all that I have examined, as is evidenced by the fact that the wounds have healed, and there is no pus in the nasal cavities. A case that I operated on early in March by this method has just healed, but it was a very large sinus.

DR. W. FREUDENTHAL—Dr. Turner has brought up the osteoplastic operations, though he has not done any himself. In some cases I find it impossible to do this because of the broken-down tissue which must be removed. I remember one case where I removed the whole anterior wall, and a new wall formed. I have not seen a case of diplopia. I use atropin before the operation. But these cases of diplopia go more to the ophthalmologist than to us. I must admit that Dr. Myles has had a larger experience than I and he is able to do more with these cases than most of us. In many cases I could not reach the frontal sinus, and it is often impossible to measure the distance. Dr. Turner himself mentions having attempted to enter the right sinus and got into the left one instead. Dr. Foster's point was well taken. The disfigurement in my cases was very slight, probably due to the periosteum being preserved. The last word has not yet been spoken on these operations and we shall have to learn a great deal more. Yet if we can save a few of those cases like the one mentioned in my paper, who was contemplating suicide, we have done a great deal.

DR. A. LOGAN TURNER—Much more was omitted from the paper that might have been said. We are not yet at the bottom of this question; there is still much to learn, but some day we shall be in better position to deal with these cases. I have not been educated to Dr. Myles' view that we can treat these cases through the nose. As regards treatment by drainage through the nose, I know that there are cases in which satisfactory results have been obtained, but if we consider the anatomic configuration of the sinus, I do not see how we are to expect a cure by this method. There were many points of detail which I did not give fully for lack of time. One point about which I wanted information was in regard to the formation of a flap of mucous membrane described by Killian. Others as well as myself have had difficulty in understanding this point. With regard to the osteoplastic operation, I introduced this procedure from Hajek's new edition. There seems to be something in the Killian method of operating which is approaching more nearly to the result desired, giving excellent curative results with the minimum of disfigurement. I have had no experience with the use of the electric trephine. We can obtain good, smooth edges by the careful use of the chisel. I have always found hemorrhage to be well controlled with peroxid of hydrogen. This stops it very rapidly, just as it does in mastoid work. I do not know whether the common carotid has ever been ligated in these cases or not.

Dr. Holmes said he felt difficulty in seeing how the sinus could be obliterated. I have had no difficulty whatever in doing this, either on the living person or on the cadaver. It is astonishing to see how readily the soft tissues of the orbit rise up while you are removing the floor of the sinus and obliterate the orbital portion of the cavity. It is wise to remove all of the bony floor and not to leave any bone at the apex of the orbit. Further, what Dr. Holmes said about the future of these cases is important. I shall take occasion to find out whether my old cases have developed any eye strain. I did not refer to the method spoken of by Dr. Ard, viz., preservation of the osseous floor. Dr. Coakley probably obliterates the orbital part of the sinus by gradually filling it up with granulations.

Prophylaxis in Surgery.—It has always been my idea, wrote Dr. L. Sexton of New Orleans, that if surgeons would spend more time in getting the patient in proper condition to stand the operation, in having everything in readiness, in having assistants trained in what they are expected to do, and also if the least possible time were consumed in performing the operation, and if all lectures and explanations were suspended until the operation is finished, much less of the first necessary poison, viz., the anesthetic, would be required, and we would have fewer cases in *extremis* to deal with after operations.

PRESENT STATUS OF ANTITUBERCULOSIS WORK IN THE UNITED STATES.

SUGGESTIONS FOR A MORE EFFECTUAL CO-OPERATION OF AUTHORITIES, PHILANTHROPISTS, PHYSICIANS AND LAYMEN.*

S. A. KNOPF, M.D.

NEW YORK CITY.

The kind interest with which my first report in 1897 and my second report in 1902 on the tuberculosis problem in the United States was received by the members of the Section on Hygiene and Sanitary Science and of the American profession at large encourages me again to give a bird's-eye view of what is being done in our country in the combat of the great white plague. Between my first and second reports five years had intervened; between my second and third only two years have elapsed. My reasons for reporting after this shorter interval are to be found in the unusual activity of sanitary authorities of the medical profession at large, and of the philanthropic societies and individuals engaged in antituberculosis work. Far greater progress has been made during the last two years than in the preceding five or ten.

There are now no less than forty-eight American and five Canadian associations for the prevention of tuberculosis, working under the names of societies, committees or commissions. The following is as complete a list as I have been able to collect myself up to this date¹ and to Miss Lillian Brandt, the very efficient statistician of our tuberculosis committee in the New York Charity Organization Society, I am indebted for such statistical material as was at her disposal.

SOCIETIES AND COMMITTEES FOR THE PREVENTION OF TUBERCULOSIS, AND STATE COMMISSIONS.

CALIFORNIA.

Southern California Antituberculosis League—F. M. Pottenger, M.D., president, 226 Bradbury Bldg., Los Angeles, Cal.
Tuberculosis Committee of the Medical Society of the State of California—Dr. F. M. Pottenger, secretary, 226 Bradbury Bldg., Los Angeles, Cal.

COLORADO.

Evangelical Lutheran Sanitarium Association of Denver, Colo.—Frederick d'Amour, president; Dr. Henry G. Merz, secretary, 632 17th St., Denver.
Jewish Consumptives Relief Society—Dr. C. D. Splvak, secretary, 1421 Court Place, Denver, Colo.

CONNECTICUT.

New Haven County Antituberculosis Association—Dr. Francis Bacon, president, New Haven, Conn.

DISTRICT OF COLUMBIA.

Committee on the Prevention of Consumption of the Associated Charities—Dr. Wm. C. Woodward, chairman, 811 G St., N. W., Washington, D. C.

GEORGIA.

Georgia Medical Commission to Investigate the Extent of Tuberculosis in Georgia, and Means of Stamping Out the Disease.—Dr. Charles Hicks, chairman, Dublin, Ga.

ILLINOIS.

Committee on the Prevention of Tuberculosis of the Visiting Nurses' Association.—Dr. Alice Hamilton, 79 Dearborn St., Chicago.
Illinois State Association for the Prevention of Tuberculosis.—Dr. Edmund J. James, president; Dr. Arnold C. Klebs, secretary, Chicago.

Committee on Tuberculosis of the Illinois State Medical Society.—Dr. J. W. Pettit, chairman, Ottawa, Ill.

National Antituberculosis Association, Incorporated in Springfield, Ill.—Incorporators: Dr. W. B. Metcalf, Rev. F. M. Carson, C. O. Hanford, Alderman Butterworth, W. R. McDonough, all of Chicago.

*The discussion on the papers of Drs. Knopf and Price, in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-fifth Annual Session, June, 1904, will appear in a later issue with the paper of Dr. Price.

1. Owing to the large number of papers read at Atlantic City it was impossible to have this report appear before. During the six months since the paper was read a number of new societies have been formed and several new institutions established. Through the courtesy of the editor of THE JOURNAL, the manuscript was returned to me in order that I might bring the statistical portion as nearly as possible up to date (January, 1905).

INDIANA.

Indiana Committee of Tuberculosis of the State Medical Society.—Dr. J. N. Hurty, secretary, Indianapolis.
The Antituberculosis Society of Indiana.—Dr. Theodore Potter, secretary, Indianapolis, Ind.

MAINE.

The Maine State Sanatorium Association.—Portland, Me.

MARYLAND.

Maryland State Commission.—Dr. Marshall Langton Price, medical officer, 10 South St., Baltimore.
The State Association for the Prevention and Relief of Tuberculosis in Maryland.—Dr. H. B. Jacobs, president; Dr. Joseph S. Ames, secretary.

MASSACHUSETTS.

The Boston Association for the Relief and Control of Tuberculosis.—A. M. Wilson, secretary, 6 Beacon St., Boston.
Tuberculosis Aid and Education Association.—Miss Edna A. Woolson, secretary, 277 Howard St., Cambridge, Mass.
The Springfield Association for the Prevention of Tuberculosis.—Dr. H. C. Emerson, president, Springfield, Mass.
Worcester Association for the Relief and Control of Tuberculosis.—Earle Brown, secretary, Worcester, Mass.
American Invalid Aid Society.—Mrs. E. W. Waite, secretary, 73 Tremont St., Boston.

MINNESOTA.

Society for the Prevention of Tuberculosis.—Dr. H. M. Bracken, Pioneer Press Bldg., St. Paul, Minn.
Minnesota State Commission (in regard to Sanatoria).—Dr. H. L. Taylor, Chairman, 75 Lowry Arcade, St. Paul, Minn.
The Antituberculosis Committee of the Associated Charities of Minneapolis.—Edwin D. Solenberger, secretary, 738 Boston block, Minneapolis, Minn.

MISSOURI.

St. Louis Society for the Prevention of Tuberculosis.—Mr. F. E. Eaton, president; Mr. G. A. Blickhahn, secretary; Dr. Wm. Porter, chairman, St. Louis.

NEW HAMPSHIRE.

New Hampshire State Commission (in regard to a sanatorium).—Dr. Irvin A. Watson, chairman, Concord, N. H.
New Hampshire Society for the Prevention of Consumption.—Dr. O. B. Douglas, chairman, Concord, N. H.
Suncook Association for the Prevention of Tuberculosis.—Suncook, N. H.

NEW JERSEY.

New Jersey State Commission (in regard to Sanatorium).—Edwin A. Stevens, treasurer, 1 Newark St., Hoboken, N. J.
Antituberculosis Committee of the Oranges.—Miss Louisa R. Pierson, secretary, Orange, N. J.

NEW YORK.

Binghamton Society for the Prevention and Cure of Tuberculosis.—Charles W. Petherolf, secretary, 9 Linden Ave., Binghamton, N. Y.
Tuberculosis Committee of the Buffalo Charity Organization Society.—Dr. P. W. Van Pyma, chairman; Frederik Almy, secretary, 165 Swan St., Buffalo, N. Y.
Committee on the Prevention of Tuberculosis of the New York Charity Organization Society.—Paul Kennaday, secretary, 105 E. 22d St., New York City.
Tuberculosis Committee of the United Hebrew Charities.—Dr. Lee K. Frankel, secretary, 365 Second Ave., New York City.
Committee on the Prevention of Consumption of the United Garment Workers of America.—Henry White, chairman, Bible House, New York City.
Tuberculosis Committee of the Rochester Public Health Association.—Dr. M. E. Leary, 32 South Washington St., Rochester, N. Y.

OHIO.

Ohio Society for the Prevention of Tuberculosis.—Dr. C. O. Probst, secretary, State Board of Health, Columbus, Ohio.
Ohio Commission, appointed by the Governor to investigate the desirability of a State Sanatorium.—Dr. C. O. Probst, secretary, Columbus, Ohio.

PENNSYLVANIA.

Pennsylvania Society for the Prevention of Tuberculosis.—Dr. Lewis Brinton, secretary, 1423 Spruce St., Philadelphia.
The White League.—Mr. Edwin W. Perot, secretary, 1515 Arch St., Philadelphia.
Scranton Society for the Prevention and Cure of Consumption.—Dr. J. M. Wainwright, secretary and treasurer, 627 Linden St., Scranton, Pa.
Henry Phipps Institute.—Dr. Lawrence F. Flick, president, 238 Pine St., Philadelphia.

RHODE ISLAND.

Newport Association for the Relief, Control and Prevention of Tuberculosis.—President, Mr. Robert Frame (president Newport Board of Health); secretary, Mr. Clarence C. Moore, Newport, R. I.

VERMONT.

Vermont Society for the Study and Prevention of Tuberculosis.—Dr. H. E. Lewis, secretary, Burlington, Vt.
Vermont State Tuberculosis Commission.—Dr. H. E. Lewis, secretary, Burlington, Vt.

WISCONSIN.

Wisconsin State Commission for the Prevention of Tuberculosis.—Dr. Gustav Schmitt, 1206 Walnut St., Milwaukee, Wis.

NATIONAL.

National Association for the Study and Prevention of Tuberculosis.—Dr. E. L. Trudeau, president; Dr. Wm. Osler, first vice-president; Dr. Hermann M. Biggs, second vice-president; Dr. H. Barton Jacobs, honorary secretary; Prof. Livingston Farrand executive secretary; Dr. George M. Sternberg, surgeon-general, treasurer. The board of directors is composed of 20 men from all over the states who are particularly interested in the study and prevention of tuberculosis. The following is the present composition of the board: California, Dr. Norman Bridge;

Colorado, Dr. S. E. Solly; Connecticut, Dr. John C. P. Foster; Washington, D. C., Dr. George M. Sternberg; Illinois, Drs. Arnold C. Klebs and Robert H. Babcock; Indiana, Dr. J. N. Hurty; Maryland, Drs. Wm. H. Welch, William Osler, H. B. Jacobs and John S. Fulton; Minnesota, Dr. Henry B. Bracken; Missouri, Dr. William Porter; Massachusetts, Drs. Edward O. Otis and Vincent Y. Bowditch; New Jersey, Mr. Frederick L. Hoffman; New York, Drs. Hermann M. Biggs, S. A. Knopf, Edward L. Trudeau and Mr. Edward T. Devine; North Carolina, Dr. Charles L. Minor; Ohio, Dr. Charles O. Probst; Pennsylvania, Drs. Lawrence F. Flick, Mazyk P. Ravenel, H. S. Anders and Leonard Pearson; Texas, Dr. N. M. Smith and Dr. George E. Bushnell of the United States Army Hospital, and Surgeon-General Walter Wyman of the United States Marine Hospital; Dr. H. Barton Jacobs, secretary, 11 Mt. Vernon Place, Baltimore.

CANADA.

The Canadian Association for the Prevention of Consumption and Other Forms of Tuberculosis.—Rev. M. Moore, D.D., secretary, 128 Wellington St., Ottawa, Canada.

Ontario Anticonsumption League.—Rev. C. S. Eby, D.D., secretary, Toronto, Canada.

Montreal League for the Prevention of Tuberculosis.—Dr. A. J. Richer, honorary secretary, 11 Bleury St., Montreal, Quebec.

The St. Francis District League for the Prevention of Tuberculosis.—Dr. E. J. Williams, honorary secretary, Sherbrooke, Quebec, Canada.

The New Brunswick Association for the Prevention and Cure of Consumption.—Dr. William Bayard, St. John, N. B.

BRITISH COLUMBIA.

The British Columbia Society for the Prevention of Tuberculosis.—Dr. J. C. Fagan, secretary, Victoria, B. C.

Before proceeding with the statistical information, permit me first to say a word or two on the work and mission of such organizations. They are, as a rule, composed of medical men and of laymen. Many do educational work alone, others incorporate in their work the establishment of sanatoria; still others make it their exclusive purpose; others again make it their main object to take care of the patients at their homes; but nearly all these associations study the social aspect of tuberculosis in its various forms which are inevitably connected with work of that kind.

A little over two years ago, when I thought the time ripe to form an association or committee of that kind in New York, I laid down the following objects and aims for such an association in a call which was issued at the time, and which finally resulted in the formation of the New York Charity Organization Society's Committee for the Prevention of Tuberculosis:

1. The promulgation of the doctrine that tuberculosis is a communicable, preventable and curable disease.
2. The dissemination of knowledge concerning the means and methods to be adopted for the prevention of tuberculosis.

3. The advancement of movements to provide special hospitals, sanatoria and dispensary facilities for consumptive adults and scrofulous and tuberculous children among the poor.

4. The initiation and encouragement of measures which tend to prevent the development of scrofula and of other forms of tuberculous diseases.

To this call were attached the signatures of Prof. Hermann M. Biggs, Prof. Joseph D. Bryant, Dr. John H. Huddleston, Prof. A. Jacobi, Prof. Walter B. James, Prof. Edward G. Janeway, Prof. Alexander Lambert, Prof. Henry B. Loomis, Prof. T. Mitchell Prudden, Prof. Andrew H. Smith, Prof. Stephen Smith, and my own. Owing to the difficulty of finding a layman with the proper qualification for president of the society, the medical men who had signed the appeal, joined with the New York Charity Organization Society, to form a special committee, of which Mr. Charles F. Cox became president, and Mr. Edward T. Devine, secretary *pro tem*. A number of other prominent physicians, philanthropists and trained charity workers joined the committee, and it has now its regular paid secretary and its paid statistician.

Concerning the work it has done during the few years of existence, permit me to quote the following items

from the handbook issued by the committee: During the winter of 1902-1903, 91 lectures were delivered under the auspices of the committee in the various settlements, Young Men's Christian Associations, Young Men's Hebrew Associations, churches, public schools, etc. Most of these were in English, but a number of them were delivered in German, Bohemian, Italian, French and Hebrew (Yiddish). During the same period this committee has distributed 77,000 printed lectures and leaflets of instruction. One of the most important circulars of all I consider the one issued in regard to the frequently advertised "absolute consumption cures." I consider this so important that you will permit me to reproduce it here in the hope that other organizations may copy it and thus protect many unfortunate people.

WHEREAS, It has come to the knowledge of the Committee on Tuberculosis of the Charity Organization Society that many so-called specific medicines and special methods of cure for tuberculosis have been and are being exploited and widely advertised; and

WHEREAS, The advertisements of some of these cures have made such reference to the Tuberculosis Committee of the Charity Organization Society, or to some of its members, as to create the inference that this committee, or its members, recommend or advocate the use of many such so-called specifics or special methods of cure for pulmonary tuberculosis, or consumption; and

WHEREAS, There is no specific medicine for this disease known, and the so-called cures and specifics and special methods of treatment widely advertised in the daily papers are, in the opinion of the committee, without special value, and do not at all justify the extravagant claims made for them, and serve chiefly to enrich the promoters at the expense of the poor and frequently ignorant and credulous consumptives; therefore be it

Resolved, That a public announcement be made that it is the unanimous opinion of the members of this committee that there exists no specific medicine for the treatment of pulmonary tuberculosis, and that no cure can be expected from any kind of medicine or method except the regularly accepted treatment, which relies mainly upon pure air and nourishing food.

Add to this the nearly 50,000 circulars distributed by the medical inspectors of the board of health, and an idea may be obtained of the really enormous educational work done in New York. Of the other work done by the tuberculosis committee, we must note its protest to the governor against the signing of the Goodsell-Bedell bill, the protest against dwarfing the present tenement-house laws, the urging of the destruction of the celebrated "lung block," and the constant urging of the establishment of sanatoria for the consumptive poor of New York.

Besides this work, the sub-committee on treatment of our larger committee has during the first year of its existence taken care of 211 families having tuberculous members. The handbook above mentioned will give those who desire to learn more of the New York Tuberculosis Committee and what it has done much additional information. All I hope to have shown in this present meager report is what a tuberculosis committee can do when it has the support of the medical profession, the philanthropist and the municipal authorities.

I must not leave the subject of tuberculosis organizations without referring to one which has just been formed² under the name of "The National Association for the Study and Prevention of Tuberculosis." As

those who have followed this movement will know, this association is the outcome of the earnest desire on the part of many American physicians interested to have a representative American Association for the study and the prevention of tuberculosis. The movement started with a conference called together at the occasion of the Tuberculosis Exposition in Baltimore and the subsequent appointment of committees and the framing of constitutions and by-laws. The objects of the association are (a) the study of tuberculosis in all its forms and relations; (b) the spreading of knowledge about the causes, treatment and prevention of tuberculosis; (c) the encouragement of the prevention and scientific treatment of tuberculosis.

I know that I express the sentiment of this Section, which has always been so deeply interested in the tuberculosis subject, in wishing this new organization God speed and a useful and glorious career. The calling into life of this national society is, to my mind, one of the most important events in the history of American medicine.

The next most important point concerning the present status of the antituberculosis work in the United States would be a list of sanatoria, special hospitals and homes devoted to the exclusive treatment of patients suffering from tuberculous diseases. I append herewith a list of such institutions existing at the present time in the United States and Canada:

LIST OF SANATORIA, SPECIAL HOSPITALS AND CAMPS FOR THE TREATMENT OF PULMONARY TUBERCULOSIS.

ARIZONA.

Mercy Hospital, at Phoenix, Ariz.; 20 beds.
St. Mary's Hospital and Sanatorium of the Sisters of St. Joseph, at Tucson; 30 beds.
"Palm Lodge" Sanatorium and Tent Colony for Incipient Tuberculosis, at Phoenix, Ariz.; Dr. Henry M. Stone, res. phys.; 55 beds; private.

CALIFORNIA.

Dr. J. W. Barlow's Sanatorium, at Los Angeles; 15 beds.
Esperanza Sanatorium, the Sierra Home of the Open-air Cure for Pulmonary Diseases, at Altadena, Cal.; Dr. F. C. Melton, res. phys.; private; 50 beds.
Ranch of Mr. N. O. Nelson, at Indio, Cal.; private.
Pottenger Sanatorium for Diseases of the Lungs and Throat, at Monrovia, Cal.; Dr. F. M. Pottenger, med. dir.; 50 beds; private.
Trinity Settlement, at Redlands, Cal.; private; Dr. Moseley, med. dir.
Ballard Pulmonary Sanatorium at Pasadena, Cal.; Dr. W. H. Ballard, phys.-in-chief; 25 beds; private.
The Mentone Sanatorium, near Redlands, Cal.; A. R. Schultz, manager; Dr. Fred J. Koepke, res. phys.; 50 beds.
Tents for Tuberculous Patients of the Mendocino State Hospital for Insane, at Talmage, Cal.; Dr. E. W. Wing, supt.

COLORADO.

Glockner Sanatorium, at Colorado Springs; conducted by the Sisters of Charity; medical staff; 80 beds; private.
The Nordrach Ranch, at Colorado Springs; Dr. J. E. White, med. dir.; 50 beds; private.
Emma Booth Tucker Memorial Sanitarium for Consumptives; Salvation Army Tent Colony, at Amity, Prowers Co., Colo.; Dr. Greenard, res. phys.; 100 beds; charitable.
National Jewish Hospital for Consumptives, at Denver; Dr. Moses Collins, supt.; 90 beds; philanthropic.
Y. M. C. A. Health Farm, at Denver; semi-philanthropic; Dr. John Wethered, res. phys.; 45 beds.
Agnes Memorial Sanatorium, at Denver; Dr. G. W. Holden, sec.; 150 beds; semi-philanthropic.
Home for Consumptives, at Denver; Rev. Frederick W. Oakes, supt.; 150 beds; semi-philanthropic.
Resthaven (Home for Consumptives), Park Hill Addition, Denver; Dr. I. S. Garthwaite, president; 50 beds; semi-philanthropic.
Colorado Sanatorium, at Boulder, Colo.; Dr. H. F. Rand, med. supt.; 200 beds; private.
"Foxhall." A Private Home for Pulmonary Invalids; Dr. Wm. N. Beggs, med. dir., 133 West Colfax Ave., Denver; private.
Colorado Tent Colony Sanatorium, at Bennett, Colo.; Dr. W. K. Robinson, phys.-in-chief; 100 beds; private.
Mrs. Lare's Private Sanatorium for Consumptives, 4633 Bert St., Denver; private.
Rocky Mountain Industrial Sanatorium, at Wellington Lake, Denver; Dr. A. M. Holmes, med. dir.; semi-philanthropic.
Ballard Sanatorium, at Pueblo; Mrs. L. R. Wright, matron; 40 beds.
"Tented City." Under Auspices of the Jewish Consumptives' Relief Society, near Denver; philanthropic; Dr. C. D. Spivak, sec.; 12 beds.

CONNECTICUT.

Gaylord Farm Sanatorium, at Wallingford; Dr. David R. Lyman, med. supt.; 40 beds; semi-philanthropic.
New Canaan Pulmonary Sanatorium, at New Canaan; Dr. M. J. Brooks, phys. in charge; 30 beds; private.
Separate Wards for Tuberculous Prisoners, at Westerfield, Conn.

2. At the time of the Fifty-fifth Annual Meeting of the American Medical Association, at Atlantic City, N. J., June, 1904.

DISTRICT OF COLUMBIA.

State Hospital for Consumptives, at Hartford; public.
Tuberculosis Division of Government Hospital for the Insane, at Washington, D. C.; Dr. Wm. A. White, supt.; 70 beds.
Washington Asylum Hospital, Tent Wards for Consumptives; Dr. D. Percy Hickling, phys.; Washington, D. C.; 34 beds.

DELAWARE.

Division for Tuberculous Patients at State Hospital for the Insane; Dr. Wm. H. Hancker, supt., Farnhurst, Del.; public.

FLORIDA.

Naval Hospital; Tuberculosis Camp, at Pensacola, Fla.; 50 beds.

HAWAII.

Honolulu Home for Incurables; Dr. A. H. Sinclair, med. supt.; 24 beds; semi-philanthropic.

ILLINOIS.

The Alexian Brothers' Hospital—Consumptives' Ward, Chicago; semi-philanthropic.

St. Anne's Sanatorium for Consumptives, 49th and Thomas Sts., Chicago; Dr. A. F. Kramps, phys.; Sister Superior, supt.; 125 beds; private; and 15 free beds.

Cook County Hospital for Consumptives, at Dunning, Ill.; Dr. M. S. McHugh; public; 560 beds.

Illinois Camp for the Tuberculous, near Ottawa, Ill.; under the Auspices of the Illinois State Med. Soc.; Dr. James W. Pettit, phys. in charge; semi-philanthropic; 40 beds.

INDIANA.

St. Rochus Hospital for Consumptives, West End Main St., Fort Wayne, Ind.

Flower Mission Pavilion, City Hospital, Indianapolis; philanthropic; Dr. P. F. Martin, supt.; 26 beds.

Special Wards for Tuberculous Prisoners at the State Reformatory at Indianapolis; Dr. H. C. Sharp, phys. in charge.

IOWA.

Boulder Lodge Sanatorium for Tuberculosis, at Fort Dodge; Dr. John W. Kime, phys.-in-chief; 20 beds; private.

KENTUCKY.

Separate Wards for Tuberculous Prisoners at the Prison Hospital, at Frankfort, Ky.; 20 beds.

LOUISIANA.

Dr. G. R. Tolson's Private Sanatorium, at Covington, La.; private.

Separate Pavilion for Tuberculous Patients of the State Insane Asylum, at Jackson, La.; Dr. Geo. A. B. Hays, supt.; 32 beds.

MAINE.

The Maine Sanatorium, at Greenwood Mountain, near Hebron, Me.; Dr. Estes Nichols, med. dir.; 36 beds; semi-philanthropic.

MARYLAND.

Eudowood Sanatorium, Hospital for Consumptives of Maryland, near Towson, Md.; Dr. Harry P. Jarrett, res. phys.; 31 beds; philanthropic.

Bay View Asylum Hospital, Baltimore; Dr. W. H. Smith, phys.; Rev. L. F. Zinkham, supt.; 250 beds; public.

Tents for Tuberculous Patients of the Springfield State Hospital for the Insane, at Sykesville, Md.; Dr. J. C. Clark, supt.

MASSACHUSETTS.

Almshouse Hospital, at Boston; public; Dr. S. F. Cox, res. phys.; 60 beds.

Channing Home, 30 McLean St., Boston; Mrs. C. P. Fennel, supt.; 17 beds; philanthropic.

House of the Good Samaritan, 6 McLean St., Boston; Miss F. A. Jack, supt.; 27 beds.

Sharon Sanatorium, at Sharon, Mass.; Dr. V. Y. Bowditch, phys.-in-chief; 21 beds; semi-philanthropic.

Cullis Home for Consumptives, Blue Hill Ave., Dorchester, Mass.; Rev. E. D. Mallory, supt.; 40 beds.

Free Home for Consumptives, 428 Quincy St., Dorchester, Mass.; Jeanette Campbell, supt.; 30 beds; philanthropic.

The Millet Sanatorium, at East Bridgewater, Mass.; Dr. C. S. Millet, phys.-in-chief; 20 beds; private.

Massachusetts State Sanatorium, at Rutland, Mass.; Dr. Walter J. Marclay, supt.; public; 250 beds.

Boston Children's Hospital, Tuberculosis division at Wellesley Hills; 12 beds (including surgical cases).

Private Sanatorium of Dr. David P. Butler, at Rutland, Mass.

State Hospital, at Tewkesbury, Mass.; Dr. John H. Nichols, supt.; 100 beds; public.

Holy Ghost Hospital for Incurables, at Cambridge, Mass.; Sister A. M. Purcell, supt.; 35 beds; private.

MICHIGAN.

Wayne County Hospital, at Eloise, Mich.; tents for 30 tuberculous patients; public; Dr. R. H. Earle, res. phys.

MINNESOTA.

Luther Hospital, at St. Paul, Minn.; Dr. H. G. Steeb, manager; 100 beds.

State Sanatorium for Consumptives, at Walker, Cass Co., Minn. Special Wards for Tuberculous Prisoners, at the State Prison at Stillwater, Minn.

MISSISSIPPI.

Special Hospital for the Tuberculous Insane, at Jackson, Miss.; Dr. T. J. Mitchell, supt.; 40 beds.

MISSOURI.

Mount St. Rose Throat and Chest Hospital, 9200 S. Broadway, St. Louis; conducted by Sisters of St. Mary; Dr. Wm. Porter, phys.; 100 beds; philanthropic.

Emergency City Hospital, No. 2, St. Louis; Dr. J. Y. Brown, res. phys.; 34 beds.

NEBRASKA.

Green Gables, Lincoln, Neb.; Dr. Benjamin F. Bailey, 53d and South Sts.; 35 beds.

NEW HAMPSHIRE.

Pembroke Sanatorium for Consumptives, at Concord, N. H.; Dr. H. T. Fontaine, phys.; 35 beds; private.

White Mountain Tuberculosis Sanatorium, at North Conway, N. H.; Dr. S. Dryden Snow, phys.; Clifton J. Bailey, supt.; 50 beds; philanthropic.

NEW JERSEY.

Memorial Hospital, at Orange, N. J.; Mary I. Chambers, supt.; special building for tuberculous patients; 18 beds.

State Sanatorium, at Glen Gardner, Hunterdon Co., N. J.

NEW MEXICO.

St. Joseph's Sanitarium, at Albuquerque; conducted by Sisters of Charity; 100 beds; private.

Chico Springs Sanatorium; Dr. H. B. Masten, med. supt.; 25 beds; private.

St. Anthony's Sanatorium, at East Las Vegas; conducted by Sisters of Charity; 32 beds; semi-philanthropic.

"The Montezuma," at Las Vegas Hot Springs, N. Mex.; Dr. J. W. Coon, res. phys.; 200 beds.

St. Vincent's Sanatorium, at Santa Fe; conducted by Sisters of Charity; 28 rooms; semi-philanthropic; Dr. J. Massie, res. phys.

Sun Mount Tent City ("for lung troubles only"), at Santa Fe; Dr. W. M. Popplewell, phys.-in-chief; private.

St. Joseph Sanatorium, at Silver City; Dr. E. S. Bullock, med. dir.; private; 50 beds.

Pines Cottages, at Silver City; T. S. Parker, propr.; private.

The Alameda, at Las Cruces, N. Mex.; 40 beds; private.

The Las Cruces Sanatorium, at Las Cruces; Dr. R. E. McBride, supt.; private; 40 beds.

General Hospital for Soldiers of U. S. Army, at Fort Bayard; Lt.-Col. E. T. Comegys, Deputy Surg.-Gen. U. S. A., phys.; 300 beds.

U. S. Public Health and Marine Hospital Service Sanatorium, at Fort Stanton, N. Mex.; Surgeon P. M. Carrington in command; 225 beds.

NEW YORK.

Montefiore Home Country Sanatorium, at Bedford Station, N. Y.; Dr. L. Rosenberg, supt.; 160 beds; philanthropic.

Sanatorium Gabriels, at Gabriels, near Paul Smith's, N. Y.; Sister Mary of Mercy, supt.; R. L. Strong, house phys.; 100 beds;

Drs. S. A. Knopf and J. J. Walsh, cons. phys.; semi-philanthropic.

Stony Wold Sanatorium (for Incipient Tuberculosis in Women and Children), at Lake Kushaqua, Franklin Co., N. Y.; Dr. H. S. Goodall, phys.-in-charge; semi-philanthropic; 150 beds.

Loomis Sanatorium, at Liberty, N. Y.; Dr. Herbert M. King, phys.; 100 beds; private and semi-philanthropic.

The Edgemont, at Liberty, N. Y.; private.

"Mountain Sanatorium," at Binghamton, N. Y.; Miss Grace C. Wagner, supt.; public.

State Hospital for the Insane, at Binghamton, N. Y.; special pavilion for the tuberculous; 100 beds.

Erie County Hospital, tuberculosis wards, at Buffalo; Dr. E. J. Gilray, phys.; 54 beds; public.

Buffalo State Hospital, at Forest Ave., Buffalo; Dr. Arthur W. Hurd, med. supt.; tuberculosis wards; public.

Hospital for Incipient Tuberculosis, at Rochester, N. Y.; Dr. G. W. Coler, phys. in charge; 40 beds; semi-public.

State Hospital for Incipient Tuberculosis, at Raybrook, Franklin Co., N. Y.; Dr. John H. Pryor, phys.; \$5.00 per week; 120 beds.

Adirondack Cottage Sanatorium, at Saranac Lake, N. Y.; Dr. E. L. Trudeau, phys.-in-charge; Dr. Lawrason Brown, res. phys.; 100 beds; semi-philanthropic.

Reception Cottage, at Saranac Lake, N. Y.; Dr. E. R. Baldwin, phys.; semi-philanthropic; 15 beds.

Raymond Cottage, at Saranac Lake; in charge of Mrs. Josephine R. Raymond; Dr. E. R. Baldwin, phys.; 14 beds.

Rumanapp Cottage, at Saranac Lake; in charge of Miss Rumanapp; Dr. Lawrason Brown, phys.; 20 beds.

Hill Crest, at Santa Clara, Franklin Co., N. Y.; for working girls and women; Dr. Caroline M. Hengel, res. phys.; 56 beds; private.

Springside Sanitarium, at Auburn, N. Y.; Dr. Nettie E. Jenkins, res. phys.; 15 beds; private.

All Saints' Home, at Verbank, Dutchess Co., N. Y.; Pavilion for Tuberculous Patients; in charge of the Brothers of Nazareth; 10 beds.

Westchester County Hospital (Pavilion for Consumptives); Dr. Fred'k Baker, house phys.; 24 beds; public.

Brooklyn Home for Consumptives, 240 Kingston Ave., Brooklyn; Dr. E. Reynolds, phys.; Elizabeth A. Doyle, supt.; 120 beds; semi-philanthropic.

Seton Hospital, at Spuyten Duyvil, New York City; Dr. B. B. Steedly, phys.; 200 beds; semi-philanthropic.

St. Joseph's Hospital for Consumptives, East 143d St., New York City; Dr. Charles M. Cauldwell, phys.-in-chief; 350 beds; semi-philanthropic.

The House of Rest for Consumptives, Bolton Road and 209th St., New York City; George Sauer, supt.; philanthropic; 39 beds.

St. Peter's Hospital, at Henry, Congress and Warren Sts., New York City; Five Wards Reserved for Consumptives; conducted by the Sisters of the Poor of St. Francis; Dr. T. P. Corbally, phys. in charge; 75 beds; philanthropic.

Home for Incurables, Third Ave. and 181st St., New York City; Dr. Israel C. Jones, supt.; 275 beds; tuberculosis wards.

New York Postgraduate Hospital Annex for the Treatment of Tuberculosis (for poor patients only), at 322 E. 19th St., New York City; Dr. John F. Russell, phys. in charge; 12 beds; philanthropic.

Kings County Hospital Infirmary, Clarkson St., New York City; tuberculosis wards; Dr. F. W. Smith, res. phys.; 65 beds.

Montefiore Home (Ward for Consumptives), Broadway and 138th St., New York City; Dr. S. Wachsmann, phys.; A. Hausmann, supt.; philanthropic; 40 beds.

The Riverside Sanatorium for Pulmonary Diseases; Health Dept. of the City of New York, at North Brother Island; Drs. S. A. Knopf, W. J. Purley and John H. Huddleston, visit. phys.; Dr. Samuel T. Watson, res. phys.; 60 beds; public; free.

Lincoln Hospital and Home (Tuberculosis Ward), 141st St. and South Boulevard, New York City; Amzi Lake, supt.; for colored; free; 40 beds.

Manhattan State Hospital East for the Insane, at Wards Island, New York City; Dr. A. E. McDonald, supt.; tuberculosis division.

Tent Colony for Tuberculous Men and Women of the Willard State Hospital for the Insane, at Willard, Seneca Co., N. Y.; Dr. Robert M. Elliott, supt.

County Hospital (Tuberculosis Ward), East View, Yonkers, N. Y.; public.

Phthisis Infirmary of the Metropolitan Hospital, at Blackwells Island, New York City; under homeopathic management; public; free; Dr. J. B. Mickle, chief of med. staff; 450 beds.
Seaside Tent Sanatorium for Scrofulous and Tuberculous Children of the Society for Improving the Condition of the Poor, at Seabreeze, Coney Island, N. Y.; Dr. M. Burnham, res. phys.; philanthropic; 54 beds.
 Wards for Tuberculous Prisoners of Clinton Prison, at the Dannemora State Hospital, Dannemora, N. Y.; Dr. J. B. Ransom, med. officer.

NORTH CAROLINA.

The Winyah Sanitarium, at Asheville, N. C.; Dr. Karl von Ruck, med. director; 70 beds; private.
 Southern Pines Sanitarium, at Southern Pines, N. C.; Dr. Edwin Gladmon, phys.; 30 beds; private.
 Pineshire Sanitarium, at Southern Pines; Dr. L. F. High, phys.; 25 beds; private.
 Franklin Humanitarian Home, at Black Mountain, N. C.; philanthropic; 12 beds.
 St. Joseph's Sanatorium, at Asheville; conducted by the Sisters of Mercy; 25 beds; private.
 Dr. Stevens' Home for Incipient Tuberculous Patients, at Asheville, N. C.; Dr. Martin L. Stevens; 8 beds; private.
 Dr. Dunn's Sanitarium for Diseases of Throat and Lungs, Sunny Side, Sunset Mountain, Asheville, N. C.; private.

NORTH DAKOTA.

Oakpark Sanatorium for Consumptives, at Minot, N. D.; Dr. V. Mohn, phys.; 25 beds; private.

OHIO.

Cincinnati Branch Hospital for Consumptives, Cincinnati, Ohio; public; Dr. B. F. Lyle, phys.; 120 beds.
 Municipal Tuberculosis Sanatorium, at Cleveland, Ohio; Dr. J. C. Placak, res. phys.; F. C. Emde, supt.; 75 beds; public.
 Miami Valley Hospital, at Dayton, Ohio; Ella P. Crandall, supt.; tuberculosis division.
 Western Hill Hospital and Sanatorium, at Price Hill, Cincinnati; Dr. Oswald Katz, res. phys.; 30 beds; semi-philanthropic.

PENNSYLVANIA.

West Mountain Consumptive Hospital, at Scranton; philanthropic. Dr. J. M. Wainwright, phys.; 26 beds.
 South Mountain Camp Sanitarium, at Mt. Alto, Franklin Co., Pa.; Major Oliver B. Simmons in charge.
 Bide-Awhile Sanatorium, at Perkiomenville, Pa.
 Tent Camp for Tuberculous Patients of the Columbus State Hospital for the Insane; 100 beds.
 Mt. Jefferson Sanatorium at Lansford (Summit Hill P. O.), Pa.; Dr. W. H. Clewell, res. phys.; 25 beds; private.
 Private Sanatorium of Drs. J. T. and A. M. Rothrock, at Mont Alto, Franklin Co., Pa.; 10 beds.
 The Darmady Sanatorium at Mt. Airy, Philadelphia, Pa.; Miss Margaret G. O'Hara, matron; 25 beds; private.
 Sunnyside Sanatorium, at White Haven, Pa.; Elwell Stockdale, supt.; L. F. Flick, Joseph Walsh and William Stanton, vis. phys.; 50 beds; private.
 White Haven Sanatorium of the Free Hospital for Poor Consumptives, at White Haven, Pa.; Drs. Shoemaker and Heller, phys.; Dr. Jas. H. Heller, supt.; 126 beds; philanthropic.
 Switch Back Sanatorium, at Lansford, Pa.
 Kane Summit Hospital, at Kane, Pa.; Mary J. Hayes, supt.; 50 beds.
 Chestnut Hill Hospital for Female Consumptives, at Philadelphia; Dr. A. L. Bacon, res. phys.; Rev. H. L. Duhring, supt.; 65 beds; philanthropic.
 House of Mercy for Male Consumptives, 411 Spruce St., Philadelphia; Dr. W. M. Agney, house phys.; Rev. H. L. Duhring, supt.; 12 beds; philanthropic.
 Philadelphia Hospital (Wards for Consumptives), Thirty-fourth and Pine Sts., Philadelphia; Dr. M. H. Briggs, chief res. phys.; 174 beds; public.
 Ruah Hospital for Consumptives, 44 W. 33d St., Philadelphia; Elizabeth M. Brophy, supt.; 60 beds; philanthropic.
 Henry Phipps Institute Hospital, 238 Pine St., Philadelphia; Lawrence F. Flick, phys.-in-chief; Mary Mahoney, supt.; 52 beds; philanthropic.
 Free Tuberculosis Hospital for Consumptives of Pittsburg and Allegheny, 253 Shady Ave., Pittsburg, Pa.; Dr. Henry N. Hall, phys.; 50 beds; philanthropic.
 Tent Camp in the Pocono Mountains for the Treatment of Consumption, at Greentown, Pike Co., Pa.; Dr. Albert S. Ashmead, phys.; private.
 Lucien Moss Home of Jewish Hospital, at Philadelphia; Dr. Edwin D. Jarecky, res. phys.; 31 beds; philanthropic.
 Reading Sanatorium for Tuberculosis, at Reading, Pa.

RHODE ISLAND.

St. Joseph's Hospital, at Providence; Wards for Consumptives; Sister Superior, supt.; Dr. Wm. Hindle, res. phys.; philanthropic; 24 beds.
 Pine Ridge Camp for Consumptives, at Foster, R. I.; Dr. W. H. Peters, phys.; semi-philanthropic; 60 beds.
 State Sanatorium, at Pascoag, R. I.; 100 beds.
 State Almshouse, Tuberculosis Division, at Howard, R. I.; Dr. Geo. F. Keene, phys. in charge; 40 beds.
 Tuberculosis Division of the State Hospital for the Insane, at Howard, R. I.; Dr. George F. Keene, supt.

SOUTH CAROLINA.

Aiken Cottage Sanatorium, at Aiken, S. C.; Dr. C. F. McGahan, phys.; 15 beds; semi-philanthropic.
 Separate Building for Tuberculous Prisoners of the State Penitentiary, at Columbia, S. C.; Dr. D. J. Griffith, supt.; 50 beds.

TEXAS.

Camp Reliance, at Comfort, Texas; Dr. C. H. Wilkinson; private.
 Wynne Farm Agricultural Colony for Tuberculous Prisoners, at Huntsville, Texas; Dr. W. E. Fowler.
 White Gables, S. W. Texas Sanitarium, at Boerne, Kendall Co., Texas.
 Sisters' Hospital, Hotel Dieu, at El Paso, Texa.; Tuberculosis Wing, 50 beds; conducted by the Sisters of Charity.
 Dr. L. W. Cook's Sanatorium, at Boerne, Texas; private.

Dr. Briggs' Private Sanatorium for Diseases of Throat and Lungs, at Dallas, Texas; Dr. J. R. Briggs, phys.; 60 beds; private.

VERMONT.

The Champlain Open-air Sanitarium, at South Hero, Vt.; Dr. H. E. Lewis, med. dir.; 30 beds; private.
 Ward for Tuberculous Patients of the Vermont State Hospital for the Insane, at Waterbury, Vt.; Dr. M. Hutchinson, supt.; 22 beds.

VIRGINIA.

Camp for Tuberculous Patients of the Central State Hospital for the Insane, at Petersburg, Va.; Dr. Wm. T. Drewry, supt.; 70 beds.

WASHINGTON.

King County Hospital, at Seattle, Wash.; tuberculosis wards; 15 beds; Dr. Wm. T. O'Rourke, supt.; public.

WISCONSIN.

Evergreen Park Cottage Sanatorium, at Lake Nebagamon, Wis.; Dr. W. B. Hopkins, med. dir.; private; 15 beds.
 Wisconsin Debs Sanatorium, at Kilbourn, Wis.
 The Wisconsin Health Park Association, at Tomahawk, Lincoln Co.; Dr. W. T. Roberts, field secretary.

CANADA.

Free Home for Consumptives, at Gravenhurst, Ont.; Dr. Chas. D. Parfitt, phys. in charge; 75 beds; philanthropic.
 Muskoka Cottage Sanatorium, at Gravenhurst, Ont.; Dr. J. H. Elliott, phys. in charge; 75 beds; semi-philanthropic.
 Toronto New Consumption Hospital of the National Sanitarium Association, near Toronto, Ont.; Dr. Allan H. Adams, phys.; philanthropic.
 Lhal Ghur Private Sanatorium, at Ste. Agathe des Monts, Quebec; Dr. Howard D. Kemp, phys. in charge; 16 beds.
 Montreal Sanatorium for Consumptives, at Montreal, Quebec.
 Provincial Sanatorium for Consumptives, at Montreal, Quebec.
 Wolfville Highlands Sanatorium, Nova Scotia.—Dr. G. E. DeWitt, med. dir.; 8 beds; private.

LIST OF DISPENSARIES AND CLINICS FOR PULMONARY TUBERCULOSIS.

CONNECTICUT.

New Haven Dispensary Tuberculosis Clinic, Congress Ave., New Haven, Conn.; Dr. H. M. Steele, phys. in charge.

ILLINOIS.

Dispensaries of the Committee on the Prevention of Tuberculosis of the Visiting Nurses' Association, 79 Dearborn St., Chicago, Ill.; Dr. Arnold C. Klebs, med. dir.

MARYLAND.

Out-patient Department, Johns Hopkins Hospital, Baltimore, Md.

DISTRICT OF COLUMBIA.

Tuberculosis Dispensary, 605 4½ St. S. W., Washington, D. C.

MASSACHUSETTS.

Boston Dispensary, at Bennet and Ash Sts., Boston, Mass.; Dr. Edward O. Otis, supt.
 Tuberculosis Clinic—twice a week—at City Hospital, Worcester, Mass.; Dr. Albert C. Gotshell, phys. in charge.

MINNESOTA.

Hamlin University Free Dispensary, at Minneapolis; Dr. G. G. Poehler, phys. in charge.
 State University Free Tuberculosis Dispensary, S. Washington Ave., Minneapolis; Dr. Henry L. Ulrich, phys. in charge.

NEW JERSEY.

Orange Memorial Hospital Dispensary, at Orange, N. J.; Dr. Henry A. Tulsford, phys. in charge.

NEW YORK.

Gouverneur Hospital Dispensary, Front St., New York City; Drs. Gilbert and Bradford in charge.
 Clinic for Pulmonary Diseases of the Health Department of New York City, at 6th Ave. and 55th St.; Dr. Herm. M. Biggs, director; Drs. J. S. Billings, Jr., and S. A. Knopf, assoc. directors.
 Special Classes at the Vanderbilt Clinic for the Treatment of Tuberculosis; Dr. Linsey R. Williams, phys.
 Special Classes at Bellevue Hospital Dispensary; Dr. James Alexander Miller, phys.
 New York Postgraduate Hospital Dispensary (Dr. Russell's Classes).
 Dispensary for Consumptive Poor of the New York Throat, Nose and Lung Hospital, 59th St., near 2d Ave.; Drs. Birmingham, Barton, Goldstein and Wheeler, phys.
 Presbyterian Hospital Dispensary, New York City.
 Harlem Hospital Dispensary, Foot of East 120th St., New York City; Dr. Charles H. Moak, phys. in charge.

OHIO.

Tuberculosis Dispensary of the Western Reserve University, at Cleveland, Ohio; Dr. T. H. Lowman, phys. in charge.

PENNSYLVANIA.

Tuberculosis Dispensary of the Scranton Society for the Prevention and Cure of Consumption, 203 Linden St., Scranton, Pa.
 Henry Phipps Institute Dispensary, 238 Pine St., Philadelphia.
 Rush Hospital Dispensary, Lancaster Ave. and Thirty-third St., Philadelphia; Dr. John D. McLean.
 Dispensary of the White League, 1515 Arch St., Philadelphia; Dr. Joseph P. Craney, phys.

RHODE ISLAND.

Out-patient Department of the Rhode Island Hospital, at Providence; Dr. Jay Perkins, supt.

I hope that the foregoing list is a complete one, and still the possibility of errors of omission and commission exists. Worthy institutions may have been established since of which I have not heard, and thus they may have been inadvertently omitted; some institutions

may have been reported to me as sanatoria, taking care of tuberculous cases exclusively, while in reality they are sanatoria or homes where all classes of patients are received. If these are mentioned in my list, they ought not to have been included. In this list we read the names sanatorium, sanitarium, hospital, home, etc. This brings me to a subject of which I like to speak in connection with the designation or naming of institutions consecrated to the exclusive treatment of tuberculous invalids.

The proper designation for an institution which receives patients afflicted with pulmonary or laryngeal tuberculosis only is, in my humble opinion, sanatorium. May I be permitted to state why I prefer the word sanatorium to sanitarium? Brehmer, the founder of the first institution of that kind, called it *Heilanstalt*, which means healing institution; and the word "sanatorium," from the Latin *sanare*, to heal, gives certainly a better equivalent for the German word than the word "sanitarium." This latter word is derived from the Latin, *sanitas*, health, and is usually employed in this country to designate a place considered as especially healthy, a favorite resort for convalescent patients, or an institution for the treatment of mental or nervous diseases. It is well and useful from all points of view to make a distinction that the special uses and purposes of the tuberculosis institution may be understood readily.

The word "sanatorium," so frequently used, is simply incorrect. May I say in addition that the word sanatorium has been adopted as an official name by the United States Government for the institutions for its consumptive sailors and soldiers; also that the name of the Massachusetts state institution is sanatorium and not sanitarium, and that the former Loomis Sanitarium has been changed to Loomis Sanatorium, Sharon Sanitarium to Sharon Sanatorium, and that all the more recently established institutions for the exclusive treatment of tuberculous patients in this country, Canada and England have adopted the name sanatorium? As mentioned above, Germany calls these institutions *Heilanstalten*, and all other European nations call institutions of that kind sanatoria.

Special hospitals for the treatment of tuberculous patients are particularly useful institutions, because they are, as a rule, located in or very near large centers of population. They are supposed to receive the more advanced and hopeless cases which in their home environment can not or do not receive the necessary care, and often constitute centers of infection. Of the value of such institutions I can not speak too highly, and personal experience at the Riverside institution of the health department of the City of New York has made me quite enthusiastic over the work which can be done in such establishments. This institution, which we call Riverside Sanatorium, located on North Brother Island, opposite East 138th St., was established on the urgent appeals of Dr. Hermann M. Biggs, the general medical officer and his colleagues of the board of health. Thanks to a law, which I believe exists only in New York, and which Dr. Biggs promulgated, we have in New York a right to remove any tuberculous patient from his home to one of the city tuberculosis institutions if in the opinion of the medical inspector the patient constitutes a danger to his environment.

The results obtained with these patients, forcibly removed from their unhygienic surroundings to our Riverside Sanatorium, which is, of course, only a city san-

atorium, is surprising. It is very often one of the hardest things to induce patients to leave the institution, when, in our opinion, the disease has been sufficiently arrested and warrants the discharge of the patient. The clean, sanitary surroundings, the regular mode of life, and the personal interest which is taken in every case, makes most of these patients become attached to the institution, and the prospect of being obliged to return to unsanitary environments and other former unpleasant conditions is the cause of their disinclination to leave.

The difficult problem of what to do with the cured consumptive, of which I will speak later on, has never come to me with more seriousness than when I am about to discharge a patient from the Riverside Sanatorium. Yet I would suggest that the law which gives our health department the right to forcibly remove to a special tuberculosis institution a patient who plainly constitutes a danger to his environment, is a wise one and well worth trying in other large American cities. Even if we are not able, for the present, to provide work for all our discharged consumptives (we strive to give employment to as many as possible as helpers and orderlies), the training they have received and the orderly life they have been forced to live, will rarely fail to leave its impression. I can modestly claim that a goodly number of the men and women sent out from the health department's institution at North Brother Island, whether cured or only improved, on their return to their former homes constitute themselves missionaries and hygienic examples among the members of their families, their neighbors and friends.

The "Homes for Consumptives" I have never liked, for, from my experience of a visit to a number of them I gained the impression that the so important hygienic and sanitary measures in these institutions are never so rigidly adhered to as in sanatoria and special hospitals. There are, as a rule, fewer nurses and fewer attendants, and herein, I believe, lies the mistake, for if the patient ever needs the constant care of a watchful nurse it is in the last stages of the disease. Now, the word "Home" indicates that the unfortunate consumptive will remain there until his dissolution. This is another important reason why I do not like the word "Home." I am convinced many enter the home for consumptives who before were perhaps full of hopes for a recovery, and many even enter it in a condition when recovery would seem possible. Why may we not just as well call every home a sanatorium and make it such? This is what it should be—a sanatorium—a healing institution.

The next class of institutions which we wish to speak of are seaside sanatoria for tuberculous and scrofulous children. I have only a single one on my list; they are worth our consideration. Seaside sanatoria for scrofulous and tuberculous children serve to take care, throughout the whole year, of children afflicted with joint, osseous and cutaneous tuberculous troubles, and all children afflicted with milder manifestations of tuberculous character, generally designated as scrofulosis. Another important factor of such seaside sanatoria is to attend to the after-treatment of children operated on for tuberculous joint troubles in the city, and to keep them during their convalescing stage. It was my privilege to serve for some time as assistant to such an institution in France. There, in the celebrated institution at Berck-sur-Mer, belonging to the city of Paris, we received weekly from ten to twenty-five little ones who

had been operated on. The change which was wrought in the faces of these children after a few weeks' sojourn at the seaside was something hard to believe. These pale-faced, underfed children, coming mainly from the homes of the poor of Paris, became rosy-cheeked and healthy looking youngsters in the ozone-laden atmosphere of the sea coast. A school with a number of teachers is attached to that institution so that the intellectual development of the children may not suffer during their sojourn in the sanatorium. I trust that the example given by the New York Society for Improving the Condition of the Poor in the creation of such an institution at Seabreeze near New York, will find numerous imitators among the philanthropists and municipalities of our country.

It must be evident to every physician and sanitarian that multiple sanatoria for the treatment and care of tuberculous children is one of the most important factors in the fight against consumption. The child thoroughly cured from its tuberculous affliction by the best of surgical, orthopedic, hygienic, dietetic and climatic treatment is not likely to become a consumptive adult, while every child with a neglected local tuberculosis must always be considered a candidate for consumption.

Pulmonary tuberculosis is relatively rare in little ones, but even for those few, I am happy to say, we have some provisions in the State of New York. As you will have noticed in my statistics, the Seton Hospital as well as the Loomis Sanatorium, have made special provisions to treat children suffering from pulmonary tuberculosis.

The next kind of institution to be considered as an important factor toward the solution of the tuberculosis problem is the special tuberculosis dispensary. As a definition of this institution permit me to use here the same words which I used as introductory remarks in my address recently delivered before the New York Academy of Medicine to open the discussion at a symposium on special tuberculous dispensaries.

A modern tuberculosis dispensary is an institution created, built, equipped and managed for the exclusive treatment of indigent persons afflicted with pulmonary or laryngeal tuberculosis. The modern conception of the treatment and management of ambulatory tuberculous cases demands the creation of such institutions. Those of us who began our medical career fifteen or twenty years ago will remember the almost universal indifference of our teachers as well as ourselves when in our dispensary practice we came across a tuberculous case. The sooner we could dispose of it the better we thought we did our duty. Some cough mixture and some cod-liver oil was the routine treatment. There was no time, nor did we think it necessary, to teach the patient to take any precaution with his infectious sputum, or to give him any other hygienic instruction. The value of breathing exercises in such cases was thought of by but few.

How different is it to-day. To avoid as far as practicable the contact of the tuberculous patient with other patients, separate classes are created in many of our general dispensaries; but the ideal, of course, must always be the entirely separate and especially constructed tuberculosis dispensary.

Besides the institution with which I have the honor of being connected, and which, to the best of my knowledge, is the first municipal dispensary especially built for that purpose in the United States, there are at this moment in New York six other dispensaries which have

special classes for tuberculous cases. From my list you will see that Boston, Baltimore, Philadelphia, New Haven, Scranton, Minneapolis, Chicago, Worcester and Providence are the other cities in the United States which have thus far created special tuberculosis dispensaries.

The setting aside of a ward for tuberculous patients in a general hospital, an insane asylum or prison seems to me, while not nearly as good as a sanatorium, special hospital or special camp, the next best thing to it. Quite satisfactory results can often be obtained when in a general hospital the best ventilated and best lighted ward—which is usually the upper story—can be used for that purpose. The results in a special tuberculosis ward at a general hospital can be enhanced when there is a roof garden in connection with the ward, and outdoor life and outdoor sleeping can thus be inaugurated in the city. This is very desirable during hot weather, and in connection with it I would suggest that on the top of nearly every hospital a roof garden can be improvised with a covering of canvas to which are attached side flaps when protection from sun and rain is necessary; with a few flowers and shrubs here and there this improvised roof garden can be made very attractive, and the whole installation accomplished with relatively little expense.

By an exhaustive inquiry, previous to the publication of my article, "A Plea for Justice to the Consumptive," I learned from authorities well qualified to speak on this subject that tuberculosis more frequently follows the development of insanity than precedes it. Or, if I may use here the words of Prof. Edward D. Fisher, who kindly wrote me at the time: "Tuberculosis is more common in the insane as a result of lowered vital condition than as a cause of the mental disease." When the insane individual, with a thus lowered vital condition, comes in close prolonged contact with another insane person who is tuberculous, is it a wonder when a non-tuberculous insane person in an overcrowded insane asylum contracts tuberculosis?

That something can be done for even the insane tuberculous patient, that all can be isolated and a number of them cured of both their physical and mental infirmities, has been beautifully demonstrated by the tent life inaugurated by Dr. McDonald and his associates at the Manhattan State Hospital for the Insane on Ward's Island.

Concerning tuberculosis in prisons, I wish to speak with particular emphasis, for while here and there provisions for the treatment of tuberculous prisoners have been made, there is still much and urgent work in this direction before our public sanitarians and the managers of prisons and reformatories in many of the states of the Union. For the good of society we must confine the criminal and punish him, and above all, we seek to reform him by years of seclusion, according to the gravity of his offense. But however great the crime he may have committed, we have no right to sentence him to contracting tuberculosis, which, as prison life is now in many of our states, must almost invariably result in death. The best solution of the tuberculosis problem in regard to prisons is, to my mind, that which has been successfully tried by the Texas Agricultural Colony for Tuberculous Prisoners. Instead of letting them linger and suffer in isolation and die in degradation, the Agricultural Colony of Texas strives to make of its tuberculous prisoners useful and healthy members of society. It is always a pleasure to note that the

most humane undertakings are blessed with financial success; \$25,000 remained as net earnings during the first year of the existence of the Texas Agricultural Colony for Tuberculous Prisoners. May the example of this state lead to the establishment of many such colonies.

My suggestions for the establishment of agricultural and horticultural colonies are, however, not only intended for tuberculous prisoners. I plead with equal emphasis for the establishment of such for the honest tuberculous patients who have faithfully passed through the schooling in a sanatorium; who have learned to prevent infecting others or reinfecting themselves; who leave the sanatorium virtually cured, but by no means strong enough to take up the old occupations which, in many instances, had rendered them tuberculous. It is a grave and serious problem what to do with the cured tuberculous patient, who was formerly a stone cutter, a printer, a tailor or a hat maker, etc. Shall we return him to his former unhygienic occupation—to his insanitary work or sweat shop? The time and money expended for sanatorium treatment would have been spent in vain if these toilers must return to the same environments. It is a medical, social and financial problem, and those who provide sanitary occupation for cured consumptives so that they may live and labor after their restoration to health and remain well, will do as much for the solution of the tuberculosis problem as the founders of sanatoria and special hospitals.

This report on the antituberculosis work done during the last few years would indeed be incomplete without mentioning the first tuberculosis exposition in the United States, held in Baltimore from Jan. 25 to Feb. 1, 1904. From a local attempt to give the people of Maryland an object lesson in the prevention of tuberculosis, this exposition grew to be a national enterprise, an educational center of the history, distribution, variation, causes, cost, prevention and cure of tuberculosis.

The exposition was held under the auspices of the Tuberculosis Commission of Maryland conjointly with the board of health of the same state and the Maryland Public Health Association. There were exhibits from all parts of the United States, from Canada and from other foreign countries. The exposition was divided into numerous divisions, one of the most instructive being the statistical section. Mortality and morbidity of tuberculosis and their relation to race, age, sex, occupation, heredity, marriage, topography and geography were graphically demonstrated. The charts exhibited by the Prudential Life Insurance Company, showing the variations of the occurrence of tuberculosis in different races, sexes and classes of people, were particularly interesting. A large map had been prepared by the Baltimore health board, showing all the houses in which there has been a death from tuberculosis in the ten years from 1890 to 1900. Each of these 11,582 deaths was indicated by a red dot; the worst area, consisting of ten squares crowded with negroes, showed 175 deaths. Another section of the exhibit showed sanitary and insanitary tenements, factories and workshops. Pictures of "lung blocks," that is to say, buildings which are particularly infected by tuberculosis, were shown from the city of New York and Baltimore. They taught a fearful object lesson of overcrowding, filth, lack of air and light.

The committees for the prevention of tuberculosis of New York, Chicago, Boston and Baltimore showed by statistics, literature and photographs the work they had

accomplished independently of municipal aid. Nearly all the states of the Union and the provinces of Canada, where state and municipal health boards are engaged in the prevention of tuberculosis, sent charts, drawings and pictures, showing their really surprising activity during the last few years. New York City took the lead by showing a reduction in the mortality from tuberculosis by one-third of what it was ten years ago. The health department of New York City also exhibited its celebrated "Circular of Instruction to Consumptives and Those Living with Them," besides photographs of its Riverside Sanatorium and the new Clinic for Pulmonary Diseases.

The directors of nearly all the American and Canadian sanatoria and special hospitals for the treatment of consumption sent photographs of their institutions. It was my privilege to send my collection of views—German, English, French, Swiss, Scandinavian and Austrian sanatoria, and also the excellent photographs of Brehmer, Dettweiler, Koch and Trudeau. (The latter is the pioneer of the sanatorium treatment in America.)

There were a large number of tents, model cottages, reclining chairs, elevated, fixed, pocket and other kinds of spittoons. Of great interest was the excellent collection of books and portraits sent by Professors Osler and Jacobs. The pathologic exhibit, which owed its existence to Professor Welch of Johns Hopkins Pathologic Department, was unusually interesting. It was visited by many physicians and students. Trained demonstrators were constantly present to explain the pathologic specimens and bacteriologic exhibits. A very unique way of making the exposition a thorough educational center for the laity was arranged by Dr. Fulton. He divided the visitors in groups of twenty or twenty-five, and assigned to each of these one of the young enthusiastic physicians who had volunteered their services as guides and demonstrators. A very important and interesting feature of the exposition was the evening lectures by a number of specialists.

The tuberculosis exposition was an unqualified success. It had not only the support of the best men of the Baltimore medical profession, but His Excellency, the Governor of Maryland, His Honor, the Mayor of Baltimore, and a number of distinguished Baltimore citizens lent their moral and financial support to the success of the undertaking.

A similar exhibition, although on a much smaller scale, took place recently in Boston (October 1904), in connection with the Mechanics Fair. The Association for the Relief and Control of Tuberculosis of Boston had arranged a most creditable and instructive exhibit of things and literature relating to the modern modes of prevention and treatment of tuberculosis. The citizens of Boston and the surrounding country paid unusual attention to the tuberculosis corner. It would seem that such object lessons in the prevention of tuberculosis might well be imitated by other large cities.

I do not report this time anything concerning laws to combat bovine tuberculosis, nor have I enumerated special regulations or ordinances issued concerning the prevention of tuberculosis in man. Few changes have occurred since my last report (November, 1902.) I wish to state, however, that an additional number of cities have enacted antisputting laws. Koch's declaration at the last international tuberculosis congress in London, concerning the relative rarity of the transmission of bovine tuberculosis to man, has not influ-

enced American authorities to lessen existing measures to prevent the spread of bovine tuberculosis or its transmission to man; yet there is a great variety in these bovine laws in the different states, and perhaps a greater variety existing concerning the laws and regulations to prevent tuberculosis in man.

As in my previous report, so must I say in this one that a "ministry of health" at Washington, a "United States Board of Health," to be in constant touch with all the state and city boards of health in the Union, with effective laws to combat tuberculosis in man and beast throughout the Union, is the only remedy for the lack of uniformity and effectiveness of antituberculosis laws in this country.

To any one who has studied the tuberculosis problem in its social as well as in its medical aspect, it must be evident that its solution can only be accomplished by effectual co-operation. I have just expressed my views as to how the work of the state and city boards of health could be made more effective by co-operation with a national board of health. The purely medical aspect of the disease will, I know, be intelligently studied by our new organization above referred to; but what I plead for most insistently is that the philanthropists, laymen and physicians, composing the various organizations, commissions and committees, may be in constant co-operation with a "Federal Committee" or permanent "National Bureau for the Prevention of Tuberculosis," to which the new society, I trust, will give the incentive, in order to avoid useless multiplication of work on the one hand, and increase effectiveness of needed work on the other. For example, if two adjoining states find it advantageous to combine in establishing a state sanatorium, let them not hesitate for reason of local pride to carry out the project. A large city may have a dozen associations, commissions or committees on the prevention of tuberculosis. When it comes to establishing an institution, let them be united in the project; and when it comes to taking care of a needy patient, let him be referred to a single subcommittee, whose duty it should be to investigate the case and provide for the patient in such a way as is best for his own interest and that of the community. The philanthropist should not give blindly, but should inform himself first where the need of his help is greatest, for there are many phases in the solution of the tuberculosis problem. While in one city it might be wiser to establish a dispensary for tuberculosis; in another it may be wiser to start a sanatorium, and in another an agricultural colony may be needed; while in others the creation of more playgrounds, parks, public baths and model tenements may be of the greatest importance and the greatest necessity.

The little motto with which I prefaced, some years ago, an essay entitled "Tuberculosis as a Disease of the Masses and How to Combat It," is applicable to-day, and I believe will be as long as there is a tuberculosis problem: "To combat tuberculosis as a disease of the masses successfully requires the combined action of a wise government, well-trained physicians and an intelligent people."

Alcoholic Nostrums Too Strong for Lumbermen.—Loggers in the northern woods seek to discourage the use of patent medicines in their camps, as the "lumber-jack" is inclined to use them as a substitute for alcoholic exhilaration, to the subsequent disturbance of his working powers.—*Northwestern Druggist*.

THE ASSOCIATION OF OPTIC NEURITIS AND FACIAL PARALYSIS.*

EDWARD A. SHUMWAY, B.S., M.D.
PHILADELPHIA.

The relative infrequency with which optic neuritis occurs in association with facial paralysis makes the following case worthy of record:

The Patient.—Miss G. W., age 19, came to the eye dispensary of the University Hospital, Philadelphia, Dec. 8, 1903, in the service of Dr. George E. de Schweinitz, to whose courtesy I am indebted for permission to publish the case. She complained of blurring of print and aching in the eyes in reading or other close work. She was unaware that her eyesight had failed, but examination showed that vision of the right eye was 6/15 and of the left eye only 6/30. She was able to read Jaeger 0.50 D. with each eye at 13 cm. slowly.

Ophthalmoscopic Examination.—There was atrophy of each optic nerve, more advanced on the left side. The nerve heads were covered with a delicate, white tissue, which blurred their edges, and could be traced in the form of white lines along the central vessels of the retina. The veins were of good caliber, but the arteries were reduced to mere threads at the disc, though they were somewhat fuller at a distance from it. The fundus in each eye was otherwise normal. The picture was, therefore, a typical one of post-papillitic atrophy. The pupils were equal and responded rather sluggishly. The visual fields are shown in the accompanying chart (Fig. 1). They were moderately contracted, both for form and color, but showed no color scotomas. Under reduced illumination O. D. vision was only 6/30, and O. S. 2/60. With de Wecker and Masselon's photometric test the light sense was 4/10 in the right and 1/10 in the left eye. There was in addition a flattening of the right side of the face and a decided enophthalmus on this side.

History.—Careful questioning as to previous history brought out the following facts: She was the youngest of ten children, two of whom died in early childhood, one of diphtheria and the other of "enlargement of the heart." The rest were healthy and had had no eye trouble. She had always been very pale, and suffered from irregular menstruation, the amenorrhea lasting sometimes for several months. She had had measles alone of children's diseases, and no recent acute illness of any kind. On Nov. 1, 1902, she consulted Dr. James E. Talley of Philadelphia for paralysis of the right side of the face, which appeared after exposure to a draught, and was preceded and accompanied by severe pain in the lower jaw and teeth, and in front of the ear, on the same side. Dr. Talley found a typical facial paralysis of the peripheral type, but noted no areas of anesthesia. The face was flaccid, the mouth was drawn to the left and she was unable to close the right eye. There was no ear disease present, but she was very anemic, and gave the history of menstrual disturbance. Blood examination showed red blood corpuscles 4,268,000, white blood corpuscles 5,200, and hemoglobin 90 per cent. Dr. Talley thought the blood examination incorrect, especially as to the percentage of hemoglobin, owing to a defect in the instrument, but she did not return for further examination. The urine was alkaline, specific gravity 1.022, and contained neither albumin nor sugar; microscopically it was negative, except for phosphates.

Treatment.—She was treated with salicylates, strychnia, massage, electricity, and later iron. Three weeks afterward there was some return of motion in the face and the mouth was straighter, but the eye could not be closed. Early in December, 1902, she left the city, and was under the care of Dr. R. P. Heilman of Emporium, Pa., who prescribed iron and general tonic treatment. Dr. Heilman reports that he detected some anesthesia of the right side of the face, but no complaint was made of any disturbance of vision. The patient says, however, that on one occasion, when sent to the library for a book, she was unable to see the title in the poorly lighted

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-fifth Annual Session, June, 1904.