by evaporation, a lower temperature, or both. The presence of fogs over low, wet lands, and their absence from adjacent elevated lands, is very frequently observed, and employed by many persons as the only means of measuring the dampness or dryness of the air. Very erroneous conclusions result from this method of measuring moisture; for, with a high relative humidity over the high lands, a fraction of one degree lower temperature over the low lands is sufficient to cause a fog. For example, air at 70 degrees temperature, 98 relative humidity without fog, will be 100 R. H., or saturated, if the temperature is lowered half of one degree, and a fog may result. As the difference is usually much more than this, the appearance of fogs will be of corresponding frequency over low lands, without a material increase of relative humidity. Fogs are probably more frequent in Boston than at Sharon or Rutland, yet the mean relative humidity of the three places is not materially different, the mean annual of each being between 70 and 74 per cent.

In winter, when the temperature is at or below freezing, from the frozen ground or the snow and ice there is so slight an evaporation as to cause no appreciable increase in the relative humidity; and fogs are usually occasioned by warm currents of air passing over cold areas of surface and producing the same results over high and low lands,—namely, a saturated atmosphere. The presence of fogs, then, while they are indicative of dampness, their absence is of little or no value in estimating the dryness of the air. Only by measuring the relative humidity can we ascertain the actual condition.

The rainfall is often mentioned as indicative of a damp climate. This is a worthless guide in the temperate zone,

where rainfall occurs at no particular periods of time. The relative humidity may be comparatively low for a period of excessive rainfall or high for a period of little rain, as exhibited in the Sharon report for April, 1904, when the precipitation amounted to 8.62 inches and the mean relative humidity for the month was 68; while that for September, 1903, was 1.27 inches of rain, with a monthly mean humidity of 78, thus showing a month with nearly seven times the rainfall of another, having a relative humidity of ten per cent. less. While it appears, that, in the restrictive meaning, local conditions influence but slightly the relative amount of moisture in the air, and only in warm weather; mountain ranges, ocean, ocean currents, and desert regions do occasion great variations.

The eastern coast of Great Britain has an annual mean relative humidity of 85 per cent., caused by the Gulf Stream and elevated lands, and is considered a damp climate. In New Brunswick, at the mouth of the St. Lawrence, 85 is the mean. Areas east of the coast range on the Pacific are examples of very low percentages of moisture, of which Fort Yuma, Ariz., is one, with an annual mean of 35 per cent.

Denver, Col., having a mean of 50 per cent., has what is considered a dry climate; and, except for peculiar topographic locations, other parts of the United States have what is called a medium climate as regards moisture. Boston, Albany, Buffalo, Chicago, St. Paul, Washington, and New Orleans have an annual mean between 70 and 75 per cent.

For purposes of classification we may say that all climates above 80 per cent relative humidity are damp; about 70, medium; about 50, dry; below 45, arid. What effect, if any, this great variation has on death-rates from tuberculosis and other diseases of respiration is impossible to ascertain, because density of population, occupation, social conditions, etc., are all admitted to be very influential factors, of which we have insufficient record. We do know, however, that no condition of climate prevents them.

To a damp and cold climate is often attributed the prevalence of diseases of respiration in the winter, and many mortuary tables are cited showing the death-rate from these diseases is enormously increased during the winter months. This

falls far short of proving weather, or dampness, is the cause. In the winter of 1903 and 1904 New York City exhibited an unusually high death-rate from pneumonia, Boston a comparatively low rate. The meteorological conditions were practically alike, as reported by the weather bureau. We have enough cases of this disease in hot climates and in hot weather to prove a low temperature and a high relative humidity are unnecessary to cause this disease. Its prevalence in winter is better accounted for by the more intimate relations for the purposes of shelter, for this is often an infectious disease.

During the Civil War, in 1864, six thousand colored troops were quartered in barracks at Fort Benton, Mo. From January to May seven hundred cases of pneumonia occurred among these troops, and the epidemic was stopped only by breaking up the barracks. The surgeons in charge reported, "Men occupying the same bunks with those affected were very much more liable to be attacked than those more remote." In 1874 seventy-five cases occurred among seven hundred and thirty-five inmates of a prison at Frankfort, Ky. Netter reports thirty cases among persons sleeping in the same bed with the sick. Much more evidence could be produced showing this to be a transmissible disease, and it should therefore be reported to the health authorities as such. Dr. Loomis writes Pepper (vol. ii. p. 315): "The more dense the population, the greater the pneumonia rate, which rainy seasons or moist districts do not influence. Wind, weather, seasons, or race, have but a slight influence. Resistance of the individual is the most important factor."

Regarding epidemic influenza, this prevails irrespective of soil, season, or climate. Finkler says, "We cannot at the present time predict the appearance of this disease from any existing atmospheric conditions." Pepper, "There is no known condition of climate, soil, elevation, or season which affects it." Osler, "Outbreaks of this disease are independent of all seasonable or meteorologic conditions." C. J. Wilson: "The condition of the air as regards moisture or dryness does not influence the spread of this disease. It has occurred at sea, on the low seacoast, and in the driest climates,—for example, Upper Egypt,—and has no known connection with any known atmospheric condition."

TUBERCULOSIS.

That this is an infectious disease need only to be stated. If the tubercle bacilli are cast upon the water or damp soils, they are likely to remain there, often exposed to the germicidal influence of the sun's rays. We have, therefore, to consider what effect, if any, the dampness has on the resisting powers of the individual. The fact that the disease occurs among people living under all conditions of dampness or dryness of soil is evidence that neither of these conditions prevents the disease. The dryness of the soil and air of Denver, Col., has long been rightfully esteemed favorable for recovery from tuberculosis; yet from 1893 to 1899 there was an increase from 11.25 per cent. to 19.7 per cent. of deaths of natives to foreign population; and, while we must admit the force of Dr. Bonney's statement, that "these figures are vitiated by an uncertain number of foreigners leaving just before death, who die at home," the fact remains that the disease can be contracted in Denver.

"COLDS."

That colds can run through schools and families has been a common experience for generations. The infectious nature of this disease is suggested where Boswell relates a conversation with Dr. Johnson, after his return from St. Kilder, more than a hundred years ago. "The inhabitants all complain," says Johnson, "that, after the arrival of a ship at their port, all set to coughing and sneezing."

In New Brunswick, five years ago, during the month of August, in a hotel population of about three hundred I saw sixty-one cases of this disease. An individual case came to the cottage of his mother. In three days his sister and mother were attacked. They visited a family in the hotel in which three cases occurred. I was able to trace the disease to a third family with whom the second family was intimate. About the middle of the month, on the second and third days, after a drive whist party, there were fifteen new cases. Beyond this I could not trace the infection. The disease was mild, permitting most of the patients to be up and about with what

they called a "head cold." There were, however, a number of well-developed cases of bronchitis.

Dampness of soil or air could not have been a factor in causing this epidemic. The month was unusually dry, as indicated by the absence of dew and the yellow grass fields, and without great variation of temperature.

Thus far I have only attempted to show the natural conditions of soil or climate are not necessarily factors in the causation of the diseases of respiration, and that there are other influences of great importance. Unfortunately, but few of our mortuary tables furnish details necessary to prove a higher or lower rate resulting from conditions of soil or air as regards moisture or temperature. We have, however, a number of well-known facts relative to the subject.

Dr. William Ogle has shown that fishermen, who are from the nature of their occupation exposed to the greatest amount of moisture in the air and surroundings, have the lowest death-rate from respiratory diseases, and occupations necessitating an indoor life the highest, where presumably they are more protected from dampness and the vicissitudes of the weather. The late Dr. Abbott, of our State Board of Health, conclusively demonstrated tuberculosis to be essentially an indoor disease; and the outdoor treatment in our so-called "damp and cold" climate in winter, at Sharon and Rutland, presents results indicating a fair proportion of recoveries. The expression "damp and cold," however, has little, if any, significance when used without the thermometer and psychrometer; for in all temperatures below freezing the air has the feeling of dryness, even though the measurement may indicate saturation or 100 per cent. moisture.

Has the arid climate of desert regions, with a mean relative humidity below 45 per cent., any influence on the diseases of respiration? They are not sufficiently inhabited or recorded for us to be able to answer. But this we do know, that under the influence of the arid atmosphere of our houses in winter we have the most sickness and mortality from lung diseases. I have observed in winter the relative humidity in a hospital ward in Boston to go as low as 15 per cent., which is 5 per cent. less than the lowest requirement for kiln-drying lumber. Dr. Cowles's, Mr. De C. Ward's, and my own obser-

vations cover a period of time sufficient for the statement that we live in a mean relative humidity of about 30 per cent., when artificial heat is employed. Fort Yuma, Ariz., has an annual mean of 35, and the inhabited parts of Sahara 40 to 50 per cent.

We also know drying does not impair the vitality of the tubercle bacillus, but does render it more buoyant in the atmosphere. We know that all the diseases of respiration chiefly prevail in cold weather, attacking those of indoor life and occupation, where the air is excessively dry, and are not nearly so numerous in the summer, when the air of our houses is relatively much damper than outside air. I have observed for the entire month of August 100 relative humidity in my office; and damp walls and the swelling of furnishings are well-nigh universal in our houses during warm weather, as a result of a lower temperature and higher relative humidity than that outside. On the other hand, when we have the greatest number of cases, the artificial heat employed lowers the relative humidity to such an extent no arid inhabited region in the world furnishes a parallel. Our furnishings shrink after being kiln-dried, and windows and doors do not fill the spaces to which they are fitted. Yet none of the pathogenic organisms causing diseases of respiration appear to be injuriously affected, but rather appear to be more virulent. Possibly this may be due to their greater buoyancy when dried. Can this arid air contribute towards making humanity less resistant to these diseases? When we remember the anatomical structure and the physiological action of the ciliary lining of the respiratory tract, over which a thin watery fluid is constantly flowing upwards and outwards in health, it would seem the respiration of air, so deficient in moisture, would, by evaporation, thicken, if not exhaust, this fluid, and thus impair the motions of the cilia and the flow of fluid, which evidently is designed to expel foreign matter, including pathogenic bacteria. The frequency with which these organisms are found in the upper air passages, without causing sickness, suggests the probability of unfavorable soil, and inability to reach the deeper air passages under the circumstances. Colds may be contracted in warm weather, but they usually end quickly, and only involve the upper air passages. In

winter the disease, beginning with exactly the same symptoms, more often extends gradually down the trachea, and finally to the bronchi of the lungs; and we call it bronchitis.

The conclusions to be drawn from the evidence presented is that all the diseases of respiration are common enough, regardless of dry or damp soils, in hot or cold, moist or dry, climates, to at least raise a doubt if these conditions have any influence whatsoever as a cause of the diseases of respiration; but that an excessively dry air, which nature nowhere provides, but which we create in winter by raising the temperature of air, holding at most a very small volume of watery vapor, and thus lowering the relative humidity to an extent sufficient to impair the resisting powers of the mucous membrane lining the respiratory tract, may be a factor in the increased prevalence of respiratory diseases in cold weather.

2. INDIVIDUAL FACTORS IN HYGIENE.

BY R. C. CABOT, M.D., 190 MARLBORO STREET, BOSTON, AND
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[Read Friday morning, May 12.]

In the prevention and the cure of the vast majority of diseases known to us to-day, our main stay is general hygiene, which may be defined as whatever brings us into the best condition to resist disease.

But what will accomplish this end? What is positively known to-day about personal hygiene? We know a good deal more than we did about public hygiene, about water supplies, food adulteration, and the like; but, in regard to personal hygiene, diet, exercise, rest, bathing, we are now in one of those periods which occur not infrequently in any growing science,—a period when we know considerably less than we used to, or, rather, than we used to think we knew. Our venerated hygienic dogmas are being analyzed back into their constituent prejudices and superstitions, and no new ones have yet gained currency or confidence.

Is hygiene a set of rules valid for all, a set of averages obtained by the erasures of individual differences? We think it can be shown that the only rules valid for all are so vague as to be almost useless. We can say that a man must eat something and sleep sometimes; but, if we try to advance beyond these ludicrously vague generalities, we find ourselves at once on very uncertain ground.

If, on the other hand, we try to state the matter in terms of *averages*, and to describe the actual habits of men by statistical methods, we are not likely to get any useful guidance for any particular individual. It is like averaging on a map the routes of all the transcontinental roads. The resulting line would run across the country and at about its middle, but would not afford you or me any assistance in finding the best route for our own travels, whatever they may be.

I.

Suppose you went to a general information office, such as Raymond's or Cook's, and asked, "What's the best railroad to travel on?" the clerk would very naturally reply, "That depends on where you want to go." The *individual desire* is the first and decisive factor, and to attempt to ignore it is folly. But the attempt to answer the question, "What railroad should I travel on?" without knowing where the questioner wants to get to, is no more absurd than the attempt to tell a man the best rules of hygiene without first knowing what kind of life he wants to lead. "Good-morning, colonel," said a stranger on a visit South: "how do you feel this morning?" "How do I feel, sir?" said the colonel. "I feel like the devil, sir, as every gentleman should, sir, in the morning."

Note the individual factor in the colonel's hygiene, the individual modification imposed on his rules of living by his general ideal of the position of a gentleman. This is the first of the individual factors in hygiene to which we wish to direct attention,—the factor introduced by the man's aim in life, the destination at which he wishes to arrive. Knowing that a man wants to go to San Francisco as cheaply as he can, you may be in a position to offer him some advice as to the best means of fulfilling his desire: otherwise it would be absurd to try to advise him. "If you want to get the most work out of yourself, and keep yourself always at your best, I should advise you not to drink and smoke." "Oh, but I don't care at all to get the most work I can out of myself," your patient may (and not infrequently does) reply. "I want to have more variety, more fun, in my life than a mere working machine."

Hygiene is a branch of ethics, and, like ethics, finds the ultimate warrant for its "*Thou shalt*" and "*Thou shalt not*" in the ideals of the individual.

II.

A second set of individual factors becomes obvious as soon as we begin seriously to consider the differences of race, climate, occupation, age, and sex. This is more familiar ground. We are pretty well accustomed in our practical dealings with

patients to modify or restate the traditional canons of hygiene in accordance with the differences just mentioned. We know in a general way that the hygiene of men differs from that of women, and we have begun to recognize a hygiene for children that takes account of other differences besides those of weight. We recognize (though our school boards do not) that young children ought to be allowed a very large amount of running about, climbing, yelling, and other exercises of large groups of muscles rather than the minutely focussed activities that "wag the tongue and wag the pen," as Stanley Hall says. Yet we recognize that the same amount of violent exercise would probably be bad for an adult, and that, at any rate, no adult except a maniac would attempt it.

Further study will, we believe, carry these distinctions much further. We shall grow to be less local, less parochial in our views of hygiene. We shall probably recognize a hygiene for Caucasians, a hygiene for Orientals, a hygiene for brain-workers, a hygiene for adolescence, and one for those who have reached Osler's age of chloroform; very possibly, also, one for San Franciscans and one for New Yorkers. All this is more or less a matter of guess-work and prophecy, but already our knowledge has gone far enough in this direction to make some of the text-books of hygiene smack ludicrously of the town that produced them. The German text-books are unmistakably German in their point of view, and yet undertake to dogmatize for us all. No doubt ours sound as strange to them.

We shall allude but for a moment to the extraordinary disregard of individual differences that is apt to afflict those physicians who are themselves strongly individual in their hygienic habits. The physician who finds that coffee disagrees with him is apt to preach a crusade against all users of coffee, and proclaim it rank poison. The doctor who happens to need no exercise is tempted to assume that all exercise is a fad, and so on.

But we pass at once to another class of differences, dependent not, like the first type, on one conscious ideal of life, nor, like the second, on environment and circumstances, but on certain characteristics which seem to be *inherited*, yet which we are often very backward in discovering. We shall try to

exemplify some of these differences in each of the following functions:—

(1) Sleep; (2) Waking up; (3) Work; (4) Rest; (5) Exercise; (6) Food; (7) Tests of Health.

(1) *Sleep*.—(a) The average Caucasian has come to take his sleep in one dose and his food in several; but the American Indian often takes his sleep in divided doses, and sometimes takes his food in one. Here is an interesting individual difference. How common each of the two methods is seems to us a question on which considerable statistical study might profitably be spent. Some persons habitually wake up in the night, get up, do a bit of work, and then go to bed again. The mid-day siesta, so commonly taken in the tropics, is another example of divided doses of sleep. (b) The total dose of sleep necessary is a matter on which there is, so far as we are aware, very little statistical data. It is a common belief that women need more sleep than men, but it is hard to find a statistical backing for that statement. (c) Then in regard to preparations necessary for good sleep. Certain persons, if they are to sleep well, must arrange that the vigor of their activities shall taper off, and not rise in a *crescendo* as the evening goes on. Others do not find this so. There are many other interesting questions about sleep to which we have no time to allude here.

(2) *Waking up*.—One of the most interesting individual differences concerns the simultaneity or lack of simultaneity with which the different organs wake up. In some persons the brain seems to wake before the stomach, in others the stomach gets ahead of the brain, while some persons wake all at once. Some have to wake their systems up by using dumb bells, some by a cold bath, some by drinking coffee, some by work. Habit, of course, plays a large part. One who is used to breakfast at eight, and is forced to breakfast at three or four, may find that his stomach is not awake, and, being unready for its work, does it so badly that indigestion results. It seems likely that the rise of the "no breakfast" idea is due to the fact that some persons' stomachs (or general metabolic processes) cannot be awakened except by work. It is probably a matter of individuality, but we need a great deal more statistical evidence on this point.

People differ enormously in regard to what time of day they become so thoroughly wide awake that they can do their hardest work. Whether a brain-worker should do his hardest in the morning or later in the day is a matter which we hope to investigate statistically and in comparison with tasks of other kinds. It is said that marksmen shoot more accurately after luncheon than before.

(3) *Work*.—We think it is not sufficiently realized that work is a great, if not the greatest, factor in keeping us well. Physicians sometimes tell a man to give up work without realizing that they are compelling almost as serious a change as if they told him to give up eating. To take away a man's work is almost as serious a thing as to take away his food. We may feed a man by some other channel. So may we send him on a vacation, and try in this way to take the place of the nutrition that comes to him by work; but often good working of the organism is not secured in this way. It may be as hard to fit him to loafing (and as unnatural) as to rectal feeding. Again and again my own convalescent patients say, "I don't feel fit to work," and the answer is: "You will never be fit to work if you wait till you feel like it. The only thing that will make you feel better is the tonic and stimulus of getting to work." This is true not merely in neurasthenic cases. Balfour, the recent Premier of England, was miserable physically until he was induced by a wise physician to take up his present strenuous work.

(4) *Rest*.—Of the many problems about rest and recreation we shall cite but one. Persons may be divided into two classes, expressing individual differences according as they can rest by change of work, going from one work to another, or cannot. We know of nothing more important than for a man to find out early in life to which of these classes he belongs.

(5) *Exercise*.—Almost all doctors prescribe exercise. How many healthy doctors ever take any? Did it ever occur to you to ask whether there is any word in any language other than English which really corresponds to "exercise" in our sense? We can think of none in French, German, or Italian; and we are interested to know whether exercise, like athletics, is an Anglo-Saxon peculiarity. Other languages

have words that seem to translate it after a fashion, but not very precisely. If this is true, it is a very important thing to take account of.

Health and Muscle.—Some of the older men here may remember Blaikie's book, "How to get Strong," a book much in vogue fifteen years ago. It dealt with the question of exercise, and dealt with it on the assumption that to "get strong" is the same thing as to develop muscle. In fact, the book should have been entitled "How to develop Muscle." But we know that a man may develop muscle to any extent, and yet have no health. We know a man in college who developed by gymnasium work the most extraordinary set of muscles that we have ever seen, except on Sandow, yet he was never well or healthy, and never could put through any piece of prolonged hard work, mental or physical.

Now, as soon as we realize that to be strong and healthy is not the same thing as to increase the size of our muscles, the individual element in exercise becomes more and more prominent. If one could prescribe gymnasium exercise to increase muscle and thereby health, the individual element could be largely disregarded; but, when you recognize that the muscular individual is not necessarily healthy, the individual element in the choice of exercise comes to the fore. Some persons enjoy pulling chest weights, and are benefited by it, perhaps because they enjoy it; but the vast majority of people would rather be put to penal servitude than pull chest weights, and in such persons it certainly may do harm. We need to take the crude product we call "exercise," and analyze out of it what is of value. We believe that the more fully it is analyzed, the more the individual factor will be recognized. Is it deep breathing, vigorous heart action, profuse perspiration, that is that invaluable element? Is it relaxation, enjoyment, change of mental attitude? Is it the amount of fresh air breathed in? One thing we do know to be true in most persons; viz., that in valuable exercise there is *no self-reference*. Attention is turned away from self. In exercise which you enjoy that is the case. But many exercises (as, for example, the Swedish system or any other system of gymnastics, calisthenics, etc., that is done *for exercise*, and not for fun) direct the person's attention to himself, and thus

in a very large proportion of cases neutralize any possible good to be accomplished through them.

(6) *Food*.—First, in regard to the amount. The vast majority of us have the idea that, when the patient is run down, we should feed him up. But the recent investigations of Professor Chittenden should certainly make us more doubtful of the value of feeding persons up. Professor Chittenden has shown that Voit's diet tables can no longer be regarded as standard for all persons. Some persons on a diet containing a very much smaller amount of proteid and of a lower calory value do not only as well, but apparently much better. We are not arguing that the diet used in Professor Chittenden's experiments is right for all of us, but merely that he has directed attention to individual differences. Apparently, certain persons are better off on what is practically a vegetarian diet. Let those who find it to be good for them adopt it, but they need not mount to the house-top and proclaim that every one must follow that diet, or be damned.

The brilliant work of the Russian physiologist, Pawlow, emphasizes again in another way the same point. He shows that gastric juice will flow freely if the animal likes the food presented to it, and will not flow if it does not like it.

In regard to the use of water many rules seem to be constructed in the following way: A person comes to us, in ill-health. We find that he drinks very little water. We prescribe water. He gets better, and we then formulate the rule that the ordinary man should drink more water. But, if we investigate not the hygienic failures who come to doctors, but the people who are strongest and healthiest, we should find that many of them drink very little water or liquid of any other kind whatever,—very much less than we, as physicians, are in the habit of saying that people must drink to be well. We believe that this is an individual matter, and that no invariable rule can be laid down.

(7) *Tests of Health*.—We are very much in need of tests of the degree of health,—tests that will show a "healthy" person how far from the danger point he is. In such cases we think that individual differences will be found to count a great deal. Some persons are to be considered well if they eat well and sleep well and feel well. For others these tests

are not sufficient. We have noticed in quite a number of persons that information of some value can be obtained by noting the degree of infection of their hang-nails. Everybody has some hang-nails; but, when the individual is below par, they begin to get inflamed. Another possible test is the condition of the reflexes, some of the minor reflexes especially. In the last report of Phipp's Institute for Tuberculosis there is an account of the reflexes of tuberculous patients, especially the hypothenar reflexes. We have watched in ourselves for some time the condition of this reflex as compared with our own general condition, and are beginning to watch it in some other persons, too. Perhaps certain individuals can measure their condition by noting the condition of their reflexes. One of us finds that, when he loses sleep or is overworked, this hypothenar reflex comes out very prominently. Scratching the ulnar side of the forearm with a pencil makes the abductor minimi digiti stand out. When he is in first-rate condition, the reflex cannot be elicited.

We hope that we have done enough to remind you of a large body of facts which indeed are common knowledge (or common ignorance), but which are not always in that foreground of our minds whence action issues. These facts exemplify the individual variations dependent on:—

- (a) Our chosen plan of life.
- (b) On our environment, age, sex, and occupation.
- (c) On our inherited or acquired temperament, taste, and bent.
- (d) On the selective bent of our individual tissue, which makes the amount and kind of rest, exercise, food, sleep, suit us as they do no one else.

III.

Now are these differences of individuality such as to preclude the possibility of framing any set of requirements for health, such as our hygienic books have usually contained? A "required course" for health, we answer, like required courses in college, will soon become extinct; but a group-selective system will remain. From among a group of possible ways of being well each man will have to choose one by

instinct and experiment. For example, you belong either to the group of those who can rest by change of work or to those who cannot. Instinct and experiment will enable you to judge. You are either a no-breakfast man or you are not, and so on.

To work out the actually existing and practicable methods of keeping well at or near which each man is likely to live is the job to which we propose to devote a good deal of time and money during the coming years. We propose to collect, if we can, the statistics of the actual habits of fifty thousand healthy Americans, the healthiest that we can get in touch with through physicians and other intelligent persons in different parts of this country.

How has hygienic success been actually achieved? What methods of keeping well are the most often successful in this country at the present time?

Imagine, for example, that statistics should show that 80 per cent. of healthy Americans eat three meals a day, 5 per cent. eat no breakfast, and 4.5 per cent. no lunch, while only $\frac{1}{2}$ per cent. skip the evening meal. It would hardly be worth while to experiment much with a no-dinner plan, but one would want to find out by experiment whether one is better without breakfast or without lunch. If it should turn out to be true that one-half the healthiest people to be found eat meat but once a day, while a third eat it twice, and the rest three times a day, one would wish to try these experiments, but would not consider it worth while to try eating no proteid whatever, nor making one's diet exclusively proteid.

In colonial days, when our race was more homogeneous and the range of our possible activities more limited than they are now, the variety of hygienically successful methods of living may very well have been fewer. Just as all gentlemen were in colonial times of one religion and belonged to but two or three professions, so it may very well have seemed as heretical to speculate or experiment in hygiene as in religion. Authority decided such matters.

Now with the freedom of conscience and the right of private judgments in politics and religion are coming, we believe, the right and the duty of the individual layman to prevent

disease by working out for himself his own method of keeping well.

Any one who has watched himself carefully must have noticed how sharp and clean-cut his individual limits are. You can walk easily for miles just inside your individual limit of strength; but, if any one pushes you even a little way beyond it, you are tired in fifteen minutes. Yet it will tire you almost as much to have to hold your pace down to that of a slower walker as it would to hurry after the champion pedestrian. By instinct and experiment you find your proper pace, and then it varies little for years. So it is with sleep, food, recreation. You can work for months just within your normal sleep limits; but, if you cut down sleep even a half-hour a night below your limit, it will show at once in the *quality of your work*, if not in more obvious forms of ill-health.

The individual's best path of life, then, is sharply marked out and not difficult to determine. *But it may be almost impossible for any outsider to determine it, even if the outsider is a physician.* Suppose some one else tried to decide for you how fast you should walk, what the natural swing of your gait should be. He might be very careful, and by constant observation of your various paces come fairly near the right one; but it would be a great waste of energy for a result only approximately correct.

The individual should be urged to find out for himself how to keep well. We count it a great misfortune or disgrace if an American arrives at manhood without knowing the three R's; but it needs only a little reflection to make us realize that it is a far worse calamity to grow up without knowing what rests you, whether change of work is your best recreation, whether you are better with a low proteid diet, a low or high intake of water, and what your *vocation* or hobby is.

Have you not sweated blood in the attempt to discover for a man of forty what his proper *avocation* is, or for a woman of thirty-five what is her proper work? And, as you labored, has it never aggravated your toil to recognize that this job should have been done by the patient himself years before?

To find out for another man how he ought to live is as awkward as to tie his necktie for him. You *can* do it somehow or other, but he can feel his way and adjust his motions much more accurately himself.

The individual factors in hygiene are so many and so essential that in the great movements of preventive medicine it is the layman who, with some general guidance, must work out the salvation that will make for the best hygiene in the future. We are often told that doctors should prevent disease instead of trying to patch up the poor wrecks who present examples of the hopeless results of long years of hygienic failure. But we cannot believe that the most important work in this line can be done by the doctor. It is a waste of energy for him to attempt it in most cases. Moreover, the educated layman will more and more resent the attempt. I think it will not be long before it will be held as presumptuous for us to attempt to prescribe by general rules a man's best way of living, as it would be for us to prescribe his wife, his profession, his political or religious opinions. Private judgment and unwillingness to submit to authority will spread to this sphere,— nay, have already spread far in that direction *already*.

We will recur for a moment to our own plans. Our belief is (as we have tried to indicate) that the hygiene of the future will be not a series of commands, "Thus do, or thou shalt die," but a *map* showing a number of practicable roads, each preferred and found satisfactory by a group of persons of a certain build, a certain ideal of life, a certain inherited and acquired set of the tissues. "On or near some of these roads," we shall say, "you will probably travel. Look them over as you do in choosing a profession, a house, or a town to settle in. Find out which suits you best, then follow it."

Now our ambition is to assist in the construction of this map, to find out by the collection of an enormous body of statistics of healthy people what workable sets of habits now exist in regard to food, water, exercise, sleep, work, recreation, and the rest. Such a map of passable roads will not bind the individual to walk on any one of them, but, if he wishes to roam in the fields or ditches, he will at least be conscious of what he is doing, and where the ordinary roads are if he cares to return.

To collect the body of statistics on which such a map could be based will need the co-operation of many intelligent persons all over this country, and later we shall be asking members of the profession to co-operate with us in the task.

3. CREMATION OF THE DEAD.

BY JAMES R. CHADWICK, M.D., PRESIDENT OF THE
MASSACHUSETTS CREMATION SOCIETY.

Cremation was widely prevalent among the ancients, although inhumation was the original mode of disposing of the dead. The bodies were in the earliest ages buried in the habitations of the living. As far back as history goes, we find that the Romans had no special places for interment of the dead. The same is true of the ancient Greeks. Cicero tells us that the legislation of Solon interdicted burial within the walls of Athens. Plato urged that the cemeteries should be in the fields. In spite of such legislation the desire was to have the dead in the bosom of the family, where they became tutelary deities, so that recourse was had to cremation and a preservation of the ashes on the domestic altar. This custom, when carried out within the cities, gave rise to frequent conflagrations, so that laws were passed forbidding either inhumation or burning of the dead within the walls of Rome. The difficulty of transporting the body of a person who had died away from his country contributed to the introduction of incineration. Homer describes the frightful carnage in the Trojan War which necessitated a resort to the funeral pyre to disinfect the field of battle and to remove the dead bodies from the depredations of wild beasts and birds of prey, when they could not be buried promptly. The fear of contagion and the profanation of the dead made legitimate this change from the accustomed practice. In time of war there was also the profanation by the enemy or by robbers of the bodies of those slain, which contributed to the introduction of cremation. Sylla, after having committed the most sacrilegious profanation on the body of Marius, ordered that his own body be burned, that he might escape a like posthumous vengeance. From this event dates the use of cremation among Roman patricians. There was also a belief that fire, besides purifying the earthly body, detached the soul more rapidly from the bonds of the flesh and at the same time purified it.

Among the Jews cremation was never adopted, as inhumation has always been regarded as a sacred duty. Yet in the Year Book of the Central Conference of the American Rabbis (1892-93) I find a report made by B. Felsenthal to the Rev. Isaac S. Moses, chairman of a Committee on Cremation from a Jewish Standpoint, which concludes with this paragraph: "Be it *Resolved*, That, in case we should be invited to officiate as ministers of religion at the cremation of a departed co-religionist, we ought not to refuse on the plea that cremation be anti-Jewish or irreligious."

In the East cremation has always been in vogue, probably having had its origin in Hindustan, where it was regarded as an expiatory sacrifice to the Sun, the god of light and heat, to the end that the soul purified by fire might penetrate to the luminous regions of the stars. Superstition was here the controlling motive.

I might adduce facts regarding nearly all the early races of India and Africa, showing their adoption of cremation as a means of disposing of the dead, their apparent motive being religious; but underlying this sentiment there was, as usually happens, a practical reason, in this instance hygienic.

In recent times the cremation of the remains of the poet Shelley and his friend Williams is familiar to all. Their bodies, washed ashore after the foundering of their vessel, were buried upon the shore of Viareggio, covered with strong lime, in accordance with existing sanitary regulations. On Aug. 15, 1822, Trelawney, Byron, and Hunt exhumed the bodies from their temporary graves, and, having collected spars and planks cast upon the shore from wrecks, besides the fallen and decaying timber in a stunted pine forest close at hand, as fuel, they erected the iron furnace previously procured from Leghorn. The funeral pyre having been prepared, the fire was applied, frankincense and salt were thrown into the fire, and a flask of wine and oil poured over the bodies. When the funeral pyre burnt low, the furnace was uncovered, and nothing remained but dark-colored ashes with fragments of the larger bones. After the furnace had been cooled by immersion in the sea, the human ashes were gathered and placed in a small oak box.

The time at my disposal impels me to pass at once to the subject of

MODERN CREMATION,

which is a further development of the same ideas which in 1823 led Dr. Jacob Bigelow in this community to advocate the establishment of extra-mural cemeteries, in order, as he expressed it in his closing sentence, to give "security to the living with respect and repose to the dead." His action resulted in the establishment of Mt. Auburn Cemetery in 1830, the first of our rural cemeteries. This movement became general throughout the civilized world, so that very few interments now take place within the confines of cities. This measure might meet the requirements of modern sanitation, were it not that cities will spread and enclose within their limits the cemeteries that but yesterday were rural.

We cremationists, therefore, believe that civilized nations, which have the welfare of the populace at heart, must go a step further, and reduce by fire the dead body to innocuousness before it is deposited in its final resting-place.

As to religious scruples, it is undoubtedly a fact that, as Christianity triumphed over Paganism in Europe, burning, as a means of disposing of the dead, gave place to burial; and for centuries that custom has been universal throughout Christendom. But there is nothing in the Christian Scriptures either enjoining burial or forbidding cremation, and the preference for the former custom among the early Christians is easily intelligible on grounds quite independent of, and apart from, religious conviction. Burial could be conducted in secret, burning could not; and, in their long struggle with persecution, the early Christians must have found that secrecy was necessary to avoid molestation in the performance of those religious rites which every creed associates with the disposal of the dead. Doubtless, too, they were influenced by the example of the Jewish people, among whom their religion had had its birth, and by veneration for a practice which had been hallowed in the person of its Divine Founder. On the other hand, cremation, as practised by their pagan contemporaries, would as certainly be identified with Pagan rites, which would render it an abomination in their eyes; and in the darker ages the visible destruction of the body by fire might easily come to be considered as placing a barrier in

the way of that resurrection of the body which is a fundamental article of the Christian creed. But it is now universally known that, so far as the body is concerned, the ultimate results of the processes of decomposition and combustion are identical. Except possibly among the Jews there is no religious dogma among civilized races which opposes this disposition of our dead.

The Roman Catholic Church forbids the faithful to practise cremation, but the pope does not allege, as a ground for his interdiction, that cremation contravenes any of the doctrines or dogmas of the Church. The letter of July 27, 1892, emanating from the "Congregation of the Inquisition," with, I assume, the sanction of the pope, forbids cremation without giving any reasons. It is, however, justifiable to infer from its context that the reasons for this action are largely social and political, partly because cremation is in France and some other countries of Europe a tenet of Freemasonry, between which organization and the papacy there has always been a feud.

That I may do no injustice in this matter, I have obtained from one high in authority in this city a precise statement of the position of the Roman Catholic Church:—

- (1) The Church is opposed to cremation.
 - (2) If a dying person declares his resolve to have his body cremated, priests will not give him the sacraments or bury him with Catholic rites.
 - (3) But, if the body *is to be cremated* AGAINST the will of the deceased, the body may be brought to the church for mass and blessing, or blessed at the house (where the deceased died), and after the cremation the ashes (without any religious service) may be deposited in consecrated ground.
- The priest, however, may NOT accompany the body to the crematory for any rites, nor even for social or civil reasons.

Lest there be the least doubt in the mind of any devout Episcopalian as to the attitude of that Church, I would merely adduce the fact that the late Phillips Brooks, when bishop of Massachusetts, was one of the first to subscribe to stock of the Massachusetts Cremation Society, and became one of its vice-presidents, and that the present bishop, William Lawrence, is a vice-president of our society.

Having thus disposed of the religious scruples which might influence some people against our propaganda, I turn to the chief considerations which have weight in favor of our innovation upon the familiar mode of disposing of the dead.

The subject may be approached from three points of view:—

(1) The *economic*, which is not so unimportant as might at first appear. The cost of burial by the usual method is lavish. The shroud, the coffin, the labor of digging a grave, essential now in all burials, the funeral carriages, the vaults or lots in cemeteries, are a heavy tax upon surviving relatives.

If transportation of the body on the railroad is needed, the rate is the same as for a living individual: that of the ashes after incineration is practically insignificant. At Forest Hills we cremate the body in the coffin, and recommend a coffin that costs but twenty-five dollars. We have bodies brought to us in coffins that cost but five dollars.

The chief economic waste is involved in the necessity of devoting large tracts of valuable land in the vicinity of our larger cities to purposes of burial, and the extravagant, often ostentatious, and generally hideous monuments erected over the graves. The city of Brooklyn, N.Y., is a flagrant instance, wherein two thousand acres of land are occupied by cemeteries.

(2) From the *hygienic* standpoint I am not prepared to claim all that writers on this subject advance. Bear in mind that all that has lived must die, and that all that is dead must be disintegrated, dissolved, or gasified, the elements which are the substratum of life must enter into new cycles of life. If things were otherwise, the matter of organized beings would encumber the surface of the earth, and the law of the perpetuity of life would be compromised by the gradual exhaustion of its materials. One grand phenomenon presides over this vast work,—the phenomenon of fermentation, of putrefaction, of slow combustion.

There can be no question as to the pernicious effect of the noisome emanation from a vault in which bodies are decaying upon the health of the worshippers in the chapel above it. There can be no question as to the baleful influence of a cemetery located in a densely populated area upon the health of the surrounding people, either through the atmosphere, or,

if they are dependent upon wells for their water supply, through contamination of the water.

When cemeteries are located so remotely from our cities that the latter will never grow to include the burying-grounds, there is no reason to apprehend any considerable harm to the health of the adjacent peoples. This, unfortunately, has not often been the case hitherto.

You will observe that, while recognizing that the effluvia emanating from decomposing bodies in a graveyard may produce a deleterious effect upon the general health of those exposed to them, I have not asserted that any specific disease is likely to be produced.

When we come to consider the zymotic diseases, such as yellow fever, typhoid fever, scarlet fever, cholera, diphtheria, tetanus, etc., the evidence that there is any dissemination of epidemics or of individual cases from bodies in burying-grounds is inconclusive. When bacteriology was young, and the presence of bacteria as the cause of such diseases was unrecognized, the public, and even scientific men, had no means of gauging the assertion that one or another epidemic had originated from a cemetery. But to-day the presence of microbes, the action of the microbes, and their capacity for dissemination are fairly well understood. For instance, the pathogenic germs, by which term I mean the germs that will produce in a living being any of the contagious diseases, are known to be destroyed by the germs of decomposition. How soon these bacteria of the various contagious diseases succumb to their enemies, the bacteria of decomposition, is not positively known; but data tend to indicate that in most cases it is a matter of only a few weeks. "Decay, the return of the body to its final elements, is not a simple chemical process, but a very complicated one, induced for the most part by the action of various bacteria upon organized tissues, converting them into mid-products. The nitrification of the organic products is also due to the presence of bacteria. When a body is buried under six feet of earth, oxygen is practically excluded, so that the process of decomposition is retarded because the bacteria have an inadequate supply of oxygen for their development. For this reason more of the poisonous mid-products of decomposition are allowed to form, hence the body becomes a source

of danger to the living by those soluble products of decomposition designated by the general name of ptomaines." These ptomaines would be a source of ill-health if they could reach their victims; but, being within the body of the deceased, within a coffin and perhaps a brick vault, and buried under six to eight feet of earth, they have little chance of escaping and disseminating their virus. Even if they were able to invade a living body, they would not produce the specific disease of which the deceased died.

I have read many accounts of the spread of contagions from graveyards in all parts of the world, but find myself sceptical as to the alleged source of the infection. Until bacteriologists are able to demonstrate a causal relationship between a cemetery in which infected bodies have been buried and an epidemic in the surrounding population, I can only withhold my judgment.

(3) The *sentimental* aspect of the question seems to me entitled to most weight.

The problem presented to us, uncomplicated by tradition and religious beliefs, is a very simple one. The soul, the vital principle, the *ego*, or whatever your special philosophy calls it, has departed from its tenement of clay, and we have simply to see that the discarded flesh may be broken up into its diverse chemical elements without injury to the living. There is nothing sacred or sacramental in burial apart from what man's ingenuity has invented. The grave is but a clumsy contrivance to save the feelings of the survivors by putting out of sight a grievous spectacle. "Is there any more wisdom or philosophy, filial piety or humanity, public or private utility or religion, in enclosing in iron, stone, or lead a putrescent human body, as if forever there to remain unchanged, than in treating a similar and equal mass of any other animal matter in the same way? Is it not rather to counteract the course of nature, as though we were wiser than its author?" *

We constantly hear people alluding in terms of gratification to the "green sward that covers the graves of their ancestors," not knowing of, or refusing to believe in, the reeking mass of corruption which lies below. The truth about this subject must be disseminated, with a realization of which will come

* Jacob Bigelow, M.D.

a determination on the part of thoughtful persons to guide their sentiments more in accordance with the facts.

Cremation offers a happy solution of a subject which, under any circumstances, is gruesome and often heart-rending.

What do we cremationists offer as a substitute for this revolting condition? We offer to reduce the dead human body to its constituent chemical elements in as many minutes as burial takes years, simply by a process of rapid combustion with no attendant horrors, with no peril to the living, and at a minimum of cost. The body passes upon a catafalque from the chapel, where the funeral service has been held, is gently slid into a retort. The doors are closed, a swirl of flame, produced by the combustion of three sprays of petroleum, envelops the body in its coffin, and in one to one and a half hours there remain but four to five pounds of white ash. There is no smoke, no odor, no unpleasant attendant circumstances.

There is a hope in the hearts of most people that, when they lay the bodies of their dear friends in the earth, they are safe from disturbance. Without taking into account the body-snatching and the theft of bodies for pecuniary purposes, as in the case of A. T. Stewart, let me cite several instances of unwitting desecration which have occurred recently in this city and in New York.

The new building of the Union Club-house, at 7 Park Street, covers in part an old stable abutting on the Granary Burying-ground. Under this stable three old tombs were uncovered, of which two were empty, but one contained a score or so of wooden coffins. There was no clew to the identity of the owners of these tombs or of those interred in them. In the rear of the site of the buildings Nos. 12 and 14 Beacon Street, which were built upon by the American Congregational Association, were fourteen tombs, which had to be removed to make way for the cellars of the projected building. In excavating the subway under Tremont Street in Boston, one night the workmen invaded the King's Chapel Burial-ground, and discovered a whole colony of departed fathers, but hastily closed up the pit.

In the *Boston Journal* of Sept. 27, 1897, is a letter from Clinton, Mass., describing the agitation among the parishioners of St. John's (Catholic) Church on the announcement that

St. John's Cemetery would be taken by the State for the Metropolitan Water-works. This cemetery was laid out in 1847, and contained four thousand to four thousand five hundred bodies, which were removed, together with the tombstones, to a new cemetery.

In New York, one of the oldest cemeteries, situated in the Twelfth Ward, known as God's Acre, was removed to make way for new streets. Beneath the mounds scattered through this cemetery reposed the remains of many who took part in the struggle of the Revolution.

Laborers at work excavating the lot on the north-east corner of Read Street and Broadway, New York, unearthed three perfect skeletons and fifteen skulls.

The old Union Cemetery in Brooklyn was sold for business lots; and Contractor Farrell was employed to remove the bodies, amounting to about 30,000, and re-inter them in the Cedar Grove Cemetery.

From *Town Topics*, a journal in which we do not expect to find such consideration for the feelings of others, I take the following paragraph:—

Recent revelations in regard to New York churchyards constitute a new argument in favor of cremation. Somebody tried to break open a tomb in St. Paul's yard, and then the fact was developed that nobody knew whose tomb it was, as the church records do not give the locations of the different graves. Simultaneously, a corporation notice was issued to the effect that old St. John's Graveyard, on Hudson Street, was to be turned into a public park; and it was significantly added that "the remains will not be disturbed, but the tombstones will be buried," thus making an identification of the separate graves impossible. Washington Square is on the site of an ancient burial-place, long since forgotten. Former generations of New York went to much expense and trouble to provide their dead with vaults and tombs, according to their station in life, each inscribed with names and dates; but these few years have blotted out the records, and reduced the buried thousands to an indistinguishable mass of refuse. Cremation is more decent, more reverent, and more individual. When you have in an urn the ashes of a dead relative or friend, you may be reasonably certain whose ashes are in the urn, and may preserve the precious receptacle among the family treasures, with little risk that it will become mixed up with the urns of total strangers. All the concomitants of old

churchyard burials are horrible. I have seen things in a family vault that sicken me to recall, but, so long as people insist upon burials, there is no security that the new, picturesque cemetery of the present time may not be the old, neglected, desecrated graveyard of the next generation. Cremation is not only more healthful for the survivors, it is a better means of assuring the identity of the dead.

Such instances could be multiplied indefinitely.

Under the impulse of one or all of these considerations, men and women of intelligence and refinement have banded themselves together in all civilized countries to build crematories and to spread a knowledge of the merits of this reform. In the past thirty years twenty-seven crematories have been erected in Italy, eight in Germany, nine in England, two in Sweden, two in France, four in Switzerland, one in Denmark, one in Argentina, and one in Australia.

In this country the earliest disposals of the body by burning of which I can find record were those of a negro named Jack and a negress named Maria, who in 1681 were executed in Roxbury for arson, after which their bodies were taken down and burned.

In 1775 Mark and Phillis, two colored slaves of Captain John Codman, poisoned their master in Cambridge with arsenic. On September 18 Phillis was condemned to be burned to death, Mark to be hanged by the neck. The process of burning Phillis is described as follows:—

One end of a cord was fastened to the stake, thence carried round the neck of the woman. It was pulled tightly the moment the torch was applied, and the strain continued until life was extinct, which in such cases generally happened before the condemned had suffered much from the intensity of the flames, unless the cord was sooner burnt asunder.

The first crematory was erected by Dr. F. Julius Lemoyne in the village of Washington, Pa., in 1876, primarily for the incineration of his own body, but he permitted its use by others to such an extent that thirty-eight bodies were there reduced to ashes in the following eight years. This method of disposing of the dead met with such favor throughout the land that there are now twenty-five crematories in operation, cover-

ing every section of the country from California to Massachusetts. In these crematories the number of incinerations has increased steadily, so that in the year 1903 they numbered 2,915.

Through the courtesy of the Board of Health of the city of Boston, I am able to give you a detailed statement of these operations.

Cremations in the United States, 1876-1904, inclusive.

CREMATION.

For centuries the method of disposal of the dead was entombment and earth-burial. About a quarter of a century ago cremation of dead bodies was introduced, and this method is now gradually spreading among civilized nations, as will be seen by the following table.

In order to ascertain the annual increasing number of cremations, official inquiries were addressed to the superintendents of the different crematories in the United States and Europe.

| CREMATORIES. | Date established. | 1876 to | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. |
|--|-------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 | 1885 |
| New York City (U.S. Cremation Co.) | 1885 | — | — | — | 9 | 77 | 67 | 83 | 106 | 160 | 187 | 186 | 232 | 243 | 296 | 330 | 331 | 466 | 528 | 602 | 654 | 647 | 720 | 841 |
| Buffalo, N.Y. | " | — | — | — | 1 | 8 | 17 | 16 | 23 | 30 | 38 | 27 | 30 | 31 | 41 | 28 | 44 | 40 | 43 | 67 | 50 | 60 | 55 | 74 |
| Troy, N.Y. | 1880 | — | — | — | — | — | — | — | — | 4 | 10 | 14 | 15 | 12 | 10 | 18 | 14 | 13 | 20 | 16 | 19 | 23 | 20 | 20 |
| Swinburne Island, N.Y. | 1880 | — | — | — | — | — | — | — | — | — | — | 60 | 28 | 8 | 1 | 1 | 3 | 4 | 2 | 3 | 3 | 3 | 2 | — |
| Waterville, N.Y. | 1893 | — | — | — | — | — | — | — | — | — | — | — | — | — | 6 | 5 | 4 | 4 | 6 | 10 | 1 | 6 | 1 | 5 |
| St. Louis, Mo. | 1888 | — | — | — | — | — | — | 21 | 20 | 42 | 60 | 64 | 72 | 87 | 96 | 86 | 118 | 109 | 123 | 142 | 135 | 136 | 165 | — |
| Philadelphia, Pa. | " | — | — | — | — | — | — | 14 | 28 | 31 | 51 | 62 | 68 | 74 | 88 | 85 | 78 | 114 | 99 | 118 | 118 | 130 | 158 | 160 |
| San Francisco, Cal. (Odd Fellows) | 1895 | — | — | — | — | — | — | — | — | — | — | — | — | — | 66 | 101 | 214 | 260 | 347 | 547 | 666 | 614 | 695 | 893 |
| Boston, Mass. | 1893 | — | — | — | — | — | — | — | — | — | — | — | — | — | 88 | 135 | 160 | 167 | 235 | 188 | 171 | 217 | 225 | 211 |
| Cincinnati, Ohio | 1887 | — | — | — | — | — | — | — | — | — | — | — | — | — | 46 | 71 | 59 | 56 | 81 | 89 | 69 | 79 | 92 | — |
| San Francisco, Cal. (Cypress Lawn) | 1893 | — | — | — | — | — | — | — | — | — | — | — | — | — | 66 | 66 | 70 | 54 | 65 | 107 | 98 | 352 | 169 | 133 |
| Chicago, Ill. | " | — | — | — | — | — | — | — | — | — | — | — | — | — | 42 | 111 | 88 | 70 | 82 | 127 | 188 | 200 | 201 | 241 |
| Los Angeles, Cal. | 1887 | — | — | — | — | — | — | — | — | — | — | — | — | — | 64 | 42 | 66 | 54 | 82 | 52 | 52 | 66 | — | 83 |
| Detroit, Mich. | 1886 | — | — | — | — | — | 7 | 5 | 12 | 17 | 29 | 41 | 37 | 38 | 37 | 37 | 34 | 58 | 52 | 52 | 52 | 66 | — | 88 |
| Pittsburg, Pa. | 1886 | — | — | — | — | — | — | — | — | — | — | — | — | — | 31 | 20 | 20 | 44 | 44 | 51 | 58 | 31 | 56 | 61 |
| Baltimore, Md. | 1889 | — | — | — | — | — | 14 | 0 | 11 | 8 | 0 | 13 | 14 | 13 | 10 | 14 | 16 | 23 | 10 | 31 | 24 | 20 | 10 | 24 |
| Lancaster, Pa. | 1889 | — | — | — | — | — | — | — | — | — | — | — | — | — | 11 | 17 | 21 | 14 | 22 | 18 | 22 | 18 | 11 | 23 |
| Davenport, Wis. | 1891 | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 1 | 2 | 2 | 4 | 2 | 2 | 2 | — | — |
| Milwaukee, Wis. | 1895 | — | — | — | — | — | — | — | — | — | — | — | — | — | 8 | 0 | 23 | 17 | 18 | 24 | 20 | 31 | 30 | 33 |
| Washington, D.C. | 1896 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21 | 34 | 30 | 53 | 40 | 45 | 51 | 50 |
| Pasadena, Cal. | 1896 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Washington, Pa. | 1876 | 25 | 13 | 1 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| St. Paul, Minn. | 1895 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Fort Wayne, Ind. | 1895 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mt. Auburn, Mass. (Cambridge) | 1900 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Totals | — | 25 | 16 | 47 | 114 | 127 | 190 | 240 | 372 | 471 | 561 | 674 | 831 | 1,047 | 1,101 | 1,301 | 1,690 | 2,012 | 2,379 | 2,646 | 2,880 | 2,915 | 3,220 | — |

Summary of Cremations in Italian Cities.

| * Cities. | Date of Inauguration. | 1876. | 1877. | 1878. | 1879. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | | | | |
|----------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-----|-----|----|
| ITALY. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Milan | 1876 | 2 | 9 | 14 | 25 | 40 | 70 | 67 | 44 | 61 | 70 | 61 | 55 | 76 | 85 | 72 | 65 | 66 | 74 | 74 | 72 | 64 | 65 | 104 | 92 | 99 | 92 | 107 | 107 | 92 | | | | |
| Lodi | 1887 | — | 6 | 2 | 2 | 5 | — | 2 | 2 | 1 | 1 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| Rome | 1883 | — | — | — | — | — | — | — | — | 29 | 43 | 32 | 53 | 59 | 96 | 74 | 47 | 75 | 55 | 61 | 54 | 54 | 37 | 29 | 55 | 52 | 22 | 22 | 22 | 22 | 22 | | | |
| Cremona | " | — | — | — | — | — | — | — | — | 15 | 5 | 25 | 9 | 10 | 10 | 5 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | | | |
| Brescia | " | — | — | — | — | — | — | — | — | 4 | 5 | 2 | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Iadue | 1884 | — | — | — | — | — | — | — | — | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | | |
| Udine | " | — | — | — | — | — | — | — | — | 4 | 5 | 5 | 4 | 7 | 5 | 0 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| Varese | " | — | — | — | — | — | — | — | — | 5 | 4 | 5 | 4 | 7 | 5 | 0 | 4 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | | |
| Spezia | 1885 | — | — | — | — | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | |
| Novara | " | — | — | — | — | — | — | — | — | 2 | 1 | 2 | 3 | 1 | 3 | 1 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | | |
| Florence | " | — | — | — | — | — | — | — | — | 14 | 16 | 20 | 26 | 18 | 21 | 20 | 16 | 24 | 18 | 19 | 24 | 24 | 11 | 14 | 13 | 14 | 17 | 20 | 20 | 24 | 24 | 18 | | |
| Livorno | " | — | — | — | — | — | — | — | — | 8 | 13 | 20 | 10 | 20 | 20 | 9 | 10 | 11 | 10 | 11 | 9 | 24 | 0 | 13 | 13 | 14 | 17 | 22 | 25 | 19 | 19 | 18 | | |
| Asti | " | — | — | — | — | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Pisa | " | — | — | — | — | — | — | — | — | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | | |
| Alexandria | 1886 | — | — | — | — | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Como | " | — | — | — | — | — | — | — | — | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | | |
| Turin | 1887 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | | |
| Mantua | " | — | — | — | — | — | — | — | — | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| St. Remo | 1888 | — | — | — | — | — | — | — | — | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | |
| Verona | " | — | — | — | — | — | — | — | — | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |
| Bologna | 1889 | — | — | — | — | — | — | — | — | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | |
| Modena | " | — | — | — | — | — | — | — | — | 10 | 12 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| Venice | 1891 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Spoleto | 1894 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Perugia | 1895 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Siena | " | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Bera | 1897 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Total | | 2 | 15 | 16 | 27 | 45 | 75 | 69 | 70 | 116 | 164 | 180 | 168 | 227 | 282 | 258 | 221 | 262 | 246 | 228 | 220 | 219 | 242 | 241 | 265 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | 262 | |

* Dott.-Lodovico Forresti, Statistica delle Cremazioni eseguita in Europa nel Siculo XIX., 1876-1900. Edito a cura della Società di Cremazioni in Bologna.

Summary of Crematories and Cremations in Several European Cities.

| CREMATORIES. | 1878. | 1879. | 1880. | 1881. | 1882. | 1883. | 1884. | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. | 1892. | 1893. | 1894. | 1895. | 1896. | 1897. | 1898. | 1899. | 1900. | 1901. | 1902. | 1903. | 1904. | |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Germany: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Gotha | 1 | 17 | 16 | 33 | 33 | 46 | 60 | 76 | 95 | 110 | 128 | 111 | 162 | 162 | 153 | 130 | 132 | 147 | 188 | 170 | 200 | 180 | 218 | 234 | 276 | 301 | | |
| Heidelberg | — | — | — | — | — | — | — | — | — | — | — | — | 3 | 3 | 57 | 50 | 70 | 91 | 105 | 125 | 151 | 146 | 104 | 104 | 104 | 104 | | |
| Hamburg | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2 | 48 | 68 | 41 | 70 | 81 | 111 | 145 | 181 | 187 | 187 | 187 | | |
| Jena | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21 | 46 | 47 | 81 | 91 | 123 | 108 | |
| Offenbach | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5 | 110 | 82 | 128 | 118 | 123 | |
| Total | 1 | 17 | 16 | 33 | 33 | 46 | 60 | 76 | 95 | 110 | 128 | 111 | 165 | 221 | 251 | 316 | 264 | 313 | 374 | 423 | 513 | 637 | 666 | 804 | | | | |
| England: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| London (Woking) | — | — | — | — | — | — | — | 3 | 10 | 13 | 28 | 46 | 54 | 90 | 104 | 101 | 125 | 150 | 137 | 173 | 240 | 240 | 301 | 273 | 275 | *901 | 358 | |
| Manchester | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3 | 20 | 47 | 58 | 52 | 51 | 62 | 88 | 84 | 90 | 81 | 86 | | |
| Glasgow | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1 | 10 | 16 | 12 | 16 | 20 | 18 | 20 | 24 | 20 | |
| Liverpool | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7 | 23 | 23 | 40 | 9 | 40 | 54 | 38 | 40 | |
| Total | — | — | — | — | — | — | — | 3 | 10 | 13 | 28 | 46 | 54 | 90 | 107 | 121 | 172 | 200 | 206 | 263 | 337 | 384 | 414 | 427 | 430 | 449 | 438 | |
| Sweden: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Stockholm | — | — | — | — | — | — | — | — | — | 13 | 23 | 46 | 27 | 48 | 41 | 51 | 42 | 31 | 47 | 54 | 40 | 54 | 54 | 46 | 46 | 48 | 40 | |
| Göteborg | — | — | — | — | — | — | — | — | — | — | — | — | 11 | 9 | 11 | 12 | 7 | 3 | 14 | 10 | 24 | 21 | 16 | 10 | 20 | 19 | 18 | |
| Total | — | — | — | — | — | — | — | — | — | 13 | 23 | 46 | 38 | 57 | 52 | 63 | 40 | 34 | 61 | 73 | 73 | 75 | 70 | 62 | 66 | 67 | 67 | |
| France: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Paris | — | — | — | — | — | — | — | — | — | — | — | — | 749 | 3,388 | 3,741 | 3,074 | 3,092 | 4,180 | 4,423 | 4,107 | 4,513 | 4,554 | 5,825 | †310 | 300 | 270 | | |
| Rouen | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5 | 4 | 1 | 6 | 7 | 4 | |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 749 | 3,388 | 3,741 | 3,074 | 3,092 | 4,180 | 4,423 | 4,107 | 4,513 | 4,550 | 5,820 | | | | | |
| Switzerland: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Zürich | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Basle | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Denmark: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Copenhagen | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4 | 12 | 18 | 21 | 14 | 18 | 28 | 28 | 34 | 44 | 51 | 47 | |

* Woking 143 and Golder's Green 158 (now called The London Cremation Co., Ltd.). † The discrepancy is unexplainable.

Among that remarkable people, the Japanese, cremation has long been practised,—originally in the open air, for many years in buildings erected for the purpose. In the city of Tokio in 1898 (I have no later information) there were seven crematories, that of Nippori had thirty-two furnaces. In 1888 34 per cent. of the dead, or 11,000 bodies, were cremated; in 1898, 40 per cent., or 15,000 bodies.

THE DISPOSAL OF THE ASHES.

I am constantly asked, "What do people do with the ashes?" I will close by giving our experience at the crematory at Forest Hills. The ashes generally weigh four to five pounds. In about 200 cases out of 2,500 bodies cremated in the past eleven years, we have been told "to scatter the ashes to the winds," which we do in the pine grove surrounding our building.

In 375 cases the ashes have been left in our care in suitable urns or vases until such time as we have means to build a columbarium with niches for their permanent care. In the remaining 2,000 cases the ashes have been taken away by the relatives, and we have lost track of them. We know that in many instances they have been buried in the family lot in some cemetery.

We are now building beneath our chapel a columbarium, one section of which will be finished within two months.

Lanciani, in his "Pagan and Christian Rome," tells us that inhumation seems to have been more common than cremation in prehistoric Rome, but that inhumation was abandoned toward the end of the fifth century of Rome, to be resumed only toward the middle of the second century after Christ. The acceptance of cremation brought as a consequence the institution of *ustrina*, the sacred enclosures in which pyres were built to convert the corpses into ashes. The columbaria owe their existence to the same cause. These latter were a specialty of Rome and the Campagna, being found nowhere else. They begin to appear about twenty years after Christ. No cleaner, healthier, or more respectable substitute for the old *putioli* could have been contrived by Augustus. Any one, no matter how low in social position, could secure a decent place of rest for a paltry sum of money.

There were three classes of columbaria: first, those built by one man or one family, either for their own personal use or for their servants and freedmen; second, those built by one or more individuals for speculation, in which any one could secure a place; third, those built by a company for the personal use of shareholders and contributors.

I am able to show you one of the oldest forms of cinerary urns, said to date from 200 to 300 B.C. Beside it stand samples of the urns made for us by the Dedham Pottery Company and the Grueby Faience Company of South Boston.

The Japanese have exceeded us in simplifying the problem of preserving the symbols of the dead. When a cremation is completed, they seek in the ashes until they find a small pebble, which they pick out, put into a small glass globe, and, enclosing that in a shrine, preserve it among their family treasures. I have three of these shrines to show you. On what they base their beliefs it is hard to understand. I have had one of these pebbles analyzed. It proved to consist chiefly of silica, like the pebbles on our beaches, and could not be, in any way, a product of the burning of a body. Moreover, we can find no similar pebbles in our retorts after a cremation.

In conclusion let me read to you how the poet Callimachus, in Eleusis, near Alexandria, was affected, B.C. 260-240, by hearing that his old friend, the poet Heracleitus, had died and been cremated.

EPITAPH ON HERACLEITUS.

They told me, Heracleitus, they told me you were dead;
They brought me bitter news to hear and bitter tears to shed.
I wept as I remembered how often you and I
Had tired the sun with talking and sent him down the sky.

And now that thou art lying, my dear old Carian guest,
A handful of gray ashes, long, long ago at rest,
Still are thy pleasant voices, thy nightingales, awake;
For Death, he taketh all away, but these he cannot take.

DISCUSSION BY RICHARD W. HALE, TREASURER OF MASSACHUSETTS
CREMATION SOCIETY.

After the way in which Dr. Chadwick has covered the ground, the best addition which I can make is to speak on the points which have come directly under my observation both as a lawyer interested in the cause of cremation and as the executive head, managing and in charge of the Crematory of the Massachusetts Cremation Society.

The law has no illusions upon the subject of the permanence of the human body after death. The graveyards in the city of London have existed too many hundreds of years, and they alone serve as a conclusive proof to the contrary. And so at common law it is established that the right of the individual is to occupy with his body a place in the churchyard for so long as is necessary for his remains to go through the process of combustion and return to dust. So clearly is this law established that, when an enterprising Englishman desired to have his wife buried in an iron coffin sealed so as to protect her remains, the English Ecclesiastical Court passed upon the question, and decided that she had no right to anything more than burial under the ordinary circumstances and the ordinary exposure to decay. The British king who answered an invader by offering to share with him the land of England and to give him for his part six feet by three, oversteated the law, for even the right to occupy a particular portion of the ground is not assured to the individual at the common law.

Under these circumstances, cremation, which is merely a swifter form of combustion, has presented no difficulties to the law. The only legislation which has been necessary is that designed to protect the improvement against its use as a means of concealing death by violence or by poison. The Massachusetts statute provides for this well. The responsibility is not cast upon the Cremation Society, but upon a State official. The medical examiner, who is the Massachusetts improvement upon the ancient coroner, and is charged with all questions of law in the criminal courts which require the services of men with medical skill, is also charged by the cremation statute with the examination of the body of any dead person whom it is proposed to cremate. He makes his certificate that he has viewed the body, and that, in his opinion farther examination into the cause of the death of the deceased person is unnecessary; and upon that certificate we rely. In the years during which we have operated no breath of suspicion has suggested that any wrong use was made of cremation; and our practice compares favorably with the utter freedom from responsibility which enables any undertaker in the country to remove the evidence of poison in the apparent course of his duty.

So much for the law. The practical side as it has presented itself in our experience at Forest Hills is chiefly interesting because of two features.

The first is the circumstance that after cremation there is no necessary permanence and no obstructing presence to be cared for. The second, which is in a way the consequence of the first, is that cremation offers a much greater flexibility in dealing with the modern conditions after death. Many people who come to us for cremation leave instruction that the ashes may be scattered; and, where that is done reverently and carefully, as we do it, no farther responsibility exists upon the living. That seems to me by far the best thing which cremation has brought, for I ardently desire that my remains may not encumber the earth after me or interfere in any way, large or small, with its occupation by the living, and I think that many others ardently desire the same result for themselves. But it is no necessary feature of cremation. On the contrary, the most interesting thing about the new process, as we see it in practice, is its flexibility. Consider the awful circumstances of death in a foreign country. Consider how, in such case, modern sanitary regulations make it impossible to carry out the wishes of those who prefer to have their family gathered together in one cemetery lot at home, with all the associations which that permits, and then note how cremation makes it possible to preserve and maintain this sentiment. After cremation, for instance in Italy, no difficulty exists; and there is no reason why ashes of the dead cannot be brought across the water and to New England and to the particular country cemetery where they can lie with the remains of others of the family, and be cared for by the living in a lot which represents to the latter the place of rest for the bodies of all those who have gone before. Or for those who are not tied to any cemetery lot we are now building a columbarium at Forest Hills, where it is possible to secure space for the permanent deposit of a suitable urn containing the ashes of the dead. Some niches in this columbarium correspond to the family tomb, and will enable a large number of urns to be placed together in one spot.

On the whole, then, cremation brings the great improvement that the remains of the dead do not encumber the earth or interfere with the living; and this improvement is of the best kind, because it does not uproot any conservative tradition or interfere with any modern practice. It gives flexibility without necessary innovation, and it enables us to adapt intelligently the disposal of the dead to the modern conditions of such a country as the United States.

4. THE HISTORY AND RESULTS OF FOOD LEGISLATION IN MASSACHUSETTS.

BY DR. CHARLES HARRINGTON, OF BOSTON.

[Read Friday morning, May 12.]

Prior to the year 1882, the laws relating to the inspection and sale of foods in Massachusetts included one concerning milk and one concerning vinegar (both of which were very imperfectly enforced), and a number of special laws of no practical importance, which, so far as can be ascertained, were not enforced at all. The legislature of the year mentioned enacted a general law entitled "An Act Relating to the Adulteration of Food and Drugs," which, after setting forth what should be held to constitute adulteration, and defining the terms "food" and "drug," provided that the State Board of Health, Lunacy, and Charity should appoint inspectors and analysts; should make all necessary investigations and inquiries in reference to the food and drug supply; should make rules and regulations concerning the collection and examination of samples; and should establish standards not specifically provided. For carrying out the provisions of the act, the sum of \$3,000 was appropriated. The law was approved on May 28, and went into effect three months later; whereupon the Board appointed an analyst of foods and an analyst of drugs, who were directed to collect and examine samples, with such assistance as they might require, the appropriation being not large enough to permit the employment of regular inspectors.

The investigations made in the two fields showed that the market was in a most deplorable condition. In spite of the fact that the law relating to the inspection and sale of milk had been in existence for many years, the milk supply was found to be especially poor, adulteration being almost universally practised in the cities and large towns. So great was this evil that in the following year, 1883, the legislature amended the Act by increasing the appropriation to \$5,000,

with the proviso that two-fifths of the whole should be expended in enforcing the milk law. Accordingly, two additional analysts were appointed, whose sole duty it was to look after this part of the work. The first report of the analyst for the eastern portion of the State showed that no less than 77.45 per cent. of all samples examined failed to conform to the requirements of the statute. In Boston the percentage of adulterated samples was 86.78; in East Boston it was 80; in South Boston it was 93.75; in Charlestown it was 92.86; in Cambridge, 83.33.

At that time, and long prior thereto, the local inspectors did little more than carry out the provision of the law that they should keep an office and issue licenses. In most of the cities the duty of serving as inspector devolved upon the city marshal or other salaried official, who received therefor no extra compensation, or, at most, a trifling sum, like \$25.

Owing to the conditions found by the several analysts to exist in their different fields, the legislature of 1884 made further amendments of the Food and Drug Act, the most important of which increased the appropriation to \$10,000, whereof not less than \$6,000 should be devoted to the enforcement of the laws relating to milk and milk products. This enabled the Board to appoint regular inspectors, who, by law, were clothed with all the authority given to local inspectors. At the same time, the city of Boston set her sister municipalities an example by appointing to the office of milk inspector a trained chemist, and giving him proper quarters wherein to maintain a laboratory. No provision was made, however, for an assistant chemist or for regular paid collectors; but in the following year a generous appropriation was made, and since that time, both as an independent department and after being merged into the Department of Health, the office has had as a staff an inspector, a chemist, a clerk, and never less than three collectors of samples, and latterly, also, a bacteriologist. From time to time other cities and a number of towns have seen the wisdom of equipping proper laboratories, and of having the office conducted not as a sinecure, but to serve a real purpose.

The general law relating to food and drugs was not materially amended between 1884 and 1901; but in the latter year it

was strengthened by the addition of a section prohibiting the use of certain preservatives, unless their presence and percentage are clearly set forth on the label in letters of a certain size, and by further legislation regulating the manner in which so-called *compounds* shall be labelled so that the purchaser may know their percentage composition. The amendment relative to the use of preservatives settled a much-vexed question; for, while the law prohibited the sale of foods containing ingredients injurious to the health of the consumer, authorities are by no means in agreement as to whether certain of the substances employed as preservatives exert an injurious influence on the system. The amendment waives the question, and leaves it to the consumer to decide whether he cares to assume the risk; but the vendor must acquaint him of the fact that the product is chemically preserved.

The sum placed at the disposal of the State Board of Health, which has had charge of the administration of the general law since its re-establishment as a separate board in 1886, has been increased from time to time to \$12,500, which is its present annual appropriation for this branch of its work.

The laws relating to the inspection and sale of milk, butter, and oleomargarine have been amended from time to time as occasion demonstrated a need of change. The standard requirement as to total solids of milk has been lowered from 13 to 12 per cent. for the time from April 1 to September 30; a standard for milk fat has been established in order to prevent the removal of cream and admixture of condensed skimmed milk for the purpose of restoring the percentage of total solids; and the penalty for a first offence of possession or sale of milk not of standard quality has been reduced. But the penalty for the sale of skimmed milk not properly marked or of milk containing added foreign matter has been allowed to stand.

In consequence of fraudulent practices in the sale of oleomargarine, the law relating thereto has been amended a number of times, beginning in 1885; and at the present time, on account of national and State legislation, but little of that product is to be found on the market, and that in an uncolored form. The most stringent laws relating to oleomargarine were passed by the legislature of 1891, which also established

the Dairy Bureau, with co-ordinate power (in the enforcement of the laws relating to milk, milk products, and oleomargarine) with the State Board of Health. These laws were contested even to the Supreme Court of the United States, which handed down a decision favorable to the State, and established their constitutionality. Later, the legislature directed its attention to the substance known as "renovated" or "process" butter, and enacted a law, still in force, providing for its proper marking, so that it may not be sold as ordinary butter.

Returning now to the work of the State Board of Health in the administration of the general law: as has been said, the conditions found when the investigation was begun were not creditable. The market was flooded with adulterated goods, largely from neighboring States, and the milk supply was apparently hopelessly bad. The work was at first one of investigation and warning. Dealers whose goods were found to be impure were served with notices calling the facts to their attention, and warning them of the danger of prosecution. No cases were brought into court until the closing month of 1883. In 1884, forty-eight cases were brought, mainly for the sale of adulterated milk, and these had, of course, much influence. Later, as the work progressed, stricter measures were adopted. The system of warning retailers had its effect upon wholesalers, and soon many brands of adulterated goods were driven from the market; but many remained. From the beginning until the present time, the object has been to conserve the interests of the public with justice to all concerned.

During the first eight years of the law, the analysis of samples was conducted by the analysts of the Board in their own laboratories; but in the year 1891, most of the work was placed in charge of one chemist in a small laboratory established by the Board in an office building, where it was conducted until the present laboratory in the State House was ready for occupancy in 1895, since which time all but a small part of the work (which is done in the western part of the State) has been performed by two chemists, supplied with samples by three inspectors, who visit all parts of the State and conduct all proceedings in the lower courts. By a rule of the Board, the supervision of the work is delegated to the secretary, who

directs the inspectors where samples shall be collected and what prosecutions shall be made.

The records of the office show that since the beginning of the work about 90,000 samples of milk, about 60,000 samples of foods other than milk, and about 15,000 samples of drugs have been examined, or about 165,000 samples in all. Up to Sept. 30, 1904, an average of 90 cases per year, or about 1,800 cases in all, were prosecuted in the courts, all but a few of which resulted in conviction, and more than \$42,000 were paid in fines. Since the beginning of the present year the law regarding the use of preservatives has been enforced with reasonable strictness, after a proper period of warning; and a large number of convictions have been secured.

The main object of the work, however, is neither prosecution nor persecution, but the protection of the public; and the main result is a food supply which has undergone vast improvement, and the saving to the consumer of very many times the sum expended in bringing this condition about.

[Dr. Harrington is now Secretary of the State Board of Health, and has been connected with this important part of the Board's work for more than twenty years.]

5. DANGERS TO THE HEALTH OF EMPLOYEES IN INDUSTRIAL ESTABLISHMENTS.

BY DR. L. M. PALMER, A MEDICAL EXAMINER.

[Read Friday morning, May 12.]

In the year 1904 the legislature of Massachusetts passed a resolve directing its State Board of Health "to investigate the sanitary conditions of factories, workshops, and other places of employment in the Commonwealth of Massachusetts, with respect to all conditions which may endanger the life and limbs or be prejudicial to the health of the persons employed therein." I had the pleasure and the honor to do a part of that important work, and it is to some of the results or findings of that investigation that I have been invited to call your attention to-day. We are hoping and expecting that the work already done has been only preliminary to a larger work along the same lines in the near future, for the conditions found show very emphatically the need of a greater and stricter supervision of health conditions under which the great body of our people spend at least one-third of their lives.

There is an old adage that "an ounce of prevention is worth a pound of cure." In the light of present-day thought and science, and especially as regards health and health conditions, this saying should be revised so as to read, "A grain of prevention is worth a ton of cure." In fact, to speak paradoxically, the only real cure of disease is to prevent it, like the familiar story of the school-boy who said in his composition that pins had saved a great many lives "by not swallowing them." Contrary to the general conception, it is Nature that cures, and the physician's work is to clear the way, and give Nature a fair chance. The gifted Beecher once foolishly said that there grew within sight of every man's grave some herb which, if rightly understood and applied, might have saved his life.

Blind faith in the atoning efficacy of some medicine to remove the penalty of some physical sin works great mischief

in the care the ordinary workingman takes of himself. He thinks he can disregard the ordinary rules of health and yet have or regain health by taking something. The patent medicine cure fosters this delusion by promising to cure from the same bottle every disease that flesh is heir to, from cancer to catarrh; and, unfortunately, the people believe it and take the vile stuff, thus making the doctors ten times the business they would otherwise have.

Having this point of view, the average person becomes indifferent or careless to the dangers which may surround him in the workshop or in his home. It is an encouraging fact, however, that enough are awakening to their danger to demand, through organized efforts, better laws from the government for their safety and betterment. On the other side of the problem is the employer. With the present tendency to the formation of trusts and large corporations the result is for less and less of that much-to-be-desired personal contact and relation between the employer and employee. The stockholders look to the directors for dividends only. The directors demand of the superintendents and foremen the earning of those dividends, and the foreman's business is to see to it that the workmen deliver the goods that earn the dividends. From force of circumstances he must be more concerned with results than with means. The workmen, therefore, become the means to an end.

It is not necessarily because those in authority are not kind and humane or considerate that our manufacturing establishments are not sanitary or healthful, but because their healthfulness is a secondary consideration and has not been called to their attention. Many a time did some member of a firm say to me, "I did not know, doctor, that such conditions as these existed," or, "I never saw this before, and I will see to it that it is made better."

Between the carelessness and the filthy habits of laborers and the indifference of those in authority and the lack of a proper supervision, our industries are not what they ought to be as regards health conditions, or what they can be with mutual advantage to the employer and the employee. If it is to the material advantage of the farmer and the teamster to have his dumb animals well fed and well housed, certainly

it must be equally advantageous to have the average workman equally well cared for.

My work as sanitary inspector took me into a hundred of the largest manufacturing establishments in Eastern Massachusetts, where I saw the conditions under which approximately seventy thousand people worked and spent one-third of their time. My inspection was given to those employments that vital statistics show to give the greatest percentages of death, and are also shown by the records of other countries, more advanced than we are in sanitary science and laws, to "be prejudicial to the health of the persons employed therein." The principal causative elements of danger sought for were dust, either vegetable, mineral, or metallic; diseases, such as anthrax, small-pox, and other infectious diseases; and particular heed was given to questions of ventilation and sanitation.

The manufactories indicated and inspected were cotton, woolen, and silk mills, paper mills, factories where were made leather, boots and shoes, axes, shovels, and metal tools, rubber boots and shoes, watches, wire and nails, white lead, lead pipes, traps and solder, paper tags and boxes, electrical supplies, celluloid and bone goods (such as combs), crockery and glazing, cigars, confectionery, cocoa and chocolates, jewelry, curled hair, "crackers" and fancy biscuits; also tanneries, quarries, and stone-cutting works, optical works, file-cutting, cotton machinery and machine shops, straw shops, laundries, etc. Other industries will suggest themselves to you as needing inspection. This is doubtless true, and they were not inspected in this present investigation simply from lack of time. We were, on the whole, courteously and kindly received (this showing a commendable interest in our work and object). Those who were proud of their factories, and trying to do the right thing, so far as they knew, were always glad to welcome us, and frequently said if they were not right they wanted to know in what respect, that they might make it right. Those having factories that needed inspection were not glad to see us.

A visit to the Sanatorium for Tuberculosis at Rutland, Mass., and a study of their statistics, gave some clews of evidence. I have questioned how much of the details of these dangerous trades which I have inspected might interest or in-

struct you, and have decided that you would care more for results and general principles than for details.

The occupations that produce a great volume of dust are detrimental to health because they produce irritation in the respiratory system, and thus predispose the workman to the diseases common to that system,—of the lungs, bronchial tubes, nose, and throat. The mineral and metallic dusts are far more harmful and dangerous than the so-called vegetable dust. For instance, the stone-cutters and polishers, who have to breathe freely the fine stone dust, regard consumption as the stone-cutters' disease. A recent report of the National Stone-cutters' Union showed that out of 96 deaths, among those on the beneficiary list, 45 died from consumption in one year. I was also told that statistics show that the average age among stone-cutters is forty-five years. The danger to those who inhale dust arising from the grinding of metal tools gives also what the workmen call "grinders' consumption." A skilful physician, who had had thirty years of experience among these workmen, told me that four or five years was the limit which these men could work at grinding without injury to their health; and in his experience he had seen five different nationalities try the work, each to do less than the one before. The lungs in these fatal cases become hardened and filled with grit. The dust in the sorting-rooms of paper mills is excessive, and it seemed to me needless; yet I did not learn that it was particularly unhealthful, while the laborers themselves were amused at the thought, and offered their own experience and appearance as good proof of the opposite.

Contrary to the general feeling, there does not seem to have been much danger of small-pox from the handling of domestic or foreign rags. The danger to workmen in cotton mills is not so much from the vegetable cotton dust as from the high temperature and great humidity. In the cool October weather I frequently found rooms having a temperature of from 80°–90° F. with a humidity of 75°, furnishing the best kind of medium for the culture of the germs of tuberculosis. Experience seems to show that the Greek workmen are the most susceptible to this danger. The heat and moisture are necessary for good work in this industry. There are two other dangers, however, that I saw in cotton mills that should be mentioned,

and can be avoided: first, the holding of bobbins in the mouth, when changing them upon the machines; second, the threading of shuttles by sucking the thread through with the mouth. Any infectious disease lurking in the mouth of one person may, under favorable conditions, be communicated to the next one in these two ways.

The danger to those who work upon or with lead is naturally from lead poisoning. This is taken into the system either from dust inhaled, as in the mixing-rooms of rubber factories or in the drying-rooms and ovens of lead factories, or it is taken in through the mouth from soiled hands. There is the same danger to painters and printers. These dangers are being eliminated by careful manufacturers, and often against unwilling workmen.⁶ Cleanliness, here as elsewhere, is the key to health.

Another occupation dangerous to workmen, and with, perhaps, danger in the product, is cigar-making. If the great army of smokers could see how the cigar which they roll as a sweet morsel in their mouths is made, they would do one of two things, either smoke less or not at all, or insist on their being better made. I found in this industry two nasty customs: first, the biting off of the end of the cigar and the wetting of the fingers with saliva from the mouth to aid in finishing up the end of the cigar neatly; second, after the loose pieces of tobacco upon the floor have been spit upon and walked upon all day, with shoes covered with dirt from the street and filth from the water-closets, they are swept up at night and sold again to be used as filling for cheaper cigars. Nicotine alone is bad enough, but nicotine *plus* is too bad.

Another danger to the workmen in this industry is from overcrowding. I found the men seated in serried columns, literally elbow to elbow and back to back. In one room, 100 feet by 80, were 125 women; in a second room, 100 by 80, were 150 men; in a third room, 100 by 80, were 175 men; and in a fourth, 100 by 46, were 145 men. These rooms had no ventilation except from the windows, and those were generally closed, though the day was mild. The air in these rooms was perfectly horrible. I found upon the walls of these work-rooms the notices of the Society for the Prevention of Tuberculosis, approved by the trade-unions. Too many, I fear,

thought that with the posting and subscribing to the rules their duty was done.

The industries thus far called to your attention are only some of the most striking examples of the dangerous occupations that I inspected. There are others I might cite to you, did interest warrant it, and other industries that ought to be, but were not inspected in this State, simply from lack of opportunity. There are conditions, dangerous along general lines, that can be found in practically all manufacturing establishments. I refer to overcrowding, lack of ventilation, lack of good sanitary arrangements, and the danger of contracting tuberculosis from promiscuous spitting upon the floors and hallways in factories and work-rooms.

The trinity of good health is bright sunshine, fresh air, and pure water,—all free gifts of God, to be had for the taking. In Massachusetts we require that our school-houses and public halls shall be ventilated, yet out of one hundred places I inspected only one was ventilated for the sake of pure air alone. The ventilation, when there was any, was from the windows, which is better than none, it is true, but not what it can and should be. Many rooms were ventilated indirectly for other purposes.

Another common danger is from the water-closets, etc. As a rule they are within and a part of the work-room, often are dark, damp, dirty, and not ventilated, and sometimes can be smelled as far as a cheese stall in a German market. Because of interference by insurance companies these toilet-rooms are sometimes only sheathed up six or eight feet, and open at the top. If the health conditions in public buildings could be as rigidly inspected and restricted as the dollars and cents conditions are, when regulated by the insurance companies, the State could save tenfold this cost.

Another danger, generally ridiculed through ignorance, is the nasty habit of spitting. If it were simply nasty, it might be endured; but, when dangerous to public health, it ought to be restricted. The whole world was shocked when at Martinique, in 1902, were destroyed 30,000 people in a day, yet the United States offers up every year 100,000 victims to what Holmes has so aptly called "the great white plague," and the whole world is losing two every minute from the same

cause. Some ingenious mathematician has estimated that every tubercular person expectorates 7,000,000,000 germs every day. I don't know this to be a fact, for I never counted them. My twenty-five years of experience and knowledge as a busy doctor has convinced me positively that consumption is a dangerous, infectious, communicable, and preventable disease, and that our safety is in educating the public from their lethargy to their danger. When the great educator, the daily paper, will open its eyes to our greatest danger, instead of using the scare-head lines for spotted fever, which is not a public menace, we may hope for a proper public realization of the danger from promiscuous spitting in public places, and see it stopped. If the State has the disposition and the power to care for its people when made sick, it certainly is reasonable to say that it has the equal right to do those things which will prevent sickness, even though it encroaches upon that bug-bear of personal liberty.

I am of the opinion, formed from personal interviews, that the great majority of our manufacturers will welcome any legislation that will help improve the health conditions of their operatives. To make any health laws effective, the local health officers of each municipality should be chosen for their efficiency, and receive a recompense commensurate with the value and nature of their service instead of the beggarly pittance or free service now given so generously to an unappreciative public. With changing conditions in manufacture has come a change in the type of the worker, and with the change a danger from the lower class of workers. In one mill I saw notices posted on the walls in six different languages, showing the diversity of nationalities in the present immigration.

I wish to close my paper by referring to the brighter humanitarian side of industrial conditions. In spite of the strikes and the labor wars, I saw a growing tendency to do those things that elevate and benefit the working-people. The hand-toilers are banding themselves together to better their condition. The brain-toilers, the employers, beautify the grounds about their factories. They furnish hospital room, with a few necessary things for accidents and sudden sickness, a lunch counter or restaurant with hot food and drink for those who cannot or do not go home for the noon hour, or they fur-

nish a reading-room or recreation-room for the spare hours or evenings, and the best part of it all is, they all say that "it pays."

Let me close with a bright picture of an ideal condition that really exists within this city to-day,—in a very large modern seven-story, brick, up-to-date factory, employing 3,000 hands, owned and operated by a man who worked his way up from the bench by his own grit and force of character. Knowing from experience the side of the workman, he has installed within his plant a system of profit-sharing, based on the grade of work done, a sick and death benefit insurance, one of the finest gymnasiums, with bath-rooms for a large class at a time, and a paid instructor, a hospital room, a large restaurant with food at cost, a library, a reading-room, a small dancing-hall with a piano for the girls, and a billiard, bowling, and card room for the boys. And he says, "It pays."

6. RESEARCH INTO THE CAUSES AND ANTECEDENTS OF DISEASE: ITS IMPORTANCE TO SOCIETY.

BY THEOBALD SMITH, A.M., M.D., GEORGE FABYAN PROFESSOR OF COMPARATIVE PATHOLOGY, HARVARD UNIVERSITY.

[Read Friday morning, May 12, 1905.]

Medical science, or the study of disease, is but a part of the science of life, or biology. If we possessed an insight into the entire scheme of life upon the globe, and if equipped with this knowledge we could take our position a little beyond our earth and watch, year in, year out, with microscope or telescope the living things, we should probably come to the conclusion that disease was but an episode in life, an eddy in its current, or perhaps a normal, even necessary, manifestation of life's unceasing movements. When we come down from aloft and mingle with the human current, disease assumes a more portentous outline. It is an ever-present reality, and the annals of history and literature are pathetic records of its influence upon the mind of man. So our opinion of disease will change as we successively view it as a factor in the entire life of the globe, in the life of the community, and in that of the individual.

Medical science may approach the study of disease from one of these standpoints. Disease may be investigated from the purely biological standpoint as a disturbed equilibrium of life, following change of environment. It may be studied from the standpoint of society, with an eye to the political economy of health and vigor of body; or, finally, it may be studied with reference to the immediate needs of the afflicted individual. These spheres of work are not mutually exclusive: they depend on each other, but they emphasize widely different phases in the problem.

The different views which we may take of disease as a factor in the life of the world need perhaps some illustration to make them intelligible. Nature in its various realms

and subdivisions may be considered as governed by a great multitude of contending forces in unstable equilibrium. When this equilibrium is temporarily disturbed, something goes wrong with the individuals composing such realms. The difficulty becomes adjusted when the equilibrium has been restored. The gradual evolution of mankind into a higher social organism has been accompanied by continual disturbances of equilibrium both in external nature and in man himself. Among the former we may cite as familiar illustrations the deforestation of the land, the gathering of human beings into cities, and the resulting smoke, dust, and noise-nuisances which are all creations of man himself; and, lastly, the wide dissemination of disease-germs by the movements of human beings and the transportation of animals and of the products of the soil. Disturbance in the physiological organization of individual man has likewise been noted. Premature decay of teeth and loss of hair, loss of muscular power, of physical endurance, sterility, and many other abnormalities are familiar to all. It is the price we must pay for progress, so called. It will be seen that there is, as it were, a conflict of interests between the individual and the overshadowing society of which he forms a very small part. This conflict is particularly well brought out in the study of disease or the pathology of our physical existence. It has its counterpart in the study of diseases of the moral life, or social pathology, likewise a result of social organization.

The true function of medical science is to study these disturbances of equilibrium between man and his environment, to anticipate them, and to suggest those compensatory movements which will counterbalance the temporary ill effects of social movements. This ideal conception of the functions of medical science is far from being realized to-day, partly because medical science itself is still in its infancy, partly because men still cling to the older notions of disease current centuries ago. The popular conception appears to be that the physician in some mysterious manner, by the application of drugs, may drive out disease. Disease is personified into an entity, and its elimination regarded as an act of the doctor. But even the educated man makes unnatural demands upon the healing art. Many are looking expectantly for the discovery

of an elixir of life, which will make the old young and keep the young from growing old. Many think that, if only enough money can be applied to research, medicine may come to control natural laws and save us from the consequences of transgression. All that research can do, however, is to analyze more profoundly and teach more thoroughly the natural laws which govern disease, and the necessity for submitting to them.

Mingled with this mediæval conception of medicine, and often obscured by it, is another which gained great momentum during the latter half of the century just passed. It is expressed in the simple query, What is the cause of this disease? and is slowly but surely supplanting the query, Is there any cure for this? Indeed, wonderful cures in the popular sense will be discussed with the same interest at the end of the twentieth century that characterized the discussion of the miracles of the gospel at the end of the nineteenth century. But the disappearance of the popular conceptions of cure, reflected in pages on pages of advertised nostrums and miles of bill-boards, does not supplant the physician. His skill will no longer depend upon the mysterious formulæ he may carry in his pockets, but upon that keen, delicate touch with nature and the adjustment of hundreds of details which will put the patient in the most sympathetic relation with forces acting on him from within as well as from without. He will be more needed than ever in the growing complexity of our environment, and his skill and breadth of knowledge must be proportionately greater.

The gradual analysis of the causation of disease by modern medical science is the foundation of that other branch of medicine which, instead of dealing with the individual directly, deals with him collectively through society or the State. As causation is indissolubly linked to the idea of prevention, so State medicine is essentially preventive in its scope. The antithesis then is between individual and social medicine, between the conceptions of cure and prevention, between superstition and science. Lest I be misunderstood, it will be necessary to illustrate this antithesis in some detail.

Man is forever seeking the causes of things. A philosopher of the eighteenth century humorously named him the cause

animal (*Ursachenthier*). This quest for causes is characteristic of the human mind, and is the secret of its physical domination of the world. If we recall any important event of our life and trace it back, we are surprised to find from what slight antecedents or causes it sprang. It is easy to construct a chain of sequences for any event, one depending on the other, like a row of blocks of the child. The touch of a finger sets them all tumbling over, one against the other. This interdependence of comparatively unimportant causes and great consequences has been immortalized in not a few homely proverbs.

Much the same is true when we come to study the incidents of disease. Strange as it may seem, diseases actually in progress date their beginning not from the day or hour of ill feeling, but to some earlier period. In the infectious diseases the beginning dates from the time of infection. During the period of incubation the microscopic parasites are laying their mines whose explosion opens the actual illness. In other grave maladies, especially of later life, the beginnings are insidious, the appearance of the disease often a crisis or an explosion in a long concatenation of events. It is in the diseases due to micro-organisms that come from without that the chain of sequences is often easily traced, owing to the great advances made by medical science in recent years. In pursuing the chain of events leading to disease, medical science reasoned thus: If we know that such and such events, antecedents, or causes, lead to such maladies, we must interfere with these antecedents: we must break the chain. But the great task was to find the chain. Its links were almost wholly buried. Only here and there was one accessible: some were too strong to be broken. Gradually medicine unearthed more links that could be broken, and to-day the infectious diseases are so well under control because of the many links broken by science. A single block taken from the row interferes with the child's game. So it does in the dissemination of contagious diseases.

We might use another simile. The phenomena of life may be compared to a network of threads, in which we occupy the points of intersection. Entangled in these meshes which appear to grow more complex each year, we are exposed to

the attack of disease travelling along these lines from many quarters. Medical science endeavors to trace these intersecting lines back as far as possible, and break them wherever it finds a weak spot. If we were endowed with the sense of telepathy, we would hear many a click where sanitary science is breaking a thread that was carrying disease to our door.

In the intricacy of modern life, prevention is likely to be imperfect. The State, as represented by its legislature, may refuse to pass necessary laws, or the appointed official may, through indifference, execute them in a lax way. Hence the necessity for finding means of arresting diseases which cannot be absolutely prevented. For this purpose medical science is pursuing this chain of events into the body of the patient with the hope that something may be done to interfere with the progress of a malady that could not be prevented. Hundreds of students are at work to-day in the laboratories of Europe and our own country endeavoring to discover how the body gets well, what the chain of events is which leads to recovery. If this can be analyzed into its elements, may it not be possible to provide the physician with a weapon which will cut the thread and stop the momentum of the disease? Medical science has been successful recently in providing such means for one dreaded disease, diphtheria.

Even in the ordinary every-day ailments not due to micro-organisms, the doctrine of causation lies at the bottom of the most successful treatment. Accepting the definition that disease is largely due to disturbances of equilibrium between ourselves and our environment, the best physician tries to find out, one by one, the disturbances that have led to the diseased condition. These are removed whenever possible. He does not cure the abnormal condition due to them, but by removing the causes he affords abused nature the opportunity to act normally, or even assists nature to hurry along recovery. There is a remarkable power inherent in life to re-establish a normal condition when the pressure has been removed. There are few things in biology so wonderful as this. How important then to find out what is interfering with the proper relation between us and our environment.

If we examine this conception of disease as a series of sequences or causes coming to us from without, and continuing

within us to recovery or death, we find embedded in it another most important fact. It is this,—that it becomes more and more difficult to stop the momentum of disease, or, if possible to stop it, it requires more and more energy to do so, the nearer it approaches us from without, the longer we wait after it has attacked us. It is like something rolling down an inclined plane, or like the little mass of snow which gathers into an avalanche on the mountain slope. It is much easier to check the entry of a virus into our body than to stop its momentum when once there. It is far simpler to provide a pure water supply than to alleviate the misery and pain and face the irretrievable losses of an epidemic. For many of the most serious diseases we can check the dissemination by comparatively simple means; but, when they have been neglected, the only thing that can be done is to rely upon the healing power of nature under the guidance of the best physicians. We can prevent infectious diseases if we will really and earnestly set to work to do so, but we cannot always prevent death in those once infected.

The collective dealing with the causes of disease whose radiation in many directions is readily prevented when once those causes have been recognized, has another virtue which is worth considering. It is infinitely cheaper to prevent than to treat disease. The burden entailed upon society in the care of the sick is excessive. It involves not only the savings of the poor, but the health and strength and often the life of those upon whom the task of nursing may fall. On the other hand, the burdens due to the machinery of public medicine are slight, and borne by all in proportion to their means. It matters not how promising remedies and cures may be, a little examination will show that they are expensive, and that the means for their application are largely provided by public-spirited citizens in the form of charity. Only a comparatively small number of sufferers can be reached by them, owing to insufficient means for applying a costly treatment. Individual medicine depends really upon a surplus of energy in the world. When in the distant future that shall have been exhausted, only public medicine will survive.

There is still one other thought hidden in this conception of dealing with the sequences leading to disease as near their

ultimate source as possible: it is futurity. We interfere with the causes leading to the ills of to-morrow, for those of to-day we must endure. The physician prepares to-day for any possible relapse which may threaten his patient to-morrow or next week, perhaps. We permit ourselves to be vaccinated to acquire a resistance that may not come into play at all. The physician administers antitoxin for a sore throat, even though he is not yet certain that it is diphtheria, because he thus gains a precious twenty-four hours.

The apparent antithesis between cure and prevention with which we started out in our discourse does not turn out to be real. The same methods are pursued by the physician scientifically trained and by the sanitarian. All are working under the same laws. All try to stop the process of disease somewhere in its course. The sluice-gates may easily divert a stream near its sources in the mountains: they may be applied with equal skill to the swollen torrent in the lowlands, but frequently without avail. The physician has the more difficult and trying task, and many times the laws of nature block his path.

Medical science must continue its work of analyzing more and more minutely all the phenomena that go to make up disease. For by this continual analysis we learn where we may gain control of the future, with the least effort and the greatest chances of success. No amount of intuition and speculation apart from the study of the thing itself can assist us. When the human species left the plane of animal life and bade farewell to instinct, its controlling guide, the only thing to do was to construct life through reason, by the most thorough analysis possible. Our only protection from disease is in the most exhaustive study we can make; and the more complete our knowledge of its mechanism, the nearer we shall approach complete control.

This work of analysis is being pursued with much patient observation and experimenting. Insight cannot be gained, analysis of phenomena is impossible, without experiment. Much criticism has been bestowed by people of culture, refinement, and often of the highest standing, upon medical science, on account of experimentation upon animal life. They are, however, either uninformed of the necessary trend of science

and its objects or else wholly out of touch with them. Medical science cannot take any backward step, for the survival of the human race itself depends upon its successful adaptation to a changing environment which must be thoroughly understood. Our well-meaning anti-vivisectionists may claim with some show of reason that sooner or later the proper equilibrium will be restored without the aid of medical science. But the sacrifice of life would be appalling under such a *laissez-faire* régime: it would reduce our population to the number of the aboriginal savages, where civilization would have to start anew and only with individuals who by neglect have become immune to all the ills that nature may provide. Whether the human race could survive the onslaught of all the micro-organisms of disease, without the erection of artificial barriers, is to me highly questionable. It is true that the lower types have survived in different parts of the world, but we forget that the germs of infectious diseases had their special homes, just as the valuable and noxious plants and insects had their different centres of origin. With growing intercourse, each original centre of population, immunized through centuries and perhaps thousands of years to its own few diseases, would be brought in contact with some fatal plant of another portion of the globe, and be partly swept away by it. Only with the aid of medical science has man been able to overrun the globe with more and more speed, without at the same time bringing back with him the germs of fatal diseases. What would become of our population to-day if small-pox, cholera, the plague, typhoid, and the children's diseases were allowed to run riot? The critics of experimental medicine do not appear to realize that the knowledge how to control these diseases comes only by the most persistent analytic experiments. It is something of an anomaly to see a small body of people, all of them thoroughly protected by the silent workings of medical science, and moving about with perfect immunity, some of them perhaps never ill, never in danger, living to a good age because of the protecting wall medical science has built around them, and yet moving annually upon our State House to induce the law-making body either to prohibit medical science or, if that be impossible, to police and license it as we do dram-shops.

The same method of work characteristic of medical science has been adopted in other fields of human activity. I refer to them here simply to show that, if medical science is on the wrong path, it is not travelling alone. Perhaps the most encouraging sign to those interested in the welfare of their fellow-beings is the adoption of this method in philanthropic work. Indiscriminate almsgiving has been almost wholly replaced by a rational scientific study of causes, and by the giving of aid only so far as to place the beneficiary in harmony with his environment. The causes of social discontent and poverty are being investigated on all sides, and the simple palliative of evils is received with less and less patience by thinking people. The remedy for bad citizenship is placed where it should be,—upon the education of the young. The chain of events starts early in life, and the emphasis is now placed there where it belongs.

The conception of causation and its corollary, prevention, is on the whole so simple, it pervades our daily life to such an extent, that it seems strange that in the province of disease it should not be accorded its proper place. That medical science should concentrate its attention upon something that may happen to-morrow, instead of wasting valuable time upon what has happened to-day and cannot be recalled, seems strange to most of us; and yet it is the essence of all successful dealing with disease. In this sense the best physician is sanitarian first and dispenser of medicines afterwards.

If the true work of medical science is to trace the antecedents or causes of disease, these are sufficiently varied to give employment to minds of widely different attainments. These causes are to be sought for in our hereditary characters, in our present and past activities, and in our environment. A most potent group of causes, to which I have merely alluded, is to be found in the realm of micro-organisms. It is of interest to note that civilized man, who has subjugated or annihilated all species of large animals, finds the difficulty of controlling and suppressing them in inverse proportion to the size of the offending species. Many predatory and destructive insects which disturb agriculture are still at large, and many of the microscopic and ultra-microscopic organisms which cause disease baffle the scrutiny of science. With this study of micro-

organisms is bound up the phenomenon of parasitism,—one of fundamental importance to all life. Parasitism implies a continual struggle between the highest and the lowest forms, and the investigation of the conditions which surround this struggle will be for some time to come the most fruitful field for research. Parasitism is not an unknown phenomenon in the social and political life of mankind, but there we observe the curious fact that the parasites belong to the same species as those who support them. Among lower forms of life, and especially in the causation of disease, the parasite stands at a much lower level than the host. We may, of course, say that the political parasite lives upon the "organization" rather than upon the individuals composing it, but to the taxpayer this distinction would not be very convincing. The political parasite is but one of a great variety of species. We have others, such as the tariff parasite, the rebate parasite, the franchise parasite, and so on. Without going farther in this tempting comparative study, I may state that there is much in the phenomena of infectious diseases which suggests certain pathological states of the social organism; and I believe that much mutual assistance could be obtained by an occasional interchange of ideas and theories between the student of social and the student of biological pathology. On many an occasion I have received encouragement and suggestions in the study of microbic warfare by noting what would happen if microbes were men, and men microbes.

So far I have dealt with the pure science of medical research. In order that this pure science may become useful to society, it must be applied to the every-day conditions of life. The working out of general biological laws governing disease is of fundamental importance; but it must be supplemented by the labors of the physician, the health officer, the teacher, and the parent. This brings us to a brief consideration of the ethical bearing of applied medical science. Pure science, as such, is not concerned with ethics. Its object is to grasp and explain those forces which are working upon the body from within and without. The moral element is not introduced: the great discoveries have no ethical value until applied by us for certain ends. This daily application of new facts and theories concerning disease influences our moral life, both as

individuals and members of the family and as component elements of a larger social organism. Let us look at these in turn very briefly.

With clearer insight into disease processes, the duties of each one of us in behalf of health and against diseased conditions become more definite, and our privilege to be sick is correspondingly curtailed. Under the earlier point of view the patient was the main and sole object of attention in his affliction; and, while this may still be true, increasing knowledge has placed upon all a certain duty to avoid the known steps leading to disease. Not only does some responsibility rest on the patient himself, but modern sanitation steps in to protect the patient's family and neighbors in case of infectious diseases. No longer is he the sole object of attention, but the community, the State, the public health, as it were, sees to it that the well are protected and that the patient does not unwittingly cause damage. The segregation of disease is not a new idea of the nineteenth century, for it has been practised since the lepers of early Scriptural times were made outcasts. It stands, however, in the foreground of preventive medicine to-day. I do not wish to imply that this shifting of the centre of gravity from the patient to a point beyond is necessarily accompanied by less interest in the unfortunate, for at no time have the sick received greater care than to-day. It is simply one of those readjustments necessitated by our progress in insight.

The newer views concerning the causation of disease and the desirability and necessity of maintaining a normal existence may lead, as all new movements do, to an over-estimation of mere health and bodily vigor. Health at all hazards may easily become a bulwark behind which to shirk our responsibilities. To-day social judgment is rather lenient upon this point, for health, or an over-development of physique which is often taken for health, is at present among certain classes something of a fetich, which dominates and to a certain extent causes atrophy of more important faculties. Its influence is only too evident in the abnormal and militant athleticism of our higher institutions of learning.

Our relation as individuals to the social organism in matters pertaining to our physical welfare is in many respects made

very complex by continual changes in this organism. Our health is very largely dependent on a certain environment with which we may regard ourselves in equilibrium. If this is disturbed, disease may follow. With the growing complexity of society and the greater interdependence of its members, our personal control over our environment becomes more and more restricted. The air we breathe is vitiated by dust, smoke, and gases, over which we have no personal control. The food we eat is infected, manipulated, and adulterated without our knowledge. The beverages we consume unboiled may be highly charged with noxious bacteria. The public conveyances we must move about in may be peopled with dangerous diseases. Our homes may be invaded by poisonous illuminating gas, and asphyxiate us. We might continue indefinitely this recital of the slight personal control the social being has over his environment. With the rise of hotels, tenements, and densely packed hostelries of all kinds in our large cities to take the place of the family home, we have practically abdicated much of the power we possessed over our surroundings.

The evils which have arisen to threaten our health are of two kinds. There are in the first place those which are the natural results of changing environment. They are the price we pay for the newer conveniences and luxuries of life. Though they may be mitigated, they cannot be eradicated. We must be content, for example, to live in less pure air than our forefathers did, if we must live in the heart of large cities. Our sedentary occupations cut us off from so much physical exercise each day. Our muscles atrophy, and it hardly pays to keep them fully developed when strength is needed for other purposes. We must learn to balance conditions and to choose between two kinds of environment, for we cannot have both.

Evils of another class are such as have slowly arisen on the initiative of individuals and groups of individuals in exploiting nature for personal gain or in exploiting the ignorance and credulity of their own kind. These evils appear in the vitiation of air, food, and drink, the sale of injurious drugs, and so on. But it would be wrong to assume that all those agencies which tend to injure us are the result of pure greed and malice. Many of the processes which are health-destroying

have been undertaken in a happy-go-lucky manner, without any thought of their final harmfulness. This may have been especially true in a relatively young country like ours: To cut down the forests was in the beginning a necessary act, and a salutary process in draining the soil and preparing it for human dwellings. But the process has long passed this stage, and is now threatening. Many of the difficulties with which society has to cope have grown offensive and dangerous, owing to an intensification of the processes at work, and to the denser population affected by them. To what extent the equilibrium between ourselves and our surrounding has been disturbed by social evolution, the three words "noise," "dust," and "smoke" bear witness. Noise is largely a product of civilization. The savage who can apparently endure a lot of it had but few means of making it. The civilized man makes plenty, but is far less able to endure it. Dust is likewise something invented by civilization. Nature knows but little of dust. It clothes all bare places with vegetation, and thus binds the soil together into a compact mass. The highway and the street of to-day represent the chief dust manufacturers. The constant attrition of perishable fabrics adds a not insignificant factor. Smoke was likewise a rare thing in nature, limited to volcanoes and the occasional effects of strokes of lightning. The use of fire for man's benefit is now universal. With it came smoke and soot.

Occasionally, conditions formerly regarded as injurious have lost much of their bad reputation through research. Some twenty-five years ago a factor entered to disturb the comfort and peace of city life. It was the alleged infectious character of sewer gas. Since then much legislation has become encrusted about this alleged fact, and a costly system for preventing sewer gas from entering our dwellings has been built up, known to us as sanitary plumbing. But slowly the tooth of time and careful investigation have eaten away one by one the privileges of sewer gas to produce various infectious diseases. To-day it would be difficult to state just what sewer gas does to injure health.

These few illustrations clearly indicate the intricacy of the situation in which the individual finds himself. Everything is in motion and change. Not only must medical science de-

termine the relative noxiousness of processes new and old, but after this has been fairly determined we must make a choice between the good and the evil in such processes. With many these are so balanced that only the special student can be trusted to speak the deciding word.

It is needless to say that very grave responsibilities rest upon the student of disease problems, in view of this situation. Not only should his work be done with the greatest skill and insight, and the application of medical science to industrial and social problems should be based upon the most accurate and reliable information available, but he must, in the face of niggardly compensation, maintain strict integrity. Already the powers who aim chiefly for gain are beginning to see that the public is trusting science and confiding in its results, and they are quietly attempting here and there to ally themselves with pure science and have its devotees unwittingly act as sponsors for their activities. It would, indeed, be a calamity if this should occur; but the mere possibility emphasizes the need of such public support of our growing medical laboratories that, like ideal courts of justice, they may be wholly above temptation to betray truth on the one hand and society on the other.

In conclusion, let me briefly recapitulate the thoughts I have so imperfectly presented. We have seen that the study of causes and antecedents is of fundamental importance in medicine as in other departments of human inquiry. The knowledge of causes leads to the treatment of them rather than of their effects. Our efforts are thereby directed largely to the future rather than to the immediate present, which simply registers the effect and is frequently beyond help. We have seen that for society to control causes of disease is infinitely less burdensome than to try to palliate effects. This preventive medicine is really the medicine of the social organism, the people's medicine, as contrasted with the treatment of the individual, which often requires resources beyond our reach, because the momentum of disease to be resisted has become so great when it has once manifested itself in the individual. Over and above the task of studying disease is the one which applies the results of such study to every-day life. With this application, ethical problems appear. Science merges into

art and practice, and the student of medical science must share responsibilities with all those whose function it is to watch over the welfare of the individual and of society, and to harmonize their frequently conflicting interests.

DISCUSSION.

As a rule, the health papers were not debated. Mr. Hale followed Dr. Chadwick's paper with a statement of the legal relations of cremation, which is annexed to the paper itself. After Dr. Cabot's entertaining and often extemporized remarks, which are given above in their form as written out, a discussion sprang up about the sanitary value of Mr. Horace Fletcher's advice to eat less food, do more chewing, and evoke what he calls "the swallowing impulse." His books on the subject of diet and exercise were cited by President Brooks, and Dr. Cabot was asked if the principles there laid down agreed with his own observation. Dr. C. said in substance that for many constitutions Mr. Fletcher's prescription of less food would be the best. Others, as he had intimated in the paper, might require much more food. No rule would apply to all cases.

President Brooks said that experiments made at New Haven by the authorities of the Sheffield Scientific School appeared to confirm the principles of Mr. Fletcher, so far as they went; and the experiment in Mr. Fletcher's case had a very striking result.

A few remarks were made in regard to the care of workmen by their employers, after the reading of Dr. Palmer's paper. That of Professor Smith, with its broad, general principles and suggestions of far-reaching significance, could not be amply debated in the brief time remaining at the end of the readings. It will be noticed that this general topic of sanitation went over into the Education Department, of which the papers might well be described as hygienic, although having regard to the peculiar liabilities of teachers and pupils to disease.

III. DEPARTMENT OF SOCIAL ECONOMY.

I. THE THEORY OF TAINTED MONEY.*

BY JOHN GRAHAM BROOKS.

[Friday evening, May 12.]

Four years ago a committee was appointed by Bishop Potter to report upon a situation which involved whatever is contained in the term "tainted money." The committee consisted of Bishop Brent, Professor Ashley, Professor Scudder, and myself. For reasons that need not here be given the report was not completed.

My own part in it was to collect data on which one could form some opinion as to what meaning may attach to this troublesome phrase. There is a casuistry and a metaphysic on this subject that is very old. There are hoary abstractions without number. There are supersubtle distinctions connected with motive and intention which are thought to sanctify all gifts. On this side of motive, the metaphysic has a clear field; but the difficulty in every case of deciding what the actual motive was is so baffling that the casuistry is of precious little practical use when the concrete case arises. The ground is always clear in this discussion, so far as repentance follows the gift of doubtful origin.

There is an instance reported in which a group of Catholic priests devoted to propaganda for total abstinence refuse gifts from a saloon keeper in the parish, but gladly take the same money if he will stop selling rum.

This explains well enough what one would interpret to a class of children, but ought to take for granted with adults,—that such taint as exists is not on the coin, but in the man and his method of acquisition. Yet plenty of smart and scof-

*The original copy of this address being lost, this was substituted by President Brooks.

ing objections are made even to the raising of such a problem, and the objections really assume that somebody proposes to distinguish between stained and unstained coins.

Another set of objectors think they turn the whole issue into an absurdity by showing how impossible it is to apply an ethical test to some part of the issue. The favorite illustration is the contribution-box. Here the coins are so obviously from every conceivable source, clean and unclean; and yet no one thinks of refusing them. Why, then, it is asked, should you refuse any gift? It is readily admitted that in this illustration there is no known device by which one coin could be refused and another kept. Neither from the side of motive nor from that of the giving act can we meet the difficulties. In a word, that specific problem is morally not a manageable one. We do not apply the test because we cannot.

There is an attractive church in one of our cities to which a good many women from the half-world are known to go, and some of them are said to be generous givers to church charities.

It is not thought they are there with any purpose of discontinuing their manner of life, yet no one thinks of omitting them when the plate is passed. To attempt this would probably be put down as a moral outrage.

Does it therefore follow that no part of the field offers instances in which this new moral sensitiveness can act? I note that many who condemn the attempt express great pleasure that men like Dr. Gladden and President Tucker show such high moral feeling in this dispute. But, if the feeling is a foolish one, this joy of the opponent is not flattering. It is too much like saying, You have mighty fine emotions, but you are, in this instance, destitute of good sense. I admire your heart, but about your head—the less said, the better.

It is especially to this part of the inquiry that I wish to speak. Does it follow because so large a part of the problem swarms with wholly unmanageable difficulties that we are condemned to give it up, in the sense of being constrained to take practically all moneys for causes like religion, morals, and education?

Four years ago, in the hope of getting a little light on this specific difficulty, I made, with some care, a list of questions

which I put during some months to the wisest men and women I could reach. They were largely persons before whom this ethical question had, or might at any time, come,—heads of institutions, overseers, directors, clergymen, and various kinds of ethical teachers.

The first question was this: "Would you accept money from any source for the enlargement of your educational work?" Those rather noted for practical wisdom in their communities almost invariably answered this with an amused but very confident affirmative.

This test was then submitted: "Would you accept the current receipts from a brothel, and have it publicly known that you took the money?" The instant reply was, "Of course not!" I asked, "Why not?" "Because," he said, "it would create too much of a scandal."

To the further inquiry, "Would you take it if it were never known?" he said, "I don't feel sure, but I am inclined to think so."

To the second question, "If the Louisiana Lottery were still running, would you publicly accept a gift from its directors to endow a chair for ethical instruction?" he said: "That kind of thing used to be done, but I question if it would be wise to do it now. No, I don't think I should take that money under those conditions." The following positions are here to be noted:—

- (a) I will take gifts from any source.
- (b) From *some* sources I will not take money.
- (c) The reason why I will refuse it is that it will create a moral scandal.
- (d) Money that was once accepted without offence (as from lotteries) has now become at least very questionable.

It is to be noted further that in this case, as in most of the others, the problem was so new that it had never been fairly faced. Almost all those interviewed began by extemporizing opinions. In every case but one they instantly gave up their first confident assertion,—I would take all moneys for educational uses.

From that point began the process of casuistry and qualification.

It appeared at once that there is here an ethical question;

that responsible people do draw a line, and must draw it according to some principle, if it can be found.

That some religious bodies refuse to do what they once gladly did—build churches from the receipts of an organized lottery—is generally thought to indicate a more sensitive and a sounder morality. I suppose this to be the reason why so many who are still sceptical about any principle in the matter are still “rejoiced that the issue has risen.”

I next asked a writer and professor in Columbia University if he would take all moneys. He said, “As long as I was sane.” To the first test, as applied above, he replied at once, “No, I would not!” “But why?” “It would make too much of a row.” I asked him if he would take a gift from Richard Croker to found a chapel. He said, “No, and for the same reason that it, too, would make too much of a row.” I asked if he would take a gift from Mr. Croker to found a school for veterinary science. “Without a question” he would do that, because “it wouldn’t make a row.” But why should the healing of horse-flesh with Croker coins be without offence, while the devotion of those coins to a house of prayer came to him as a kind of moral shock? Probably because the use of such money for the chapel in a town where political debauchery had enriched him raised an incongruity so sharp as to carry ridicule and stigma through the simple face of association. If the popular belief about a man and his actions is clear enough and convinced enough, the relation between it and any sort of consecrated end associated with him may have the supremest practical consequence. The holy places of the world have been associated (at least in belief) with holy men, or, with what served quite as well, with wicked men who repented and became holy. By as much as the moral imagination depends for its quickening on this association, by so much has this question a purely practical consequence. Now that the evidence on the character of J. Henry Addicks is so fully in, what would be thought of a board of management who should solicit or accept his money for the founding of an institution to teach politics, calling it, let us say, “The Addicks School of Civic Science”? There is not a cynic in the land that would not hold his sides with laughter.

When that desperate English swindler, Hooley, presented

his church with a costly communion service, his character was not generally known. When it was known, and a dispute arose as to whether the Hooley gift should be retained for the most solemn religious rite of the church, do we honor more those who would refuse or those who would keep it? The case here is of the simplest, as there was no question about the facts or that he was trying to buy his way into social favor.

Jay Gould many years ago gave some thirty very precious acres on the Potomac to round out and complete the area surrounding Washington's tomb. I asked one of the more important officials having to do with the gift what would have been done if Mr. Gould had made it a condition that a prominent tablet be there erected, calling public attention in perpetuity to him as the donor. "I doubt," was the reply, "if we should have accepted it." When I asked the reason, the reply was, "Well, we should have shrunk from associating that tablet so prominently with the memory of George Washington."

I have many other illustrations, but these are enough to show how many other people feel, so far as the issues can be made clear.

When Henry Clay publicly cut Aaron Burr, he had become convinced that Burr was a scamp. When Herbert Spencer refused to shake hands with Baron Grant, he had become convinced that this millionaire's property had been won in ways that should have every sort of conspicuous condemnation that could be turned against them.

Good men criticised Mr. Spencer's act on the ground that he could not have known accurately enough what the business methods of Baron Grant were.

This seems to me the nicest and the most difficult test in the discussion.

I have tried to show through illustrations that men of sensitive conscience and clear heads do now act on a certain principle.

It is already roughly indicated in my examples. There is great force in the objection of committees that they are not constituted or equipped for inquisitorial research into obscure mercantile transactions. If this could really be done, and done thoroughly in all cases, most clergymen's salaries—in-

deed, portions of all our incomes—would make a sorry showing. Yet many of us know clergymen, lawyers, trustees, who in specific cases refuse to be paid money from certain sources. I have heard a very rich man, who had dealings with one of our magnates, say, "I can't avoid business relations with him, but I would never take a cent of his money for any educational object in which I am interested."

In two instances I have known university trustees to discuss very hotly whether certain proposed gifts should be accepted. In both cases they were accepted, but the ground on which the protests were made was the character of the giver. I asked one of these trustees who voted to take the money if he would vote to take Addicks's money." "Not a penny of it," he replied, "because there is no doubt in his case. I would not have the Addicks stamp on anything that I valued."

May we then say that, at the point or points where the testimony is so open and convincing that your committee can weigh it and apply moral standards, the problem so far gets its solution?

If the bringer of gifts is so incontestably and so conspicuously convicted that his methods and character are an affront to the community, the way for rejection is clear.

This was the one implication true of every case and of every illustration I could collect. If it is said that this does not assist us very much in the really perplexing cases, I should think that very difficulty an advantage. It may help to guard us a little from that easiest sort of injustice; namely, a too hasty moral judgment on partial doubtful and shadowy evidence.

2. THE SCRUTINY OF GIFTS FOR RELIGIOUS PURPOSES.

BY REV. DANIEL EVANS, CAMBRIDGE, MASS.

We must first get the true conception of the Church before we can answer properly the question as to its duty in scrutinizing gifts. If the Church is regarded primarily as an institution founded in the interests of ritual, its main concern will then be the observance of the ceremonies of religion. Or, if the Church is regarded primarily as an institution founded in the interests of dogma, its main concern will naturally be the official definition of the theoretical truths of religion and their inculcation in the minds of the faithful and their defence against assaults of heretics and unbelievers. If, however, the Church is defined as an institution of spiritual religion and for social righteousness, then great moral questions will receive its earnest and honest attention. It may have a simple or elaborate ritual, it may place much or little emphasis upon dogma; but it must have the consciousness of its spiritual relation to the living God. It must think His thoughts after Him, feel the same deep love, and be moved by the same mighty motives. It must gird up its loins and light its lamp for the sublime task of realizing His purpose. Its mission will be to make the will of God prevail upon the earth, in the heart of the individual, in all personal relations, and in the affairs of business and the State. Since this is God's world, it is the subject of redemption, the theatre for the play of spiritual forces, the sphere in which righteousness must be established.

The Church has created various agencies through which it does charitable, educational, and missionary work. These agencies have special tasks, but the justification of their existence and the appeal for their support are based upon their religious character. Their purposes are claimed to be distinctively Christian, and their methods and practices are meant to be instances and illustrations of the practicability

of social righteousness. Like the Christian man, they confess their faith in the religion of Christ, and profess to live for it and by it. They are, therefore, according to their own claim, not to be classed with secular institutions of society. They are practical agencies for the propaganda of the Christian faith and morality. They have their share in the teaching function of the Church.

The Church, with all these agencies for practical Christian work, is dependent for its support upon the gifts of the people. It is the marvel of men who visit our shores from lands where the State supports the Church, to learn that millions of dollars annually flow into the treasury of our free Church. Some give out of their poverty, others out of their competency, and not a few out of their honest wealth.

No one thinks there is need of scrutinizing the great mass of these gifts to the Church. The vast majority of its supporters are known to be honest and upright people; and, where nothing to the contrary is known of others, the wise Christian course to pursue is to regard them as honest and upright, too. And, if some bad people are donors, their gifts do not harm the Church if they themselves are not known to the Church nor to the public. But, if some person in the community whose calling is bad or whose business methods are known to be wicked should bring his gifts, then it would be the duty of the local church to scrutinize them, and to take into consideration the effect upon its own life and the moral welfare of the community.

The pressing necessity of scrutiny on the part of the Church arises when men prominently identified with large corporations conspicuous for their predatory methods proffer their gifts. The dominant force in this land to-day is the commercial, and the immense industrial development of recent years has created new problems which require for their solution the greatest wisdom and courage. Such immense power in a comparatively few hands is but a new form of the old absolutism which we have known in Church and State. Even with good men with the best of intentions, such power has proved dangerous; and society has created check after check upon its use. Under the best conditions such power requires all possible restraint for its rightful use; and, where these best

conditions do not obtain, the methods and practices of men with vast power has been most dangerous and damaging.

And this is what now confronts us in this country. There is such a colossal accumulation of wealth in a few hands and such terrific power concentrated in certain large corporations of an evil type as should alarm all serious citizens. Some of these corporations by their evil methods are a menace to honest business interests. They corrupt our politics, bribe the men who make and those who execute our laws: they threaten the very foundations of our national life and all our high moral interests. The grave question before the American people, the government, and the Church is whether we can bring to bear upon these men and their corporations such a strong moral public opinion and power as shall safeguard all that we hold dear.

This is the great social reason for the duty of discrimination upon the part of the Church in soliciting or receiving gifts from men whose methods and practices are known to be, or are charged with being, morally iniquitous and socially destructive.

The duty of discrimination at the lower end of the scale is recognized by most men. The man convicted by the courts is discriminated against. In this case the Church can point to the records of the court, and hide behind them in safety. There will, of course, be little call for such discrimination; for, if the convicted criminal brings them, it will be because he has repented, and seeks to make reparation, and reparation is a proof of conversion. Some maintain the duty of discrimination must end with the convicted criminal.

If the Church were only a legal corporation, and only stood in a legal relation to the community, it would, of course, have to wait for the verdict of the court before it could pass judgment on the business methods and practices of men; but the Church is more than a legal corporation, and stands in quite a different relation to the community. The Church is a moral institution and the educator of the people. The court deals with conduct in relation to legal statutes: the Church deals with conduct in relation to moral laws. The legal statute and the moral law are rarely equal. The legal statute is always higher than the conduct of the criminal, and it is frequently

in advance of many unconvicted criminals of respectable circles; but it is seldom, if ever, as high as the moral law nor as broad in the area it covers. Sometimes it is positively immoral and obstructive of social progress. A man may sometimes break great moral laws, and yet never come before the courts. A man may, on occasion, break the law of the State, fulfil thereby the higher law of life, and his crime make for social and moral progress. The men who doomed Socrates to death acted within the law; but Socrates' conduct was right, and made for an ethical advance. The men who crucified Jesus were not convicted by the courts, in spite of the fact that they put to death the one absolute moralist of history.

Large areas of life are not covered by law. In this larger moral region is the place for the play of moral judgment. The plain man with unsophisticated conscience passes judgment on specific offences and offenders. The good citizen is called upon to create right moral opinion. The good government leagues discriminate against certain candidates as morally unfit to represent the town or State. The moral judgment of large numbers of men in a given community or through the country against a certain man, when based upon facts and records, is a doom as damning as the verdict of a court.

When such a moral judgment is passed upon a man, the Church must scrutinize his gifts. Current rumor against a man may not be sufficient reason for the Church to pass judgment upon him, yet it may be reason enough for the Church to hesitate in soliciting his gifts, to pause before seeking his fellowship in work, and to take wise counsel of discretion before entering into public relations of honor with him. When a man's conduct has become a public scandal, and he is openly charged by responsible parties in respectable papers and journals, and when the challenge is thrown down to proceed at law against the parties making the charges, and he does not earnestly and honestly seek to clear himself for the sake of his own honor and the honor of the institution to which he offers his gifts, it is then the imperative duty of the Church to pay attention to the moral judgment of the community.

Still further, the Church must not only heed the moral judgment of responsible people of the community, but it must

itself perform the offices of moral judge. Because the Church does not have the legal machinery of the court, it is not excused nor estopped from passing judgment. While its primary office is not to accumulate evidence, yet, when men and women in the community who are devoted to truth and righteousness and to social and national welfare gather the facts in the case and furnish the data, then the Church as a moral institution must evaluate the data from the ethical point of view. The Church, by the very nature of its life and mission, must judge principles and policies, character and conduct, individuals and societies which are not yet condemned by the courts nor even by the general public. And to say that the Church should refuse to judge on the ground that we are all "miserable sinners" is to offer an excuse which, if carried to its logical conclusion, would, as Miss Ida Tarbell says, "leave our business men weeping on one another's shoulders over human frailty, while they picked one another's pockets." When, therefore, gifts are brought to it by men whose methods and practices are morally iniquitous and socially destructive, the duty of discrimination in these specific cases is imperative. It must not suffer itself to be brought into relations of patronage, of honor, or fellowship in work with such persons. Since the Church and these men represent opposing interests, the Church should neither solicit nor accept their gifts, and for the following reasons:—

First, for the sake of the kingdom of God. The Church has no reason for existence apart from the purpose of God to establish righteousness on the earth. The claim of the Church on the souls of men and on the moral forces of society for allegiance and co-operation grows out of the fact that it stands as the organ for the proclamation of this purpose, and is the highest spiritual agency for its realization in the lives of men. This purpose clearly seen and deeply felt gave birth to the Church, and has perpetuated it through the centuries. It must, therefore, enter into no relation of dependence or honor that will hinder the realization of this divine purpose. The kingdom of God must ever have the right of way, and for its sake the Church must keep itself free from such men, and independent of their gifts.

Second, again, the Church must keep itself free from such

relations for its own sake. It has its own reputation to sustain before the public, and its own moral and spiritual integrity to preserve. It must not, therefore, subject itself to the charge of ignoring the moral issues involved in maintaining relations of honor with men identified with and responsible for great commercial evils. Every man is careful that his conduct may not reflect upon his honor. The Church's honor is as sacred as that of the individual, and the safe-guarding of it should be one of the prime considerations in determining all its relations. The Church, like Cæsar's wife, must be above suspicion.

The Church has something more important to maintain than its reputation. It must preserve its own moral and spiritual integrity. The eye must be single, that the whole body may be full of light. The spiritual insight of the Church into the everlasting principles of the moral life must be cherished above all things. Of nothing should it stand in so great fear as moral blindness, and yet this is the serious danger that threatens it and all institutions dependent upon the favors of men who acquire their wealth in questionable ways. We can see the subtle process of corruption going on before our eyes. Silence falls on the lips that should speak the scathing words of rebuke against triumphant wrong. Soon, however, silence gives way to apology, apology leads to defence, and defence ends in eulogy. In the process of mental degeneration the higher centres of the brain give way first, and the man is left with physical powers uncontrolled by moral faculties. The higher centres in the life of the Church are in grave danger of degeneration from its relation with and defence of men with bad records in business. And, when there is such decay, the evil forces of society will act without strong moral control.

Third, for the sake of other moral forces working for social righteousness. The moral forces of society are arraying themselves in battle line against the destructive powers in modern civilization. The honest men in business feel there is something of more value than money; the students of social subjects are forced to become champions of social righteousness; the best citizens of corrupt municipalities are organizing to make them clean: the patriots the country over are aroused

against the forces of evil that threaten the life of the nation. These social servants are organized, and strive in their corporate capacity to win the battle for righteousness. These men look to the Church for inspiration and leadership. They have been taught the divine purpose of the Church, and they have heard its proud claims to moral leadership. They, therefore, have a right to expect that it will help and not hinder, take the lead and not straggle at the rear, carry the colors and not prove cowardly nor traitorous.

One of the most serious dangers facing the Church to-day is the danger that the moral forces of society may ignore it or turn in revulsion from it or antagonize it for its betrayal of the cause of moral progress.

Fourth, for the sake of the great masses who suffer most from the iniquitous methods and oppressive practices of these men. There is an unrest in the people that is ominous. They have a keen sense of the wrongs done them. They are in no mood to be trifled with. They sorely need guidance and moralization, but their first need is to have their deep desires and sense of righteousness understood and expressed by the Church. At present they are not in friendly relations with the Church. They do not seek its services nor have much faith in it. The serious indictment against the modern Church is that it is not democratic; it is not the Church of the people. It is strange that the Church of the great workingman has so few workingmen in it.

One of the great tasks of the Church in this twentieth century is to win the respect and the loyalty of the people. This will be the century of the people. They will rise to power in city, State, and nation. They need the Church, and the Church needs them; but they will never come to the Church unless it is free from the relations of honor with commercial criminals, and independent of the gifts wrung out of the sweat of their brow, the tears of their eyes, and the blood of their hearts.

Fifth, for the man's own sake whose methods and practices are iniquitous, the Church needs to be independent of his patronage. The apostolic aim was to seek the man rather than his money. "We seek not yours, but you," said Saint Paul. This must be our primary aim to-day.

There is no person in greater moral danger than this man.

He uses oppressive methods to gain his ends, and justifies himself on the ground that business is business, and cannot be conducted on moral principles. Having acquired much money, he is besought on every hand with appeals for help. He is courted for his money, and given such social attention that he comes to feel that he is indispensable to the higher interests of society. He goes to his Church, and receives such treatment there that he cannot fail to feel that he is not only a great business man, but he is also a very good man. He is given a prominent official position; he becomes a teacher of a Bible class; he is joyfully received by all the saints; he receives ecclesiastical indorsement by his church membership and glorification in the religious journal. The one ethical truth he hears and receives is that "charity covers a multitude of sins." There would seem to be a conspiracy of the worst and the best elements of society to hide the man from himself. Now, if this universe is righteous, if the teachings of Jesus are true, then there is no man in the whole mass of men who more needs the searching truths of the gospel than he. The Church should make him look into his soul, face his righteous God, and confront his wronged brother. In the Church, as nowhere else, he should be made to realize that a spiritual religion necessitates social righteousness as its true ethical expression.

3. THE SCRUTINY OF GIFTS FOR EDUCATIONAL AND PHILANTHROPIC PURPOSES.

BY PROFESSOR F. SPENCER BALDWIN, OF BOSTON UNIVERSITY.

It would be superfluous to dwell on the importance of the subject of this discussion. The question of the relation of colleges, churches, and charities toward wealth that has been won by methods which the moral sense of the community cannot approve is generally recognized to be one of the most vital problems in social ethics now before the American people. On the one hand, wealth is being accumulated in vast masses at a rate never before paralleled in the world's history, and sometimes by means that are morally indefensible. On the other hand, enormous sums are being given for educational and philanthropic purposes, often upon conditions that associate the name of the donor with that of the beneficiary agency. Unless one be prepared to take the extreme position that the source of a benefaction is a matter of no moment, and that every offer of money should be accepted without scrutiny, there arises the perplexing question as to the circumstances under which it may be incumbent on an institution, organization, or society to decline a gift.

The extreme position just mentioned is precisely the one taken by the Prudential Committee of the American Board of Foreign Missions in the statement issued in reply to the protests against its action in accepting the recent \$100,000 gift. This attitude is approved by many preachers, editors, and teachers, who have expressed themselves in this issue. The first point to be determined, then, in considering the question before us is whether any scrutiny of gifts is ever called for.

The Prudential Committee of the American Board holds that the responsibility of the recipient of a gift begins only with its acceptance; that the responsibility does not reach back to the sources of acquisition. This sweeping proposition is not tenable. The person who knowingly receives stolen goods certainly becomes a partner in the theft. Similarly,

the person who knowingly accepts money coming from the current proceeds of a business of an immoral character or a business conducted by immoral methods incurs a responsibility for the existence or the continuance of such business or such methods. The acceptance of a gift clearly involves a measure of responsibility for the mode by which the money was acquired by the donor. The proposition that no discrimination in relation to gifts should be attempted by colleges, churches, and charities flies straight in the face of the awakened social conscience of the present day. It runs directly counter to the ethical impulse that has prompted modern movements for social betterment. The Consumers' League, for example, is founded on the principle that the purchaser of goods bears a responsibility for the conditions under which they are made and sold. In an analogous way the taker of money becomes responsible for the ways and means by which it was accumulated. To deny this is to take lower moral ground than that occupied by workers for social reform in many fields.

Conspicuous among those who defend the policy of indiscriminate hospitality to givers is Professor J. B. Clark, of Columbia University. In a paper on "Gifts and the Moral Law," Professor Clark argues that benevolent agencies should take without discrimination all proffered gifts. He recognizes, to be sure, that there is a danger to the Church in accepting money from men whose business methods are known to be dishonest. He writes: "A church that cannot meet its expenses without the aid of wealthy wrong-doers is not in a position to uphold the highest standard of business morality or to help effectively in the warfare against corruption. It is here that the Church encounters its most serious danger, for here it gives to unworthy men certificates of character. It condones the evil which the world is contending against, paralyzes its own fighting arm, and makes it difficult to give aid to the forces of righteousness. At bottom, the spirit of the Church is sound; but there is danger that in some of its acts it may come to the help of the mighty against the Lord and against the people." But Professor Clark holds that this danger, which is great in the case of the Church, "is less in the case of benevolent societies." This is because the latter issue no certificates of

character for donors. "If any such body," he observes, "indorses a beneficiary at all, it does it by implication only, and that implication depends on the public understanding of what the acceptance of a gift means."

The distinction which Professor Clark here draws between the Church and benevolent agencies in relation to gifts looks like an over-refinement of reasoning. If, as Professor Clark appears to consider, it is incumbent on the Church to keep clear of entangling alliances with "the powers that prey," why is not this duty equally urgent in the case of all the organized forces of education and philanthropy? If there is danger to be apprehended from this source in the one case, there would appear also to be equal danger in the other.

Professor Clark's contention, already noted, is that the danger is less in the case of benevolent agencies than in the case of the Church, because the former issue no certificates of character to donors. But is not the acceptance of a gift generally interpreted by the public as a moral indorsement of the donor? And is it possible to prevent such an interpretation from being placed upon acceptance, even if the beneficiary disclaims intention of passing judgment on the donor? Is it possible for benevolent societies to maintain this negative, non-committal relation to donors, so that the acceptance of money will carry with it no hint of approval in its effect on the public mind? Professor Clark holds that it is possible so long as benevolent agencies take freely and unquestioningly every gift that is offered. It is chiefly for this reason, indeed, that he advocates a policy of non-discrimination on the part of benevolent agencies in reference to gifts. He advocates this policy, namely, on the ground that, if discrimination were practised, and some gifts were rejected, the acceptance of a gift would then necessarily imply certification of the donor's character, whereas at present acceptance carries no such implication. He formulates this unique argument as follows: "If we enjoin on our agents of benevolence that they take no gifts from dishonest men, and if they undertake to carry out the injunction, then every gift which they do accept certifies that the donor is, to the best of their belief, honest. Accepting such a gift at present does not involve this moral indorsement, but we can make the taking of all future gifts

have exactly that effect by enjoining on our agents to touch no dollar that comes from a source known or believed to be tainted."

This sounds judicial and impressive, but let us probe the argument. It is contended that, if benevolent agencies follow a uniform rule of taking every gift offered, acceptance cannot in any case be construed as an indorsement of the donor. But may not refusal to discriminate under certain circumstances be in effect an act of discrimination? To accept money from a man whose business methods are under criticism implies support of that individual against the charges brought by his critics. As President Tucker of Dartmouth College points out in his admirably judicial letter to the Prudential Committee: "When the business methods of any man or of any corporation are under public discussion, and certainly if under authorized investigation, it is a discrimination in favor of methods at issue to accept a gift from such a source as freely as from other sources." The acceptance of a gift from a man notoriously and flagrantly corrupt, who stands as the typical incarnation of the insidious forces of business immorality, appears to place him on the same level of respectability with other donors. This is discrimination of the worst sort. "There is no greater inequality," said an Austrian economist, "than the equal treatment of unequals."

An additional reason advanced by Professor Clark in favor of the general acceptance of gifts is that a policy of scrutiny and rejection would cripple the finances of benevolent agencies. "One thing," he declares, "is clear; namely, that thousands of gifts must be refused, the societies' treasuries must be depleted, and the work for the people must be left largely undone, or such gifts must be generally accepted." This consideration carries little weight. A full treasury is not the *summum bonum* of educational and philanthropic endeavor. It is far better that missions and charities and even colleges and churches should languish for lack of funds than that corrupt practices should go unrebuked. Indeed, Professor Clark himself admits that "abating a jot of the condemnation of evil would do more harm than any number of benevolent societies could counteract." Against the grave danger to moral standards to be apprehended from promiscuous gift-

taking, the mere cash consideration weighs light in the balance.

The final argument brought forward by Professor Clark in support of his proposition is that the policy of discrimination would prevent the dishonest rich from distributing their ill-gotten gains. He says: "The serious matter is that, if such a rule were universally acted on, the bad rich men would find all available avenues of beneficence closed. Though they are under a positive obligation to undo an evil work, they would find themselves unable to fulfil the obligation, and forced to use their wealth for themselves or for unscrupulous sharers." This argument, like the preceding, makes its appeal to the public appetite for money. As a partial answer to this objection, it may be pointed out that the opportunity of beneficence would not be closed to the bad rich man who desired to give in a spirit of restitution and repentance, even if the most rigid policy of scrutiny and rejection were adopted by benevolent agencies. Gifts offered in that spirit should always be accepted. No one proposes to stop the giving of "conscience money." It is only "hush money" that is to be tabooed. The policy of discrimination would simply prevent the bad rich man from giving in the wrong way,—harmful to himself, the beneficiary, and the community, while leaving him perfect freedom to give in the right way.

The various arguments advanced in favor of this indiscriminate acceptance of gifts for educational and philanthropic purposes are found upon examination to be inconclusive. On the other hand, there are strong reasons in favor of exercising scrutiny. In the first place, an educational or philanthropic agency is bound, at the least, to take into consideration the conditions attached to a gift. This point has been well enforced by President Pritchett of the Institute of Technology, as follows: "Suppose that William M. Tweed, in the heyday of his career, had come to the authorities of Columbia, and said, 'Here is a million dollars to found a school of political science which is to bear my name.' Columbia could not have accepted that gift and maintained its moral leadership.

"In other words, there is a line of demarcation, not always hard to distinguish, which separates the gift which may be accepted from that which may not; but this line cannot be

drawn by inquiry into the origin of these gifts, but is rather revealed by the conditions which are attached to them. When the acceptance of a gift carries with it a tacit excuse for past misdeeds, when it involves the placing of a name which stands for violated law and disregard of the rights of men side by side with the names of the great and of the unselfish, when it implies the recognition of a false measure of success,—a thing most common in our American life,—then the college which accepts such a gift suffers in its moral leadership. Its action goes far to confuse in the minds of men the distinction between right and wrong, and between selfish and unselfish public policy, or, as George Eliot so aptly expressed it, ‘Such action tends to debase the moral currency.’”

The fact is not to be overlooked that the munificence of millionaires is sometimes merely a belated bid for ante-mortem or post-mortem respectability. The man who has played the pirate in his business dealings tries to gild his tarnished reputation by sharing his plunder with some college, church or charity, on condition that his name be associated in some way with the beneficiary institution. No self-respecting official can afford to become a party to a whitewashing transaction of this nature. Gifts offered on such terms should be declined outright.

Moreover, even when a gift is made unconditionally, there may be circumstances which make it morally imperative to refuse the money. Gifts offered by men who have amassed fortunes by illegal, immoral, or dishonorable methods ought, as a rule, to be declined. An exception should, of course, be made in the case of a gift offered avowedly as “conscience money.” There appears to be no valid objection, moreover, to the acceptance of money, however acquired, when the gift is made after the death of the person who accumulated it, and when no offensive conditions are attached. The thing to be avoided is participation in current gains won by reprehensible dealing.

The obvious danger in accepting money from men whose business methods cannot be approved is that it tends to silence criticism of their practices. The beneficiary cannot criticise his benefactor with good grace. As Mr. Edwin D. Mead has put it, no one ought to “castigate the man whose money is in

his pocket and whose bread is in his mouth." In the long run, doubtless, the forces of public opinion and academic freedom in this country will prove too mighty to be controlled by any man or any group of men. But the fact cannot be blinked that the tendency of the indiscriminate taking of gifts by educational and philanthropic institutions is to obstruct the play of these forces for the time being. Professor John A. Hobson has well said: "Those engaged in private charities know the danger of promiscuous giving. What about the public? Has it no character to lose? . . . Without proper discrimination the charity of millionaires is proving dangerous. What is most needed for social enlightenment is a flood of free daylight upon the arts of human knowledge related to the most vital issues of reform. Is the millionaire likely to supply them in his gifts toward higher education? Will he employ his millions in cutting down the branch on which he sits? It is not the dead hand, but living interests that should wield the education for the masses."

In this connection Professor Clark, while recognizing that "the imperative need of fighting against corruption in business is the first and most important fact in the situation," argues, nevertheless, that it is possible to combine a spirit of energetic opposition to corruption with the policy of indiscriminate acceptance of gifts. The programme which he recommends is this: "A society in its corporate capacity may accept the gift, and officers of the society may be agents for receiving it. Every officer or member must preserve his freedom as a citizen, and the vigor of his opposition to iniquity in business." But is this combination a possible one? If the acceptance of tainted money were accompanied by plain-spoken condemnation of the methods of its acquisition, then the action might perhaps be defended. But courtesy forbids the recipients to take this course. They are driven to shamefaced silence or labored sophistry. Thus we have the spectacle of professed moral leaders raising their voices to confuse ethical standards and obscure moral issues.

The Church, in particular, can ill afford at the present time to take any action that would weaken its influence. There is a wide-spread feeling among working-people that the Church is unduly subservient to capitalistic control, and complacently

tolerant of business chicanery. The ready acceptance of money alleged to be "tainted" will not tend to allay this distrust.

The most serious evils that threaten American civilization at the present time spring from immoral acquisition and corrupt employment of wealth. A low standard of commercial and political morality is undermining the Puritan ideals of character and citizenship. Against the forces that are making for corruption the college and the Church must stand firm as bulwarks of defence. Their high duty is thus eloquently set forth by Mr. Mead: "At a time when in so many provinces of our American life the love of money and the power of money are roots of evil as never before, it is doubly incumbent upon the Church and the school to construe their offices heroically, to see to it that they do not become contaminated with base bribes, nor let the taint of materialism or a false commercialism blight them and make them centres of apology, of confusion, and compliance instead of nurseries of idealism, of purity, severity, and truth."

These considerations certainly justify a policy of cautious deliberation on the part of officers of institutions in reference to gifts. In every case the source of the wealth should be scrutinized carefully,—the gift horse should be looked squarely in the mouth. It is better for an institution to refuse millions than to compromise its standing in the slightest degree. The occasional refusal of money coming from a dubious source would be a most salutary discipline. It would recall us to the truth that the most precious possessions of a people are not the material things that can be bought with money, but the unpurchasable things of the spirit.

IV. DEPARTMENT OF EDUCATION.

1. RECENT OBSERVATIONS IN PATHOLOGICAL PSYCHOLOGY.

BY G. STANLEY HALL, LL.D., PRESIDENT OF CLARKE
UNIVERSITY.

[Read Saturday morning, May 13.]

Many diseases (the English Pharmacological Society catalogued over seven hundred) have always preyed on the body, and one of the noblest and most influential of all professions has always been that of healer. The mind, too, has its own special pathology. More recently crime or moral aberrations have become an academic department, and have a copious literature of their own. Pedagogical pathology is barely ten years old. It now has its journals, its experts, and the faults of children are catalogued in dictionaries and prescribed for in articles, in France even treated by hypnotism. Last comes the pathology of religion, which, we are now coming to understand, like everything else, has diseases of its own among both primitive and cultured people; and one of the most interesting of the promises of the future is that we shall have established norms to distinguish what is healthful and what is morbid in religious consciousness and life. The pathology of teachers and teaching is a still newer topic, to a very few aspects of which I have the honor to invite your attention this morning. I am already fully persuaded that this theme, too, has a great future, and that the next decade will witness the development of a new chapter in education devoted to the diseases of the body and mind of male and female teachers and also of educational systems.

I. Copious as is the literature on the health of pupils, almost nothing has yet been done in this country in studying

the health of teachers; and in Europe many problems in this field are unsettled. A teacher's work is extremely monotonous, and allows little change for the ups and downs of ill-health. No school ventilation is adequate; and teachers are not only exposed to impure air, loaded with chalk and other dust, but to all the infections in the community. The diseases most common among teachers are nerve strain and tire, colds, disorders of the throat and lungs, hemorrhoids, and troubles of the lower part of the trunk. Anæmia and enlargement of the heart are thought by Wehmer to be common. In Germany, although the teachers at the outset of their career undergo physical examination, which weeds out all the weak, it has been found that up to the age of forty deaths are more frequent among them than in the average of the community, and that they die earlier on the average down the grades, professors outliving primary teachers, while in the country, with small pay and more exposure, the mortality is greater. Galton found that out of 116 English teachers 23 had suffered a serious breakdown, from which 21 of these thought they had never quite recovered. Those who have studied the subject most thoroughly lay great stress upon the restricted expression of individuality which the modern methods of the public school, with its supervision and incessant prescription, afford. This, it is often said, damps, if it does not destroy, the zest that every one ought to feel in their calling, predisposes to a feeling of tedium, if not to depression, nervous irritability, and sometimes even hypochondria. An American physician, who has a large practice among female teachers of one of our large cities, tells me that they are, in some respects, a class by themselves, their work predisposing them to certain diatheses and to wearing themselves out before their time. All insist that the long vacation is none too long for teachers, that evenings and nights should be kept free, and that other occupations and all unnecessary work should be indulged in with moderation always, and very tentatively in the first years of teaching, before one learns to know the subtle line, so easily crossed, between normal income and output of energy and over-drawing one's energies.

II. Few who enter the service of the public school expect to remain for life. Their work is, therefore, if not a makeshift,

usually more or less temporary and provisional. But a small per cent. in the country at large have any professional preparation, and the salary, while often very attractive to those who have debts to pay for their education or desire to lay by something for other fields of work, is not satisfactory as a permanency. Nearly 100,000 teachers will leave the profession this year. When times are hard, the supply of male teachers increases; and, when business flourishes, it declines again. Many of the ablest men in the country have served a brief apprenticeship in the teaching profession. Some of them have done something to elevate it, but would of course have done far more, had they remained in it. No one would claim that it is generally the worst who drop out. No, often it is the best. Were it the worst only who drop out, selective influences would always steadily improve the quality of the teaching force. Unfortunately, despite many striking exceptions which will recur to every mind, on the whole, those who remain do so not because they love the work supremely, but because opportunities to better their condition do not open to them. In grammar and even high-school grades very few indeed plan their work as a life career. Even promotions in grade or pay are not always made on merit, and, in the rare instances where a new superintendent or board has attempted to drop inefficient or superannuated teachers, their friends and the public rally to their support. In some communities there is thus a confessed tendency for the corps of teachers to degenerate in quality. Few who are found in the ranks at the age of fifty would not have been shocked and depressed, had they been condemned to this fate at the age of twenty-five. Some, especially men, who enter the profession with enthusiasm, are disenchanted because they find so little independence, and soon realize that in the question of methods, course of study, text-books, discipline, no provision is made to submit these vital matters to those most concerned in them; namely, the teachers themselves. In our system it is ever harder for a self-respecting and able man to adjust himself to the dependent conditions of actual teaching. Whenever the question of permanence in office and of pensions is raised, this problem of deterioration always looms up in the background, even though it is rarely named. In the grades the teacher must obey the

principal and superintendent. In the high school he must follow the prescriptions of the college. Moreover, teachers' organizations, which were begun by Horace Mann and have been such a blessing, have now reached the point where certain dangers threaten. Sometimes weak officials of the craft, or questionable methods, have been indirectly sanctioned by the authority of teachers' organizations; and last summer Miss M. A. Haley advocates that teachers should organize on the principle of labor unions to demand higher wages and better conditions generally. The major premise of this argument was that the status and pay of teachers was proportionately less than it was a decade ago. Now one great vice of trades-unions is that they seek to force their services and their wage scales upon employers, and thus, in a large degree, remove their members from the necessity of improving the quality and quantity of their work. This latter is the wholesome and legitimate means of advancement; and, if solidarity reduces the force of this motive, it so far tends to degrade the vocation. There is no triter commonplace than that teaching ought to rank with the learned professions; but there are certainly now strong tendencies to make it a trade guild, the members of which organize for mutual support, defence, advancement, and the protection of the unfit, and by so doing interfere with healthful selective influences which favor the survival of the best.

III. A pedagogue's position is unique. In his little domain he is monarch, wisest, best. His authority is in many ways final, and by constant association with children he is liable to grow complacent, even in ignorance, impatient of contradiction by his peers, and incapable of maintaining the eager, receptive attitude that studies and leans toward his superiors. Incessantly teaching his little stock of prepared knowledge, weighed, measured, calibrated to the youthful mind, grown from long use second nature to him, but ever new to successive classes, knowing already all that he must know to teach, he is liable to lose incentive to push on, to forget the sense of oppressive ignorance which always spurs on the scholar, until his mind becomes indurated and essentially indocile. After a dozen annual repetitions of his work he grows suspicious of change, for this would involve new labor, other matter or

methods, or both. It would involve a little sense of the fallibility of what he had done; and infallibility is too often the foible of the teacher's temperament. He is strong in defence of his own positions, and has become thereby impotent to adopt others. Ease, wont, and routine slowly close in upon his soul, and restrict the arrear of plasticity and vital growth. Once he was progressive, but he has stiffened in the mould. He is master of his own technique to such an extent that it has almost become automatic work; and why should he change to new things, when change involves both effort and uncertainty? In the ideal teacher, learning and giving out instruction ought to go hand in hand, and each is forever imperfect without the other, no matter how low the grade. But are teachers also students, and are they not constantly prone to mistake petty devices for great reforms, and do not slight variations of their old ways seem to them revolutions? There is a large body of text-books for every grade and department, which perhaps are compilations of compilations, hovering in a kind of limbo half-way between the childish comprehension and the original research of the great discoverer. This body of knowledge is repeated in scores of tomes for generations. I have traced specific illustrations in rhetorics, geographies, English books, and even some scientific text-books, back through a dozen, and in one case nearly three dozen, different authors. The writers of school text-books form a unique class of minds, hanging like Mohammed's coffin between the heaven of pure science and the earth of infants' minds, who have rarely studied the capacities, the nature, or needs of childhood, on the one hand, and, on the other, know little of the aspirations of the investigator who would add to the sum of human knowledge. This literature is too often the teacher's native breath and vital air. It is so copious that to know it well he has little time for anything else, and it is peculiarly calculated, with the small modicum of novelty in each author and text, to cause a sense of progress without its reality. How remote and belated some of our texts are is far better seen in some departments than in others. What, for instance, do our school geographies suggest of the modern work of the great geographical investigators? What do most normal texts on methods and the mind of man know of modern studies

in these fields? It has taken this country ten or fifteen years to move on from the effete principles of Sir William Hamilton to those only a few points less effete of Herbart, so that here the good average pedagogue is more than a generation behind.

IV. Closely connected with these is the danger of arrested mental growth to which the teacher is peculiarly exposed. Medical journals are largely devoted to the practical application of the very latest researches of the pathological laboratory, which every active physician desires and needs to know and to apply for all they are worth at once. Educational journals, on the other hand, are largely devoted to making up real or supposed arrears in the teacher's education, to news, gossip, or often trivialities and platitudes. How many teachers read above, and how many actually below their own level, which thus is a very dead one? In this day of enormous publication, when it never came so near being a sin to read the second best in any field, how do teachers stand? Very suggestive here is the fact that, while most large cities and many small ones have medical or perhaps law libraries, supported by the professions, where the latest and best publications can be promptly seen in convenient rooms, it is hard to find in this country such a teachers' library. When we look at the book-shelves in the office of a superintendent or principal or in the sanctum of a teacher, how few of the best do we find, and how many books branded with the mark of mediocrity and commonplace? In this respect only the clerical profession falls anywhere near the level of the average teacher. Indeed, one would be only a little less surprised to find a clergyman reading and using the results of the higher criticism and the latest epigraphical and archæological research than to find the teacher knowing and profiting by the best educational studies or even the new practical departures in other lands. In every city there are young teachers who pass through a period when they are flushed with enthusiasm for better things; but they are too apt to find that this work does not pay, and too soon do they profit by the example of indifference set by their elders and superiors. It is the iron law of every vocation of life that only the minimal effort actually necessary is usually put forth, and teaching is now so sheltered, protected, its members kept complacently

in countenance by their associates, that the hot struggle for existence that marks the commercial, industrial, and professional world is too often toned down to ineffective good wishes and ever-procrastinating resolves for the future.

V. Another group of morbid pedagogic symptoms that we see oftener in this country than on the Continent in Europe leads to a loss of the fine balance that should always be maintained between imparting knowledge to the children and getting it back from them. We too often tend to lapse to mere lesson setting and hearing. Just in proportion as a teacher is poorly equipped with knowledge does he or she tend to become a mere exacter of work, taking precious time to tell pupils what to do, and testing to see if they have done it. This is not teaching, but a device of ignorance, of laziness, physical weakness, or all combined. The true teacher teaches and reduces recitation to a minimum. Whoever has visited the best Continental schools, or studied comparatively such international educational expositions as those at St. Louis, must have been acutely impressed with the fact that we exhibit what the pupil does, Europe what the teacher does. Here he says, "Go, do this, and prove to me that you have done it." There he says: "Come, let us study together! I know and will inform, interest, and inspire you to go on." A little more pedagogic insight would make us ashamed of many of our wretched devices to conceal, excuse, or dignify our ignorance or save ourselves from work. We say, Let the pupil find the facts or draw the inferences for himself, and then he will be better able to investigate, will remember, and prize his mental possessions more. No, we should have investigated and learned and imparted. To allow, or even encourage, callow classes to debate, discuss, and weigh evidence, or to regurgitate the matter of the textbook, may flatter the pupils by the subtle suggestion that they can form opinions that merit the name. Instead of exercising power by their crude thoughtlets, *bombinantes in vacuo*, they are inclined to the sweet delusion that their mental emptiness is filled, and so grow complacent with their ignorance, and perhaps opinionated, and go to seed in a haze of finality. Some teachers have come to fear that the pupil in the high school is actually in danger of accumulating a mass of undigested, unsystematized knowledge, and perhaps to fancy

that this peril is awful and ever-impending. But have any of you ever seen a dangerous mass of knowledge in any youthful mind, unless in the memory-freak? And, even then, are we so oblivious to the laws of mental work and growth as to fancy that such a mass of erudition could exist in the mind without being assimilated in the child's manner, or, even if it were a vast floating mass, that our petty artificial devices of correlating, associating, and linking its parts can have any other possible effect than to prevent it from sinking deep into the soul by keeping it on the surface against the day of examination?

The child learns to know, not merely by doing, but also by hearing; and if the teacher's mind were charged to overflowing with knowledge in his own field, whether he had to tell it in the form of stories in the lower grades or to give it in rudimentary conversational form in the higher grades, he ought to be the living text-book, known and read of every pupil, and not a mere taskmaster. There are few more subtle balances than those between giving knowledge by and from the teacher, which is itself a passion and an inspiration, and the far lower but necessary work of finding by quizzes, recitations, and examinations whether it has found lodgment in the soul.

VI. When mental progress is rapid, as in all great eras and epochs, content dominates form. This was true in the Renaissance, in Gothic art, in Romanticism. Then comes a classic period when form and content are harmoniously wedded. Later comes the stage when form dominates over content, method over matter. Thus we see that the great creative period of Jewish history ended in the wretched letter-worship of the Kabbala and the Masoretic textualists. The Periclean age lapsed to that of the morosophs in the four great schools of copyists and commentators. The letter that kills takes the place of the spirit that gives life. Exactness and method rule over matter and content. Sturn taught Latin so well that in a few years his pupils would have been at home, had they been transported to ancient Rome. Now in a year and a half, four hours a week, we teach, on the average, less than four hundred Latin words, including those like *convenio*, to convene, *animal*, *imagino*, which carry their own English equivalents. Perhaps the most pestilent and subtle of all forms of pedagogic

pathology is method-cult, which whips up two ounces of soap into a hogshead of foam, as a mediæval barber's apprentice must be able to do before he could become a master workman. As the principal of an Ohio normal school said, Expertness in method makes knowledge less necessary. Instead of the thing itself it gives the explanation, until the pupil is prompted to cry out, as the little girl did: "O teacher, go on! I could understand everything you say and a hundred times more if you only wouldn't stop to explain your way." Verbalism, technique, rules, definitions, notes, preciseness, accuracy,—these have their place; but very little of them are for children. They give the conceit of knowledge without its substance. It is this that lies at the root of all the prejudice and suspicion, too often excessive, against normal schools and their work. It gives a tingling, then a corroding, self-consciousness of every item of knowledge. It inflates facts instead of condenses them, as pedagogy should do. It makes the way of knowledge hard. It is a stone when the children cry for bread. It is the way of self-complacency and death, and not the way of hunger, and a deepening sense of ignorance which marks true growth in knowledge. It is a wind-birth, and not true parturition of the soul. It checks and blights curiosity, the divinest thing in the intellect. It brings a unique school-bred fatigue, and smacks of the sad wisdom of senescence rather than of the eager hunger of young life for more and fuller knowledge.

VII. Mass education, or the grouping of children in grades, the accumulation of great numbers of them in school, the crowding of class-rooms, the overgrown size of some schools and even colleges and universities, which makes against individuality, has brought with it a growing demand for uniformity. This is indispensable where there must be more or less lock-step, where classes must be trained in platoons, all personal differences ignored, and the efforts of education addressed to the average pupil. Association is necessary. Mass training is economic, and in a republic where all must be educated we must accept the inevitable with what complacency we can, and make the best of it. But we cannot forget that able boys are retarded, that the development in Europe during the last few years of schools for backward children, and now of schools

for children with superior gifts, brings great relief and gain. The over-methodic teacher probably tends to benefit most the lower half of the class. A teacher full of knowledge and enthusiasm inevitably does best service for the upper half of the class. The aim should be to do the greatest good for the greatest amount of talent and ability, however distributed.

Along with this goes the calibration of knowledge into blocks, units, like bales of fodder,—six weeks of this, twelve of that, forty lessons here, sixty there, so many hours, and later weeks, years of preparation for college in each topic, so many experiments, uniformity of standards for promotion, for admission to college, etc. These shopworn and threadbare, monotonous, noetic goods, however they may appeal to girls, do not impress boys, who desire something on which to vent their own individuality. Their passion is not alone to know the same thing that every one else knows, but to know something that no one else knows. This is almost necessary as a sacred refuge of personality, but the uniformitarians will none of it. Their methods certainly increase the ease of the teacher's work and his efficiency; but do they not obliterate something that is more valuable yet in the pupil? Must knowledge, in order to be taught to large numbers, be standardized, like nails or flour, put up in text-book packages, and weighed and sold over the counter like very dry goods? All this is magnificent in a way, but it is not education, which is made of other stuff.

VIII. Many of the above agencies tend to precocity. This is a danger which we see most often in the only children of parents who are exceptionally solicitous for their welfare. Now that we understand its meaning, we see, alas! too many signs of it on all hands. The city of itself hastens development, so that the urban is a year or two in physical and mental development ahead of the rural child. It is ever harder for us in some respects to trust nature, but the school tends more and more to invade her domain, and to control and prescribe so that the child does not live out to the full all the early stages of his development as he should, and, therefore, his maturity is not complete and all-sided because premature. Some have thought the school at its best was liable to be pernicious be-

fore the age of twelve, but the growing burden of modern civilization sufficiently negates this view. In this country, however, life is harder on youth than any other the world has known. We are unhistoric in our very mode of thought, as well as in our origin. Our history does not invite to linger on the records of centuries of rich mythic story, which is so germane to the soul of youth. The present absorbs and dominates everything, and our young people can hardly wait to get into active life. Nothing is esoteric or reserved for maturity or old age. The bloom is rubbed off the naïve before it is time, and positions are sought and attained before full maturity has brought strength and ripeness to last in them. We are just beginning to learn that the nature of childhood must be studied and followed, or else we are liable to do harm as well as good, that the ways of the young are very different from those of the old. Just in proportion as this is coming to be understood we are slowly reconstructing, with the addition of many genetic elements, the methods and matter of grammar and even high-school teaching, and to recognize in more or less degree the great and all-dominant fact that the child does and forever must repeat the history of the race.

IX. The school is modelled on the home, and should have both male and female teachers. There is very general agreement that female teachers should predominate for the young, perhaps up to puberty. There is much agreement, though less unanimity, that in the earliest teens both boys and girls need as many male as female teachers; and there is much consensus of expert, though less of popular, opinion that in the college and university grades, or wherever specialties are taught, this is best, and should be mainly done by men. All over the world, however, educational systems are now being rapidly feminized. This process has gone much further in this country than any other. One writer estimates that 92 per cent. of our boys and girls satisfy the provisions of the law, and leave school forever without ever having come in contact with a male teacher. This is essentially wrong. If the process of the last fifteen years goes on, our public schools will be dames' schools, and the male teacher extinct as the dodo. No one has occasion to raise here any of the questions of the feminist, nor

should the problem be, as it is essentially, merely one of economy. Nature suggests the norm. The father has his functions with the children quite as much as the mother, different though they are; and most students of this question believe that it is, in part at least, from this disturbance of balance that so many boys fall out of the last grammar grades, and especially from the high school. I shall not attempt here to point out in detail, as I have sought to do elsewhere, the evils that seem to inhere in this tendency; but that it deserves to be enumerated among the pathological dangers of the times I cannot doubt.

Finally, in all this I have implied nothing as to where or when any of these evils exist or how great they are; but I only urge that each of these dangerous tendencies exists everywhere, and that all are inherent in the very nature of our modern educational system. On these scales those who know the conditions in any place, grade, or department can measure for themselves the degree of departure from the norm of pedagogic health. The enormous quantitative and numerical expansion of our schools has so absorbed attention and so gratified pride that qualitative standards have tended to be forgotten, until perhaps no human institution was ever in more crying need of criticism that is at once honest, friendly, and competent than is the public school; and none, from its very bigness, has ever grown more intolerant of criticism. The educational spokesman and promoters have so long felt it necessary to address voters and tax-payers, if not also the newspapers, that they are too unconscious of real perils and increasing evils. Often the most obscure and faltering critic is pilloried as an enemy of education because he felt that the welfare of the system needed some of the faithful wounds of a friend. Bigness itself brings many dangers; and was there ever any human institution that grew and flourished that did not also show symptoms of weakness and decay? Was there ever, on the other hand, any personal improvement that did not begin in the honest efforts to see our own faults, or any true revival of morals or piety that did not start in a deepened sense of imperfection? Can we ever hope to make real advancement in education without feeling something of the Socratic sense of ignorance and the religious sense of sin

and error? On the other hand, just in proportion as we become complacent with present attainments, every motive of progress dies in the soul. So must I not add, as the last pathological symptom in pedagogy, smug self-satisfaction with the present, resentment instead of hearty welcome for friendly criticism, which is the state of mind of those who, because they deem themselves perfect, will never become so?

2. THE PATHOLOGY OF EDUCATION IN ITS BIOLOGICAL ASPECT.

BY PROFESSOR JOHN M. TYLER, OF AMHERST COLLEGE.

[Read May 13.]

Pathology is at best a dreary subject. To catalogue, classify, and describe a long list of children's diseases certainly seems stale and unprofitable. But, if we ask, What in our modern conditions and system of education tends to increase disease, and what can we do to preserve and improve health? the study becomes profitable and imperative, if not exactly fascinating.

Let us picture to ourselves conditions in New England a hundred years ago. There were no cities. Along the coast there were sailors and fishermen. The population of the interior was almost wholly devoted to farming, scattered in little hamlets over hill-tops and hillsides, wherever one could wring a living from the scanty soil between the ledges. Forests had to be cleared, stones removed, walls built, house and barn erected,—a wilderness changed to a farm. The harvest from the virgin soil was often abundant, but it could be reaped only after long days of the very hardest labor. This work was almost universal. Minister and squire were as proud of their fields and crops as of their sermons or briefs. The boy and girl looked forward to this life from their earliest years. Their hope and ambition was a better farm and larger crops than their fathers and neighbors had produced.

The short term of winter school was only an episode in the life of these children. Their education was gained at home and largely out of doors. Usually the house was thoroughly, if not wisely, ventilated. Through the cracks between the logs, or the holes in the roof, the snow often sifted in upon the beds. The huge fireplace and chimney drew the cold air upon their backs, while it warmed their faces. The cold-air treatment was had everywhere at home.

Every child had his or her tasks. Wood was to be cut, split, and brought in. There was the endless monotony and variety of work about the farm, the garden, and the barns. The number of trades of which they gained at least a smattering is almost appalling. They learned how to seat chairs and make baskets, to mend a harness or to cobble a shoe, to repair tools, wagons, sleds, or anything and everything about the house, to do all sorts of cabinet work and blacksmithing. The girls could spin and dye and often weave. The care of house and garden and of all the men-folk fell upon their shoulders. Every successful farm was a beehive of all sorts of industries and of manual training. It was self-supporting and largely independent.

The pleasures of life were of the same primitive out-of-door kind. There were fishing and hunting, sugar-making in the spring, and huskings in the fall. There were raisings and musters and road-mending.

Only the fittest could survive. Many infants died. Men and women became very tired. They had the eight-hour day for which our laborers clamor. In summer they had two of them in every twenty-four hours,—one in the morning before noon, another after it, before bed-time. But the weariness was mostly muscular. It disappeared after a night's sleep. The monotony of life, the fewness of interests and of relaxations, the sternness and repression of creed and habit, drove many men to drink or to the wildest and most outrageous outbursts. Not a few women became morbid or insane. But our modern disease of nervous prostration was rare. The strain of life fell upon the muscles and the lower and heavier nervous centres. Of what we call brain fatigue or exhaustion there was comparatively little danger.

A life of rude, strenuous, muscular effort, mostly in the open air, resulted in a tough, sturdy race. Their vigor shewed itself very plainly in their exceedingly rapid rate of increase. Says President Walker: "Between 1790 and 1830 the nation grew from less than four millions to nearly thirteen millions,—an increase in fact of 227 per cent., a rate unparalleled in history. That increase was wholly out of the loins of our own people. Each decade had seen a growth of between 33 per cent. and 38 per cent., a doubling once in twenty-two or

twenty-three years." (See Walker, "Restriction of Immigration," *Atlantic Monthly*, vol. 77, p. 824.) Hence a little less than a hundred years ago the crowded New England hive swarmed out in a great westward migration.

This rude and hasty sketch must suffice to recall conditions after the Revolution. Things were not ideal. "Eden wasn't done yet." I, for one, prefer to live in the twentieth century. But the picture has its lights as well as its shadows.

Let us now glance at present conditions. I read that in 1790 a thirtieth of our population lived in towns of more than eight thousand inhabitants, in 1880 nearly a fourth. Between 1790 and 1880 the population of the country increased twelve-fold, that of the cities eighty-six-fold. I suppose fully one-half of the inhabitants of Massachusetts live in towns or cities. I do not care either to praise or disparage city life. The poor often live under terribly unhygienic conditions. They and their disadvantages are numerous. A large fraction of our population has exchanged rural for urban life. This is a fact. A second fact is that many of us, as fast as we can, are exchanging a life of muscular effort and of activity in the open air for a sedentary life of brain labor. The farms are being deserted by our New England stock. Office, desk, store, and teacher's positions are sought with almost feverish anxiety. We avoid, if we do not despise, manual labor. We wish to live by our wits.

Here, again, I neither praise, criticise, nor blame. We are not surprised at the tendency. It will continue. Operatives in many of our factory cities do not wish to have their children receive manual training. They prefer accomplishments which will fit them for business or professional life. But for good and evil we have changed our conditions of life during the last few generations. We have exchanged country for town or city, outdoor life for indoors, a life of muscular activity for a sedentary life of strain upon the youngest, most complex, and least stable centres of the brain.

This strain, which falls mainly upon weakest parts of our nervous system, is nothing short of terrible. Think of present competition and of the complexity of life. Said the brother in prayer-meeting, "It is no fool of a job to lead a Christian life." It is no fool of a job to live at all. Times are so hard

that one is almost compelled "to cheat a little to get an honest living." Remember Professor Huxley's words, that the struggle for comfort is many-fold more cruel than the struggle for existence. Remember the ceaseless fret and worry of modern life.

These great changes in our modes of life, amounting to a revolution, must affect and disturb the working and balance of the organism. The human body has slowly evolved during long ages. Almost every organ, the brain not excepted, owes its development and present powers to the demands and stimuli of the muscular system. These occasioned the development of heart, lungs, and kidneys; and these same demands stimulated the power of our digestive and assimilative tissues. It was motion and sensation, not thought or learning, which laid the foundations of the brain, and which stimulated the development of every centre, except possibly the latest phases of the centres of association. This is as sure as the theory of evolution.

Our internal organs can and will respond to any and every reasonable demand of the muscular system. They have become accustomed to this. It is an inherited habit. Indeed, they need and require these customary motor stimuli to maintain them in the best condition. Without them they weaken, degenerate, and become diseased. Our present mode of life, over-civilized, artificial, and nerve-racking, changes the whole condition. Without the stimulus of abundant open air and exercise, under which they have had their whole ancestral development, the stomach is unable to digest the needed amount of food. We crave concentrated, easily digestible, and stimulating nourishment. We eat large quantities of meat. The system is loaded with albumen. This, with the products of combustion of the nervous system, is thrown upon liver and kidneys. The result is various forms of so-called kidney troubles. Heart and lungs weaken and degenerate and fall a prey to disease for the lack of the same customary and natural stimuli.

During the War of the Rebellion nearly 1,000,000 men were examined as to their physical fitness for service in the army. One of many tables compiled by Dr. Baxter, and based upon the results of these examinations, shows the number per

thousand rejected from different professions and classes. (See Baxter, "Report of Provost Marshal General," Vol. I., Chart XXXIV.) In round numbers, of 1,600 teachers examined, almost three-fourths were rejected; of physicians and clergymen, two-thirds; of public officials, more than half; of laborers and farmers, only a little more than one-third; of sailors, less than three-tenths. Says Dr. Baxter (Vol. I. p. 85), "The chart shows a steady and regular increase of disease as we ascend the so-called social scale, from the unskilled laborer, whose muscular system is his reliance, through the ranks of the skilled artisans and the dealers in merchandise, to the professional man whose brain is exercised almost to the exclusion of muscular action." He adds: "It is not strange that the professions and many skilled occupations, since they do not require very great physical exertion, should show a larger ratio of consumptives, who have been either compelled to a change of occupation or, being the weakly offspring of phthisical parents, have of necessity sought light employments. These remarks apply with equal force to many other diseases, and lead to the conclusion that the mercantile and skilled occupations and professions are not, perhaps, in reality the hot-beds of disease they are generally supposed to be, but rather the asylums for men already affected or predisposed to disease." The explanation sounds somewhat strained in a majority of cases. But the children of men of these classes are, according to either explanation, born of weaker fathers than the children of farmers and laborers. They do not probably inherit any disease directly, but they are born and grow up with a lower vitality and with almost or quite a predisposition to disease.

The higher we ascend in the social scale, the greater is the sensitiveness to pain. What is actually painful to the professional man is hardly disagreeable to the laborer. Rosenbach, with other good physiologists, maintains that this sensitiveness is increased, if it may not be caused, by lack of motor exercise. This hypersensitiveness, the stagnating of the nervous energy in the sensory centres, instead of its escape through the motor nerves, is a most important causal factor in hysteria and other forms of nervous disease or weakness, as well as a symptom and result of the weakening of the nervous

system in sympathy with a lower tone of vitality in the whole body. It is universally admitted, I believe, that sedentary, indoor life with excessive brain labor, acting upon a not over-strong nervous system, results in neurasthenia, nervous prostration, "Americanitis," or whatever you choose to call it, and that the cure for this condition lies in rest, open air, muscular exercise suited to the patient's powers, and in escape from mental strain, and especially worry.

We have thus far noticed the direct results of modern changes in mode of life upon the males. That similar causes have resulted in similar, perhaps more marked, effects upon the American woman, is universally admitted, I believe.

It seems evident that two classes of children in our public schools demand our special attention: 1. The children of men belonging to the business and professional classes. Some, at least, of them are liable congenitally to nervous weakness, if not already suffering from it or from low vitality. They must be guarded and strengthened against this danger. 2. The brighter and more ambitious children of every class. Both these classes will, in all probability, enter the business or the professional career, exposed to the dangers of a more or less sedentary life, and both must be fortified accordingly. A vigorous body and a sound, tough nervous system is absolutely essential to them both.

What can we do for them? The causes of the evil are indoor life, lack of muscular exercise and tone, and excess of brain or nervous work. It has been well said that health comes in through the muscles and flies out through the nerves. One natural and apparently imperative treatment for these children would seem to be (what we should prescribe for their parents) suitable muscular exercise as far as possible in the open air. And this is even more important for the child than for the adult. For it is the stimulus and demand occasioned by muscular exercise which is absolutely essential to the healthy growth and development of the vital organs,—heart, lungs, kidneys, and the brain itself. As Professor Donaldson has shown, the highest centres of thought in the brain develop after, and apparently as a result of, the development of the more precocious and farther advanced sensory and motor centres. Moreover, if the motor centres are not well devel-

oped, the adult becomes an unpractical dreamer, ever, as President Walker has said, "shivering on the brink of action," always planning and hoping, but never realizing. And these motor centres must be developed early, if at all.

The average child to-day needs physical and manual training far more than if living a hundred years ago. But city homes and surroundings actually furnish almost nothing of the kind, the ordinary country home very little compared with what was furnished by the farm. The child begins going to school when about five years old. If he goes to a kindergarten, he begins earlier. This may or may not be best: it is a condition and a fact. With the small families and ordinary surroundings the child is probably better off at school than at home. He will go to school anyway. A century ago the child would have attended school for twelve or at most sixteen weeks in the winter only. Then "Good-bye, books, good-bye, school." Now the school year is nearly or quite three times as long, and we are already planning summer schools to keep the child busy, and to take him off our hands for the rest of the year. During nearly or quite two-thirds of the year he sits three or more hours of the day, perhaps, in an over-heated and probably under-ventilated room.

We have introduced manual training and all kinds of hand work in the schools. This is excellent, but inadequate for the purpose required. Exercise which will promote the growth of heart and lungs must involve the largest possible mass of muscular tissue. Furthermore, in the young child it is better to exercise only those centres which are simple in structure and which mature early. Now the largest masses of muscle controlled by the simplest and most precocious nerve centres are involved in exercises of the trunk and the legs. For this reason the earliest active plays of the child are running, and a little later climbing.

The human brain is a hierarchy of centres of very different function, age, and power. It may, perhaps, be compared to one of those castles or fortress palaces on whose solid ancient foundations rest and rise more modern stories of ever-increasing lightness, grace, and complexity of finish. These have been successively added to meet the needs of a higher civilization. The oldest and simplest and most stable centres of

the brain are those which control the movements of trunk and legs. Those controlling the muscles of shoulder and lower legs are not very much younger. Good physiologists tell us that the centres controlling the movements of hand and finger depend upon these old, fundamental centres almost as a house rests on its foundations. Such fundamental centres, they tell us, are the final seat of resistance to nervous weakness and prostration. These must be strengthened at all cost in the children of parents showing any trace of nervous weakness. Hence the running, kicking, and tussling of children, in the primary and intermediate grades, is more than the ounce of prevention of nervous weakness: it is fortifying the nervous system to resist the strain and rack of business and professional life in our great cities. But these are not the only centres which have to mature during childhood. The sensory centres have had their period of most rapid growth during or soon after infancy. Then, as we have seen, the centres of trunk, leg, and probably those of the upper arm, follow successively. We find that between the ages of seven and eleven or twelve the strength of the lower arm and hand, as shown by the force of hand squeeze or grip, increases far more rapidly than the area of the cross-section of the muscle. This gain in strength over the gain in girth is very rapid at eight. But, while the child of eight is gaining very rapidly in the power of effective effort, he wearies more quickly than at seven or nine. These facts taken together seem to prove that at this age, or a little earlier, the nerve centres controlling these muscles are developing more rapidly than the muscle itself. The motor centres do not cease their development at twelve: they have a second period of acceleration of growth at about fourteen. But at this later date the higher centres of thought are also developing and calling for exercise. We seem to be justified in regarding the years of late infancy and early childhood as forming a period of predominant though not exclusive sensory development. The years between five and nine or ten are predominantly a motor epoch. The higher centres of thought, etc., do not attain much effectiveness until twelve or thirteen or even later, and continue their development until far on in adult life.

If, then, we will take advantage of the natural tendencies

of the child, if we will lay hold of the "favorable seasons of aptitude and inclination," as Locke puts it, we shall devote these years to the strengthening of the physical powers of the child rather than to logical thought or to book study.

This physical development, so absolutely essential to the well-being and success of child and man, can be best promoted by the spontaneous plays of the child. These are but the natural expression of the craving for exercise of organs which need this exercise for their complete and healthy development. Such healthy, wise, and beneficent cravings or instincts should be recognized and satisfied in our system of education.

Hence many of our best and wisest superintendents and teachers believe that a slight change or modification of our present school curriculum would be highly advantageous, if it is not already imperative. This change would make the playground and school-garden of at least equal importance with the desk and recitation, in the education of the lower grades, at least. This does not mean that the child should necessarily spend half of his time in playground, gymnasium, or garden. It means equal emphasis laid upon this part of education, and longer and more frequent recesses and pauses, and more motor activity. How many and how long the recesses should be, and how they may best be used, must be discovered by the experiments of superintendents and teachers. This question is beyond the physiologist or biologist.

The advantages of such a change would be many and great. First of all, in spite of all improvements,—and they are great,—much time is still wasted, and at least some harm done, in attempting to make the child think before its brain centres of thought are mature enough for the work. I believe that most superintendents and teachers would agree that all the child learns before eight or nine could be acquired in one-half or one-fourth as much time after this. The change will improve the child's habits and methods of study. He is now kept at his desk or in class longer than he can profitably apply his mind, especially during his restless motor epoch. Exercise frequently repeated, in small doses and with much variety, is best for the young child's muscles. This is clearly seen in his plays. His mental exercise, especially if involving effort, should be in the same small doses, alternating with rest

or change. It is not the question how much study the child can endure without exhaustion or over-fatigue, but how much will most and best stimulate healthy growth. Less time, used with more enjoyment, would apparently result in more healthy growth, in better habits of study, and in larger acquisitions of knowledge.

Once more, the child in the kindergarten stage, as Burke has shown, is gregarious rather than social. Children at that age seem usually to prefer to have their individual games at the sand piles or in small groups of twos or threes. But in the primary and intermediate grades true social life has at least begun. The adjustment is not made without much difficulty and friction. There is more squabbling and quarrelling, more complaint of unfair play, etc., than at any other age. Yet this learning to adjust one's self to social life is perhaps the most important part of a child's education. It is especially to be emphasized in this day of small families, when the problem of the only child is so prominent and puzzling. The firmest friendships are usually made early, and the "art of making many friends" must be acquired early, if at all. The "twa" who have together "wandered o'er the brae" and "paddled in the burn" have formed the friendship which weary wanderings and wide seas cannot break, as Burns teaches us. And such friendships are formed far more on the playground than at the desk.

Both boy and girl will profit greatly by this change, but the girl needs it even more than the boy. At six, or perhaps at eight, she is little, if any, farther along in her development than he. But the girl of fourteen or fifteen is nearly or quite two years in advance of the boy of the same age. At sixteen or seventeen she has attained her full height, and very nearly her adult weight. In other words, her period of preparation, of storing up material and strength for the pubertal changes, which are so great that we might almost call them a metamorphosis, is two years shorter than in the boy. It is shorter in the city than in the country, for city life promotes early maturity. The pubertal period, the critical and often dangerous time, is shorter than in the boy. The changes take place more rapidly, and this period of her voyage of life is more likely to be stormy. The period from six or seven to ten or

eleven is the time when she should store up the largest possible amount of material and strength against the trying years to come. If the caterpillar does not store up sufficient nutriment, the metamorphosis will be defective or incomplete, and the butterfly weakly, even if it emerges from the cocoon at all. Childhood is almost literally a larval stage. In the case of the girl the opportunity for outdoor air and exercise, and the lessening or mitigation of nervous strain and worry, should be continued through the first year in the high school, which is frequently one of the hardest in her whole education, and which comes at an age when she is most sensitive and least able to endure the strain.

With the natural precocity of the girl, with her period of preparation shortened still more in town and city life, she certainly should have the fullest possible use of these years. She need not be kept in idleness: she should not be crowded or worried. To crowd into these years studies for which she is not yet ready and sufficiently mature, to multiply the examinations, to give rest and recreation by sending her to balls or parties lasting until the wee small hours,—in one word, to squander rather than store up energy during these years is surely one of the most successful methods of race suicide.

I have told you nothing new. These facts are generally known by physicians, recognized and appreciated by most of our school superintendents. I believe that they would generally welcome the change. The great obstacle to a change so beneficent is the prejudice, sometimes the ignorance and thoughtlessness, of the public and parents concerning these questions, on whose answer hangs the welfare of our children and the success of the next generation.

3. PATHOLOGICAL ASPECTS OF EDUCATION ON THE PHYSICAL SIDE.

BY WALTER CHANNING, M.D., OF BROOKLINE, MASS.

[Read May 13.]

The criterion of the highest kind of success in life is "adaptability to environment," the latter word being used in the broadest sense, as applied to the sum total of the conditions and influences by which man is surrounded in the modern social organism. To lead him to understand what this environment is, what its opportunities are, and how they may be taken advantage of, should be the purpose of education from childhood to maturity. All this being granted, we still have the question of fitness to consider. Is the pupil himself fit, and is the training that our schools give the pupil of such a nature as to efficiently fit him for the particular situation in life in which he will individually find himself?

In the first place, we are well aware, though perhaps even yet not sufficiently dominated by our knowledge of the fact, that the present social environment is almost a total contrast to that of fifty years ago. "It is impossible," as Dr. Sadler* has said in a brilliant paper, "to predict the outcome of the stupendous forces, economic and emotional, which are now stirring the world to its depths." In another place he speaks of the quickening sense of new economic opportunity, which, he thinks, does not alone explain the modern belief in the virtues of public education, and adds:—

Does there not also lie behind that belief a more subtle cause? Shall we be wrong in tracing it back in part to something not less fundamental; namely, to an instinctive need of something which may fill the place of those traditional and less conscious processes of social education now in swift decay? The critical movement in thought and the revolu-

* "The School's Relation to Social Organization," by Michael E. Sadler, *Educational Review*, November, 1904.

tion in economic processes have profoundly shaken the old order of ideas, and with them the various established traditions of social conduct which, in considerable measure, rested upon them and had grown out of them. To the great majority of human beings the firmest kind of education is that which results from the impalpable but steady influence of a stable social environment. The silent pressure of such an environment moulds the thoughts, directs the sympathies, shapes the purpose, upholds the will, and fixes the way of life. Such an environment embodies a long tradition. . . . The disappearance of the old order, in its thousand different forms and implications, was inevitable. Often its disappearance was a boon, but sometimes an incalculable loss. . . . The relative importance of the school has grown through the decay of other forms of virtually educational tradition.

While school training must still be regarded as only one step in the education which fits for life, it is embracing more and more the functions of the home. When we were essentially a country people, play, exercise, and the training and discipline of work or manual labor were a natural part of the home bringing up. Now, as an urban people, all these things are lacking, and the school has unconsciously been compelled to furnish them. We now find play, gymnastics, athletics, and manual training (Superintendent Maxwell's order) assuming every year a more and more important rôle. Whether it wishes to do so or not, the school is required to supplement its intellectual with physical training. As Superintendent Maxwell says,—

The school should provide training for the body, as well as for the mind, because the physical nature is the foundation of all life, including the mental; because, for good or ill, the condition of the body influences the mind, and the condition of the mind influences the body; because without due co-ordination between mind and body no person is thoroughly equipped for the battle of life.

With a change in the social environment have come most marked changes in the pupils themselves. Leaving out racial and peculiar mental characteristics, which cannot be considered here, we find pupils presenting a very large number of

deviations from the normal. Dr. Sadler speaks of some of these pupils as "deteriorates." He says:—

In our educational policy we seem to have reached the point at which it is necessary to discriminate between the needs of the vigorous and of the deteriorate. For the former it is sufficient and prudent to provide an educational system which postulates a good home environment, adequate nutrition, and a healthy physique, and which, therefore, relies with confidence upon methods which stimulate individuality and open the windows of new and varied opportunity. But for the residuum of "deteriorates" a very different and more comprehensive course of treatment seems necessary.

My time is too short to consider how best to deal with deteriorates and defectives. My purpose is to emphasize the necessity of understanding the problem of fitness. It is high time, I believe, to have a more definite knowledge of the physical characteristics of pupils as they enter and pass through the schools. One of the best means of individualizing the child and of getting the clew to his personality is to weigh him in the scale of physical capacity. I do not mean that he should be the subject of a laboratory investigation. The problem should be, "Is the child physically able to do the intellectual work expected of him in the school?" There should be quick and simple tests for determining sight, hearing, nutrition, spinal curvature, co-ordination, and so on. The following illustrations will elucidate my point. If we can trust the eye experts, a vast amount of evil results from eye strain. Dr. George M. Gould, in a paper on the relation between posture and eye strain, says:—

It has been found that from 50 per cent. to 64 per cent. of school children are sickly or below a desirable norm of health. I do not think it an exaggeration to say that the ills of 50 per cent. of these hygienically subnormal children and students are due to the morbid postures compelled by the present false methods of writing and reading. Of the remaining 50 per cent. a full half are directly caused by eye strain. Headache, "weak eyes," *migraine*, anorexia, dyspepsia, and many types of denutrition, spinal curvature, insomnia, "nervousness," many cases of chorea and epilepsy, despondency, and frequent psychic disorders, truancy, immorality, and so forth, almost

any form or kind of functional disease,—all these, and the denutrition that follows the ground for the incoming of infectious and terminal diseases,—all of these are, or may be, the clear consequences of eye strain."

Scholder, of Lausanne, finds a distinct and increasing ratio between spinal curvature and myopia, or near-sightedness, the percentage of the former reaching 32.4 per cent. in the sixth grade. Dr. Henry W. Kilburn, of Boston, has said, "Any refractive error which causes a growing child to bring the eyes too near the object viewed, and therefore to lean forward too far over the desk, or which causes a tilting of the head to one side, may, in my opinion, cause a lateral curvature." Dr. Allen M. Greenwood has said "that eye strain, with a natural inclination to avoid it, is the cause of much child inattention and apparent backwardness,"—a fact generally recognized, but not given the attention it deserves.

Attention has also been called to the many defects of hearing not easy to recognize, but serious in their results, if not attended to. Drs. Herdman and McBride say that from 3 to 20 per cent. of children examined in the schools have defective hearing, but the proportion in which the defects are recognized is very small. The teachers are naturally impatient at times with inattentive children, and it is especially difficult for them to appreciate the fact that defective hearing may be at the bottom of the trouble. One strong argument for careful physical examination by qualified persons is the impossibility of parents or teachers discovering defects themselves.

The general nutrition of school children is a matter of vast importance, and, while it may naturally vary widely in the limits of what may be regarded as normal, it should be closely watched, as it gives vital indications of what may be expected of the child intellectually. Where the nutrition is manifestly bad, and the cause of the trouble cannot be remedied, it naturally is going to make a very serious difference in what we should expect the child to accomplish. Superintendent Maxwell lays special stress upon the poor nutrition of the children in the New York City schools. He says:—

Education, whether physical or mental, is seriously retarded if not practically impossible, when the body is imperfectly or

improperly nourished. The child with body emaciated, blood thin, and nerves on edge, because he has not enough to eat, grows up stunted in body and mind. What a farce it is to talk of the schools providing equal opportunities for all, when there are hundreds of thousands of children in our city schools who cannot learn because they are always hungry!

He also calls attention to the statement of Prime Minister Balfour, that "the chief burden of perpetuating the race falls upon the poor in urban communities," which is certainly a strong reason for a careful investigation of the physical condition of school children.

Much has been written during recent years about backward or defective children in public schools, and it may be regarded as a well-substantiated fact that at least 1 per cent. of school children fall into this category. The condition is not difficult to recognize, and is often capable of improvement, growing worse, on the other hand, if not properly dealt with. Yet it is a fact that only a handful of this great mass of unfortunate children are taught as they should be. Inadequate efforts have been made in Boston, New York, and Philadelphia to start special classes; but so far school authorities have been unable or unwilling to do more than make the smallest kind of beginning. This hesitancy to perform a manifestly public duty seems to be, to some extent, due to timidity on the part of school authorities and a false pride in parents, who do not like to be told that their children are a little duller mentally than the average. In Boston, with upwards of ninety thousand children, special classes should be provided for nine hundred. In New York, where there are between six and seven hundred thousand pupils, there should be special classes for between six and seven thousand children. It is incumbent on those who understand the magnitude and seriousness of this question to advocate the necessity of special classes. There is certainly no more pathological aspect of education than the mixing of so many different kinds of defective children with normal children, and expecting them to accomplish similar tasks with similar results.

I have not endeavored to deal with the question of what pupils, when they leave school, are expected to do in life.

The changes in social conditions have brought new kinds of occupations, and on this account many changes in educational methods have been necessitated, and, no doubt, will continue to be made as time goes on. This part of the question I have not time to more than allude to in passing; but it is obvious that the question of the health of pupils becomes each year of increasing importance. The whole subject of school and personal hygiene must be better understood. It should be taught in medical schools, with the idea of equipping a certain percentage of physicians for the particular work of school inspection. This brings me to the point of how the simple tests above spoken of can be made. I think they should be in the hands of medical inspectors. We have had in this State for some years an efficient corps of these men, who have examined pupils to ascertain whether or not they presented indications of contagious or infectious diseases. But their work has usually stopped at this point. They should, of course, go much farther, and be able to examine each child as it enters the school, as well as at later periods, with an idea of discovering and correcting any defects that may exist. It is easy to do this in the beginning, when there is ample time and prevention is of the first importance. I would not undertake to say that the opinion of Dr. Gould, that over "50 per cent. of school children are sickly or below a desirable norm of health," is correct. What a "desirable norm of health" may be is naturally a matter of personal judgment. Practically, it is not precisely the same for any two persons. Each individual must be examined by himself, and considered as an entity or separate problem.

In this age of individualization each member of society, while he is rightly one of many, must be successful in what he achieves through his own efforts; and the earlier and more definitely it is known what he has in him the better he will accomplish the desired end. Objections are always easy to make, and many teachers will say that the defects of children are exaggerated. Others will say that it will be difficult to make a careful examination of all school children. These objections should have due weight, but they do not offset the immense gain there would eventually be to society if each child in the schools could be individually so differentiated that such ca-

capacity as he possessed, both mental and physical, could be ascertained as a fact, and not be a matter of speculation or uncertainty, and then be made the basis of helping him to realize the best in him, and thus adapt him to his environment. *Preventive hygiene* as a vital factor in education will materially aid in accomplishing the desired result.

4. SPECIAL EDUCATION FOR BACKWARD CHILDREN.

BY ARTHUR C. JELLY, M.D.

[Read May 13, 1905.]

I have been asked to describe briefly the methods of special education which are employed in the public schools of Boston. The need of a thorough investigation of the capacity of children is emphasized, on the one hand, by the hindrance which a stupid child creates in the ordinary class, and, on the other hand, by the fact that a sub-normal mental capacity seems to form a basis for the most striking failures of corrective and reformatory measures. It seems probable that from 5 to 10 per cent. of the ordinary city children in the public schools will fail to receive much benefit from ordinary grade work. This year there are in operation in Boston sixty-eight ungraded classes and seven so-called special classes (that is, for mentally deficient children). These represent an attempt to meet the needs of these sub-normal or exceptional children. In the ungraded or "coaching classes," as they are sometimes called, it is expected that ordinary methods, applied very carefully, will improve very dull and backward but otherwise normal children, as well as those foreign-born children whose chief trouble is with our language.

In the so-called special classes the need appears to be not only for much individual attention, but also for methods of the more objective sort by which the senses are trained and the hand and eye are taught to work together. Reference to classes of this sort is made for the first time in the superintendent's report of March, 1900. It seems proper at this point to mention the fact that the man who initiated this movement here appreciated not only the value of such classes, but also the need of careful attention to details to insure their success. He selected teachers who had proved their capacity in ordinary teaching, and he succeeded in providing for them an

opportunity to study special methods in a large institution school. By special arrangements the seven teachers who are now engaged in this work have been instructed in wood-work, and are now being taught to model in clay, in order that they may instruct their children. A fine devotion to the work prevails, and is constantly being exhibited outside the school-room. Two of these teachers went to England last summer and visited classes in London, in order to learn what they could of the work there. Another teacher has worked out very carefully a course in weaving which is proving very useful.

The first teacher was appointed November, 1898, the second in December, 1899, the third in 1901, the fourth in 1902. Three other classes were established in 1902 and 1903. None have since been added because of evident lack of money to apply in such work, though the present superintendent is in full accord with the movement. And, while we regret that the work is not extended somewhat each year, we have recognized that very likely this temporary halt might be turned to permanent advantage, since it gives an opportunity for a more prolonged study of certain methods in individual cases. Pupils for the first three classes were selected by the teachers, who took charge of them at once. It was hardly necessary to examine these children thoroughly to become convinced that they were too defective to profit much by any public school instruction; and the same remark holds true, though to less extent to-day. The superintendent soon became convinced that medical judgment was desirable in connection with the transfers from the public schools to the school for feeble-minded at Waverley, and also in the selection of cases for future classes. In March, 1902, he requested me to examine the cases reported by the teachers; and, as the result of my examinations, the four other classes have been formed. Many additional examinations have been made of children suitable for such training, for whom no provision has yet been made. The first classes fell short of a high degree of usefulness, because they were without signs of movement. It seemed to me that we should attempt to create not only a movement from the lower end of the line toward the institution at Waverley, but also another movement from the upper end back toward the grade classes. The former doubtless appealed to the humane

side of the teachers' nature, but the latter seemed likely to stimulate their interest more decidedly. I am sure that they have been encouraged by both movements, because they could see that they were working to secure custody for those who needed it and a deserved promotion for those who showed increased capacity.

Now there are two serious obstacles to the success of our work: The first is that the institution which the State has provided for these children cannot receive them all, and they continue to obstruct the special classes. Many of us expect, however, that additional provision will be made by the State each year in the near future. The second obstacle to successful classes of this sort is a lack of knowledge on the part of the average public school teacher of the indications which point clearly to feeble-mindedness in a child. I have been surprised at the inability of many teachers to recognize, even after frequent observations, very pronounced cases of mental deficiency. How to remedy this unfortunate state of affairs has puzzled me. I have attempted to examine many children in the presence of the grade teacher, to demonstrate many points of which she apparently had not the slightest conception; and it is encouraging to be able to say that many have shown their cleverness by recommending this year cases for special class work whom they would not have considered suitable a year ago.

Appreciating how slow is likely to be the advance from this method of dealing with the situation, I have planned a circular to be sent to any teacher who thinks she has a child who requires special examination, and for whom she is asked to fill out a certain blank indicating something of the child's attainments and deficiencies (see the annexed blank and circular).

While this circular may do something, I do not expect it will accomplish very much. You will see, therefore, that I am forced to the conclusion that probably the only satisfactory remedy for the situation lies in some instruction during the normal course of the man or woman who is to become a teacher, based upon lectures and observations of the sub-normal child under treatment in classes. The future may determine whether such use of the special classes in the public schools would be judicious. In view of the natural sensitiveness shown by

parents of children of this kind, I am convinced that at present any such move would be inexpedient.

QUESTIONS TO BE ANSWERED.

1. Name and residence of child.
2. Age.
3. What school grade?
4. How long attended school and in what grades?
5. How much progress has the child made, and in what ways?
6. Is the child obedient? , mischievous? , quarrelsome?
7. Are the habits cleanly? , correct in moral relations?
8. Does the child distinguish colors?
9. What colors does the child know by name?
10. Does the child appreciate form correctly?
11. What is the mental capacity of the child?

| | |
|------------------|---------------------------------------|
| (a) Observation. | (f) Spelling. |
| (b) Imitation. | (g) Writing. |
| (c) Attention. | (h) Number. |
| (d) Memory. | (i) Music. |
| (e) Reading. | (j) Special ability, manual or other. |

12. In what particular portions of the grade work does the child fail to keep up with the average? In your judgment, what seems to be the reason for this failure? Sometimes the home life or personal habits appear to diminish capacity for school work. While it may not be discreet always to set down here information as to these matters, the teacher may properly convey such information to the doctor privately.

The back of the sheet may be used for answering the above questions.

Teacher's name, _____ Date, _____ School, _____

SUPERINTENDENT'S CIRCULAR OF 1905.

BOSTON PUBLIC SCHOOLS,
SUPERINTENDENT'S OFFICE,
April 17, 1905.

To the Principals of Districts:

You are requested to give your attention to the following statement, which has been prepared by Dr. Arthur C. Jelly, for the promotion of the work in behalf of those children who are believed to be suffering from arrested or defective mental development, and to bring the same to the notice of such of your primary teachers as you think may be benefited thereby, to whom copies of this document may be given.

Yours very respectfully,

GEORGE H. CONLEY,
Superintendent of Public Schools.

SUGGESTIONS FOR TEACHERS OF PRIMARY CLASSES.

In connection with the work of the special classes (for children whose mental capacity is deficient) it seems desirable to correct certain misunderstandings which are often encountered in conversation with teachers, and to establish standards of a more uniform character than those now prevalent by which backward or dull or nervous children may be tested as to their mental capacity. The opinion has been expressed in various quarters that small classes should be established for backward children. This opinion gains support from the following considerations:—

Studies are arranged in our schools so that the needs of the ordinary child are usually well supplied. If he attends school regularly and shows average capacity, he will probably attain promotion each year. If a child is not promoted, the parents are apt to blame the teacher. Is the trouble with the teacher or with the child? If any considerable number in one class fail of promotion, that state of things might indicate that the teacher's work might be at fault. On the other hand, if a child has attended school regularly, and has received proper instruction, but has not earned promotion in a year, it is fair to ask, At what points and in what way is he different from the average? It is unfair to the rest of the class and to the teacher herself to ask her to give much time to any one child. But every one naturally feels sorry for the dull child, and wishes that something might be done to help him along. Very often he is considered wilful, beaten at home and misunderstood at school, when his unsatisfactory conduct results from a lack of ability to pay strict attention and to make clear distinctions. The appearance of the greatest stubbornness among the insane is often strikingly exhibited in states of weakness and mental confusion.

From such considerations as the above it seems clear that the transfer of the unusual child to a special class may be not only for the relief of others, but also for the more humane reason that each child should have a chance in the world.

When a special class is possible, what sort of children should a teacher recommend for it? Among dull children all grades of defect are found. To select only those children who show very marked mental defect is unwise, because public morals and public safety both call for the protection in an institution of these helpless unfortunates, who seldom improve materially in any class of the public schools. On the other hand many cases whose defect is slight may possibly be permanently benefited and so developed as to be capable of doing grade work. This statement makes clear the importance of recognizing the less obvious cases of mental incapacity. Valuable information upon this subject may be obtained from certain medical investigations. A committee in London undertook some studies upon these questions a few years ago, and Dr. Francis Warner published observations upon 50,000 children. His brilliant results have been confirmed by many observers. Dr. Warner considers low nutrition (as indicated by the rapid appearance of signs of fatigue and exhaustion in thin and pale children) "a less frequent factor of mental dulness than

one would naturally expect." Many other observers have reached the same conclusion. Poor surroundings alone do not produce feeble-mindedness. On the contrary, they often stimulate the bright child to such energy as to change the character of the home.

Class A.—Certain physical or anatomical signs may be observed in school children which indicate departures from average standards in the development of the body. Such signs often occur in association with mental dulness; but, since the *interpretation* of these signs requires the judgment of a medical expert, it may be sufficient merely to mention their existence. On the other hand, it is important for the teacher to become familiar with the significance of the next group of signs.

Class B.—Physiological, functional, or nerve signs. By inspection of the child engaged in certain tasks one may observe how his brain responds when called into action through the eye or the ear, and how it brings into co-ordinate action other parts of the body. Just as the sounds which the doctor hears over the heart indicate to him the action of this organ within the chest, so do these visible signs represent the action of the child's brain. The face may show scowling or grinning or other queer movements of the muscles about the mouth or protruding of the tongue and rolling it about, as is often seen in an attempt to write. Certain positions and movements of the hands, as pulling at a button, and likewise the shifting of the feet, may be said to indicate that the child finds the task difficult for some reason. When the eyes are kept fixed in the head, and move only as a part of it, this may be taken to indicate poor development of the eye-mechanism. Certain movements of the eyes point to defective nervous control. The balance of the head and the shape of the back often point to inefficient or improper muscular control. The hands, when extended together in front of the body, often show weakness and lack of co-ordination by improper balance and trembling and twitching movements. Drawing and writing often give the same result. Signs of this class sometimes occur without any other signs and without mental dulness, but they are much more often found in conjunction with the physical signs of Class A and with mental dulness.

Conclusions.—From the above it appears:—

First, that certain children need special classes.

Second, that these children, if studied with skill and care, usually show many more signs of defect of one sort or another than do those children who attain the grade standard.

Third, that, since it is generally admitted that it is sometimes impossible for any one to decide a certain kind of case, it is therefore obviously unfair to expect the grade teachers, unaided, to determine exactly a child's mental capacity in a difficult case.

Fourth, that it is equally true, on the other hand, that an examination by teacher and doctor together will often discover evidence that will enable a decision to be reached in a puzzling case.

Fifth, that a little knowledge is often a dangerous thing. No one should ever jump at a conclusion from the presence of any one sign. On the other hand, a conclusion is often warranted by the presence of many

signs taken together, especially where they represent both imperfect structure and disordered function.

Sixth, that, while it is natural and proper that parents should shield their child in every way, it is undoubtedly true that the child seldom gains anything by having his difficulties denied and ignored. Friendly tact and forbearance, as well as firmness, are needed in dealing with these children and with their parents.

Seventh, that many children who show only moderate lack of mental capacity have their defects corrected in whole or in part by judicious training. Therefore, proper special class work is both humane and helpful.





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