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1888-9.

TRANSACTIONS
OF
THE SANITARY INSTITUTE.

VOLUME X.

CONGRESS AT WORCESTER.

1888-9.

LONDON:
OFFICES OF THE SANITARY INSTITUTE, 74A, MARGARET STREET, W.
EDWARD STANFORD, 26 & 27, COCKSPUR STREET, CHARING
CROSS, S.W.

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KENNY & CO., PRINTERS, 25, CAMDEN ROAD, CAMDEN TOWN, N.W.

TABLE OF CONTENTS.

	PAGE
Officers of the Institute	10
Memorandum and Articles of Association of the Institute	11
Lecture by Sir Douglas Galton, K.C.B., D.C.L., LL.D., F.R.S., on the Future of the Amalgamated Societies—The Parkes Museum and Sanitary Institute of Great Britain	34
Annual Reports and Balance Sheets	49
Places at which the Congresses have been held	67

CONGRESS AT WORCESTER.

Names of President, Vice-Presidents, Presidents of Sections, and other Officers	69
List of Judges of the Exhibition	70
Sermon by Canon Creighton	71
Inaugural Address to the Congress, by G. W. Hastings, M.P.	77

SECTION I.

SANITARY SCIENCE AND PREVENTIVE MEDICINE.

Address by George Wilson, M.A., M.D., F.R.S.E., President of the Section	94
Results of Fifteen Years' Sanitary Effort in the City of Worcester, by W. Strange, M.D.	108
The Sanitary Aspects of the Pottery Manufacture, by J. T. Arlidge, M.D., F.R.C.P.	124
The Transmission by Flesh Foods of Diseases from Animals to Man, by W. E. Axon	133
The Public Health in India, with special reference to the European Army, by Sir H. S. Cunningham, K.C.I.E.	137
Unsanitary Condition of Domestic Animals, by A. Le Grand	151
Athletics and Gymnastics in Use and Abuse, by W. White, F.S.A., F.R.I.B.A.	153
Woman as a Helpmate in Sanitary Reform, by Mrs. Ernest Day, (Mayoress of Worcester)	160
On the Desirability of Establishing a Sanitary Association in Worcester, in connection with The Sanitary Institute, by H. Howard.	165
Co-operative Cooking for the Poor, by W. Strange, M.D.	169

SECTION II.

ENGINEERING AND ARCHITECTURE.

Address by Henry J. Marten, M.INST.C.E., President of the Section.	171
Sewage Disposal, by Professor H. Robinson, M.INST.C.E.	194
The Amines Process of Sewage Treatment, by Robert Godfrey, ASSOC. M.INST.C.E.	203
A Method of Regulating the Maximum Discharge of Sewers, by Henry Law, M.INST.C.E.	218

Notes on Water Supply, by R. F. Grantham, M.INST.C.E.	PAGE 222
Baths for the People, by C. C. Walker	230
The Technical Education of Plumbers, by H. D. Mathias	237
Antiseptic Ventilation for Hospitals and Sanatoriums, by S. M. Burroughs	237

SECTION III.

CHEMISTRY, METEOROLOGY, AND GEOLOGY.

Address by John W. Tripe, M.D., M.R.C.P., F.R.MET.S., President of the Section	241
The Extension of Public Analysis, by Charles E. Cassal, F.C.S., F.I.C.	257
Some Recent Results Obtained in the Practical Treatment of Sewage, by Percy F. Frankland, PH.D., F.C.S.	271
A Suggested Standard for Effluents from Sewage Works, by J. W. Willis-Bund, F.Z.S.	277
The Interception of Miasmatic Emanations from the Subsoil of Dwellings, by C. R. C. Tichborne, LL.D.	283
Meteorology at the Seaside, by Surgeon-Major W. Galt Black	288
The Smoke Nuisance, under the Alkali Acts, by Herbert Fletcher	301

LECTURES DURING THE CONGRESS.

Lecture to the Congress, by Sir Douglas Galton, K.C.B., D.C.L., LL.D., F.R.S.	306
Sermon by The Very Rev. The Dean of Worcester	326
Address to the Working Classes, by Prof. W. H. Corfield, M.A., M.D.	330
" " " " by Henry Law, M.INST.C.E.	339
" " " " by J.F.J. Sykes, M.B., D.SC.PUB.HEALTH.	346

Exhibitions held by the Institute	355
List of Medals and Certificates awarded at Worcester Exhibition	356
List of Books received during 1889	359
General Index	369

Vol. I. of the Transactions of
THE SANITARY INSTITUTE,

Published as Vol. X.

IN CONTINUANCE OF THE SERIES PUBLISHED BY

THE SANITARY INSTITUTE OF GREAT BRITAIN.

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Memorandum of Association

OF

THE SANITARY INSTITUTE.

1. The name of the Association is "THE SANITARY INSTITUTE."
2. The Registered Office of the Association will be situate in England.
3. The objects for which the Association hereinafter referred to as the "Institute" is established are:—

- (a) To take to and over the whole of the assets and liabilities of the Association which received the support of Her Most Gracious Majesty the Queen, was presided over by His late Royal Highness the Duke of Albany, and on the 28th day of June, 1882, was incorporated under the name of "The Parkes Museum," pursuant to license from the Board of Trade, granted under the provisions of the Act 30 & 31 Viet. c. 131, and also to take to and over the whole of the assets and liabilities of the Unincorporated Society or Association established in the month of July, 1876, under the style or title of "The Sanitary Institute of Great Britain" and to enter into such Agreements, and to make, do and execute all such acts, deeds, matters and things, as may be necessary for the purpose of taking to and over such assets and liabilities or any part thereof.
- (b) To assist or concur, if and so far as the Institute may be advised that its assistance or concurrence is required, in the winding up and ultimate dissolution of the said Parkes Museum and Sanitary Institute of Great Britain respectively.
- (c) To promote the advancement of Sanitary Science in all or any of its branches, and the diffusion of knowledge relating thereto, either in all or any of the ways hereinafter specified or in any other way.

- (i) The holding of Examinations and granting of Certificates of competency in Sanitary knowledge to any persons wishing to obtain such Certificates, and the prescribing of the mode and time of holding such Examinations. Provided that no Certificate or Diploma shall be granted by the Institute as a qualification to discharge the duties of a Medical Officer of Health or other Medical Office, and that every Certificate granted shall bear on the face of it a

- statement that such Certificate is not a qualification registrable under the medical Act, 1886.
- (ii) The constitution of two classes of Members, namely, Ordinary Members and Fellows; and (in addition to the persons who on the incorporation of the Institute are then or will be entitled to become Fellows, and to any persons including Trustees and legal personal representatives who shall be elected or become Fellows according to the Regulations of the Institute for the time being, in respect of any donation or bequest for general or special purposes, or upon any trust) the election from time to time from among the Ordinary Members to the degree or status and title of Fellows, of such of them as shall, in the opinion of the Council of the Institute, be eligible thereto upon one or other of the following grounds, viz.: (1) That he is an eminent man of science; (2) That he is a person of distinction as a legislator or an administrator; (3) That he is a person who has done noteworthy sanitary work: also the election, if and when thought proper, of Foreigners distinguished in connection with Sanitary Science as Honorary Fellows: also the constitution, if and when thought proper, of a class of persons as Associates of this Institute: and the determination of the regulations, liabilities, and conditions which are to affect Fellows, Ordinary Members, Honorary Fellows, and Associates respectively. Provided that no Honorary Fellow and no Associate shall as such be a Member of the Institute, or have any share in the Government thereof, or have any other rights or privileges except such as may from time to time be conferred by the Institute or its Regulations.
 - (iii) The maintenance in London, or elsewhere in the United Kingdom, of a Museum of Hygiene, to be called "The Parkes Museum," to aid in the scientific investigation and practical study of all matters relating to health and the laws thereof, and, subject to subsection (e), as a permanent Memorial of the late Edmund Alexander Parkes, M.D., F.R.C.P., F.R.S.
 - (iv) The establishment, if necessary, and the maintenance in London or elsewhere in the United Kingdom, of Libraries, Laboratories, and Lecture Rooms: the institution of courses of lectures and demonstrations: the holding of meetings for the hearing of communications on sanitary subjects, and discussions thereon: the holding of Congresses for the consideration and discussion of subjects relating to Hygiene: the holding of Exhibitions of sanitary objects, apparatus, and

- appliances: the work of practically testing any such sanitary objects, apparatus, or appliances as at any such exhibition or otherwise may be brought before the notice of the Institute: the awarding of medals or certificates of merit for any such objects, apparatus, or appliances in cases which the Institute deem worthy of such recognition: and the issuing, editing, and publication of books, pamphlets, or other literary matter relating to or connected with Sanitary Science.
- (v) The acceptance of any gift, endowment, or bequest made to the Institute generally, or for the purpose of any specific object connected with Sanitary Science; and the carrying out of any trusts attached to any such gift, endowment, or bequest. Provided that if any gift, endowment, or bequest made not for the general purposes of the Institute, but for a specific object, shall be in the nature of a charitable endowment so as to be subject to the jurisdiction of the Charity Commissioners, the Institute shall observe all rules and directions of the Charity Commissioners with respect thereto, and if so required vest the same in special Trustees thereof.
 - (vi) The amalgamation with the Institute under its present name, or under any other name duly assumed according to law, and the prosecution of the objects of any association or institution having objects similar to those, or any of those of the Institute, and registered with the licence of the Board of Trade under Section 23 of the Companies' Act, 1867, including the promotion of good cookery, the abatement of smoke, and other things of hygienic importance, though not pursued with exclusive reference to health.
 - (d) Subject to the provisions of Section 21 of the Act 25 and 26 Vict. c. 89, to purchase, rent, or otherwise acquire and hold, for the purposes of the Institute, land, houses, or buildings, and to erect, alter, or adapt houses or buildings accordingly.
 - (e) To sell, dispose of, exchange, or part with any of the property of the Institute as may from time to time be considered expedient or desirable in the interests of the Institute.
 - (f) If and when considered advisable to obtain a Royal Charter or Act of Parliament for the purposes of the Institute, and continuing the work thereof.
 - (g) Upon any such Charter or Act of Parliament being obtained, or otherwise if considered desirable, to wind up and dissolve the Institute.
 - (h) To do all such other lawful things as may from time to time be incidental to or conducive to the attainment of

the above objects, or any of them, including the promotion of good cookery, the abatement of smoke, and other things of hygienic importance, and supporting institutions for promoting any of such things, whether or not pursued with exclusive reference to health.

4. The income and property of the Institute, whencesoever derived, shall be applied solely towards the promotion of the objects of the Institute as set forth in this Memorandum of Association, and no portion thereof shall be paid or transferred, directly or indirectly, by way of dividend, bonus, or otherwise howsoever by way of profit to the Members of the Institute. Provided always that nothing herein shall prevent the payment, in good faith, of remuneration to any Officer or Servant of the Institute, or to any member thereof, or to any other person in return for services actually rendered, or to be rendered to the Institute.

5. The 4th paragraph of this Memorandum is a Condition on which a License is granted by the Board of Trade to the Institute in pursuance of Section 23 of the Act 30 and 31 Vict. c. 131.

6. If any Member of the Institute shall pay or receive any dividend, bonus, or other profit in contravention of the 4th paragraph of this Memorandum, his liability shall be unlimited.

7. Every Member of the Institute, undertakes to contribute to the assets thereof in the event of the same being wound up during the time he is a Member, or within one year afterwards, for payment of the debts and liabilities of the Institute contracted before the time at which he ceases to be a member, and for the costs, charges, and expenses of winding up the same, and of the adjustment of the rights of the contributories among themselves such amount as may be required not exceeding £1, or in case of his liability becoming unlimited such other amount as may be required in pursuance of the last preceding paragraph of this Memorandum.

8. If upon the winding-up or dissolution of the Institute there remain, after the satisfaction of all its debts and liabilities, any property whatsoever, the same shall not be paid to, or distributed among, the Members of the Institute, but shall be given or transferred to some other Institution or Institutions having objects similar to the objects of the Institute, to be determined by the Members of the Institute, at or before the time of its dissolution, or in default thereof, by such Judge of the High Court of Justice as may have, or acquire jurisdiction in the matter.

9. True accounts shall be kept of the sums of money received and expended by the Institute and the matter in respect of which such receipt and expenditure takes place, and of the property, credits, and liabilities of the Institute; and subject to any reasonable restrictions as to the time and manner of inspecting the same that may be imposed in accordance with the Regulations or By Laws of the Institute for the time being shall be open to the inspection of the Members. Once at least in every year the accounts of the Institute shall be examined and the correctness of the balance-sheet ascertained by one or more properly qualified auditor or auditors.

WE, the several persons whose names and addresses are subscribed, are desirous of being formed into a Company, in pursuance of this Memorandum of Association.

Names, Addresses, and Description of Subscribers.

NORTHUMBERLAND. 2, Grosvenor Place; Peer of the Realm.

WESTMINSTER. Grosvenor House; Peer of the Realm.

DOUGLAS GALTON, K.C.B., late Royal Engineers. 12, Chester Street, Grosvenor Place, S.W.

GEORGE JAMES SYMONS, F.R.S., Meteorologist. 62, Camden Square, N.W.

THOMAS HAYTER LEWIS, F.S.A. 12, Kensington Gardens Square.

MARK HAYLER JUDGE, A.R.I.B.A. 8, Park Place Villas, W.

WILLIAM HENRY CORFIELD, M.A., M.D. (Oxon.) 19, Savile Row, W.

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EDWIN CHADWICK, C.B. East Sheen, Mortlake, Surrey.

ROGERS FIELD, B.A., M.Inst.C.E. 4, Westminster Chambers, S.W.

T. ORME DUDFIELD. 14, Ashburn Place, S.W. (Doctor in Medicine).

CHARLES H. PARKES, Gentleman. Netherfield, Weybridge.

CHARLES E. CASSAL, F.I.C., F.C.S., Public Analyst. Town Hall, Kensington.

G. V. POORE, M.D., F.R.C.P., Physician. 30, Wimpole Street, W.

Dated the 16th day of August, 1888.

Witness to the above Signatures,

E. WHITE WALLIS,

Secretary of the Sanitary Institute of Great Britain, and of the Parkes Museum, 74a, Margaret Street, W.

Articles of Association OF THE SANITARY INSTITUTE.

I.—PRELIMINARY.

1. In the construction of these Articles, unless repugnant to the subject-matter or the context, the singular shall include the plural, and the masculine the feminine, and vice versa, the word person shall include a Corporation, and the following words and expressions shall have the meanings hereinafter assigned to them:—

WORDS INTERPRETED.

The "Institute."

"Member."

"Fellow."

"Ordinary Member."

"Associate."

The "Regulations."

MEANINGS ATTRIBUTED THERETO.

The Association incorporated as a Company, limited by guarantee, and with the title of "The Sanitary Institute," under the Memorandum of Association which is accompanied by these Articles.

A person who has become and is a Member of the Institute according to the Regulations. Members include both Fellows and Ordinary Members.

A person who being, or on his becoming, a Member, shall according to the Regulations be or become a Fellow of the Institute, so long as he shall continue a Fellow according to the Regulations.

A person who shall become an Ordinary Member of the Institute, and so long as he shall continue an Ordinary Member according to the Regulations.

A person not a Member of the Institute who shall become an Associate thereof under the Regulations, and so long as he shall continue to be an Associate.

The Memorandum of Association and these Articles of Association.

WORDS INTERPRETED.

"Special Resolution."

"Extraordinary Resolution."

"Council."

"Member of Council."

"Secretary."

"General Meetings."

"Seal."

"Month."

MEANINGS ATTRIBUTED THERETO.

and other the Articles of Association of the Institute from time to time in force.

A special Resolution of the Institute passed in accordance with Section 51 of the Act 25 and 26 Vict. c. 89.

A Resolution of the Institute passed in such manner as would, if confirmed by a subsequent Meeting, have constituted a special Resolution.

Members acting as the Directors or Managers of the Institute under the Regulations, or, as the case may be, the Members of the Council assembled at a Council Meeting.

A Member of the Institute who is one of the Council of the Institute under the Regulations.

The Secretary of the Institute.

General Meetings (whether Ordinary or Extraordinary) of the Members duly called and constituted, and any adjourned holding thereof.

The Common Seal from time to time of the Institute.

A Calendar Month.

II.—ORDINARY MEMBERS AND FELLOWS.

2. For the purposes of registration the number of Members of the Institute is declared to be One Thousand.

3. The Signatories to these Articles of Association shall, on the registration of these Regulations with the Memorandum of Association, become and be Fellows of the Institute.

4. Each and every of the following persons, namely, (a) the original Trustees of the Parkes Memorial Fund, appointed at a Meeting of the Subscribers thereto, held at University College, London, on or about the 28th day of May, 1878, (b) the Signatories of the Articles of Association of the Parkes Museum aforesaid, (c) the persons who shall, on the incorporation of the Institute, be either President, Vice-Presidents, or Honorary Officers or Members of the Council, or Honorary Members of the Parkes Museum aforesaid, (d) or the persons who shall, on the incorporation of the Institute, be either President or Vice-Presidents, or Honorary Officers or Members of the Council or Fellows of the Sanitary Institute of Great Britain aforesaid, shall respectively, on signing before the 31st December, 1888 (unless in particular cases a longer time for

such signature be allowed by the Council), an application in the prescribed form to become a Member of the Institute, immediately on his being registered as a Member, become and be entitled to bear the title of Fellow of the Institute. Every person not within the category aforesaid who, on the registration of the Institute, shall be (e) an Ordinary Life Member of the Parkes Museum, or (f) a Life Member of the Sanitary Institute of Great Britain, or who, at any time during the twelve months preceding such registration, shall be or have been (g) an Ordinary Annual Member of the Parkes Museum, or (h) an Annual Member of the Sanitary Institute of Great Britain, shall be entitled, upon signing before the 31st December, 1888 (unless in particular cases a longer time for such signature be allowed by the Council), an application or request in the prescribed form, to be forthwith registered as an Ordinary Member, and shall thereupon become an Ordinary Member of the Institute.

5. Every person becoming a Member of the Institute, under Clause 3 or Clause 4, who shall have been an Ordinary Life Member or Honorary Member of the Parkes Museum, or a Fellow or Life Member of the Sanitary Institute of Great Britain, shall be exempt from any liability or obligation to pay any entrance fee or annual subscription to the Institute.

6. Any Donor to the Institute of not less than £1,000 at one time, or of several sums at different times, none of which shall be less than £250, and which shall in the aggregate amount to £1,000 at the least, whether the money shall be his own money, or shall be given or paid in pursuance of any discretionary or imperative trust, or any one or more of any body of trustees, or legal personal representatives being such donors, or any one or more of the legal personal representatives for the time being of any testator bequeathing, or having bequeathed, not less than £1000 to the Institute, shall be eligible as a Fellow of the Institute: if elected shall be exempt from any liability or obligation to pay any entrance fee or annual subscription to the Institute. Provided that donations or bequests of stocks, funds, securities or other property to the Institute shall confer the same privileges under this Article as donations, or bequests of the value thereof in money. Provided also that a donation or bequest to the Institute within the meaning of this Article, may be a donation or bequest for the general purposes of the Institute, or in furtherance of any particular object or objects of the Institute, or, provided the donation or bequest be legally valid, upon any trust which the Institute shall accept, and may be subject to any trust, or direction for the preservation thereof in perpetuity, and the application of the income thereof only to the general, or any particular objects or object of the Institute, or upon any such trust as aforesaid.

7. Any person not entitled to become a Member under Clause 4 who shall hereafter be desirous of becoming an Ordinary Member, shall sign a Letter of Application in the prescribed form, which must be also signed in the prescribed form by not less than three Members, and transmit or deliver such Letter of Application so signed as afore-

said to the Secretary, and thereupon such person shall be deemed to have agreed to become, and, upon his being elected as an Ordinary Member by the Council, shall thereupon become a Member of the Institute.

8. Any Ordinary Member not entitled to become a Fellow under Clause 4 shall, at the expiration of one year from the commencement of his Membership, but not before, be, if otherwise eligible according to the Regulations, eligible as a Fellow of the Institute: and if elected by the Council as a Fellow, such Member shall thereupon become a Fellow of the Institute.

9. The Election of Fellows shall rest with the Council.

III.—FEES, SUBSCRIPTIONS OR CONTRIBUTIONS OF ORDINARY MEMBERS AND FELLOWS.

10. The first Members of the Institute whose names are contained in the Schedule hereto, and any person who shall become a Member under Clause 4, shall not be liable to the payment of any entrance fee. And every such Scheduled or other Member (not being exempted from all payments by Clause 5) who shall have been an annual subscriber to the said Parkes Museum, or to the said Sanitary Institute of Great Britain, shall be liable to pay as an annual subscription or contribution to the funds of the Institute only such sum as shall have been the annual amount of his subscription to the said Parkes Museum or to the said Sanitary Institute of Great Britain as the case may be, and in case of subscribers to both the annual amount of his subscription to such one of them as he shall choose: Provided always that every person (not exempted as aforesaid) being a Scheduled Member under Clause 3, or who shall become a Member under Clause 4), shall be entitled at any time within twelve months from the registration of the Incorporation of the Institute, or (as the case may be) at any time within twelve months after he shall so become a Member, to compound for all annual subscriptions to the funds of the Institute then or at any time thereafter payable by a payment to the Institute in one sum within the said period of twelve months of the sum of £10 10s.

11. Subject as aforesaid, and until otherwise determined by the Council, the fees and annual subscriptions or contributions payable by the Members to the Institute and the terms of compounding for the same shall be as follows:—

(a) Any person who on his being elected as an Ordinary Member under Clause 7, or on his becoming a Fellow or Ordinary Member under Clause 3 or Clause 4 (not being a person within the exemption of Clauses 5 and 6), shall either be a Medical Officer of Health or have from some Examining Body a Sanitary Science Certificate (the sufficiency of which Certificate shall be recognized by the Council), or be both a Surveyor having his appointment from some Parliamentary Sanitary Authority and a Member or Associate Member of the Institution of Civil Engineers,

or hold the Certificate of the Sanitary Institute of Great Britain or of the Institute, of competency for the appointment of a Local Surveyor, shall, on his election as, or on his becoming a Member as aforesaid, forthwith become liable to and pay by way of subscription or contribution to the funds of the Institute for the year in which he is so elected or becomes a Member the sum of £1 1s., and for each succeeding year during his Membership shall pay on the 1st of January of such succeeding year by way of annual subscription or Contribution as aforesaid the like sum of £1 1s., and shall be exempt from the payment of any entrance fee.

- (b) Every other person whose case is not hereinbefore otherwise provided for shall, on his being elected as, or becoming a Member, forthwith become liable to, and pay as an entrance fee, payable by him to the funds of the Institute, the sum of £3 3s., and shall, in addition thereto, pay by way of subscription or contribution to the funds of the Institute for the year in which he shall become a Member the sum of £2 2s., and for each succeeding year of his Membership shall pay on the 1st of January of such year, by way of annual subscription or contribution to the funds of the Institute the sum of £2 2s.
- (c) Provided always that the first annual subscription paid by any persons elected as Ordinary Members between the 25th September in any year and the 1st January in the following year shall cover the year commencing on the said 1st January following.
- (d) Every Ordinary Member not being entitled to exemption under Clause 6 who shall hereafter be elected a Fellow of the Institute, shall, on his election, forthwith become liable to and pay to the funds of the Institute, as a Fellow's election fee, the sum of £5 5s., but he shall continue to pay the same annual subscription as theretofore.
- (e) Subject to the special provisions hereinbefore contained, every Member shall be entitled at any time during his Membership to compound for annual subscriptions then or thereafter at any time payable by him (including the subscription payable for the year in which he so compounds), by a payment to the funds of the Institute in one sum of £21, and on such payment all further liability for contribution to the funds of the Institute, except for entrance fee, or Fellow's election fee, shall cease.

12. Provided always that any increase of fees, subscriptions, or composition-money made by the Council over and above what shall have been payable at the time of becoming a Member shall not affect any person who has become a Member previous to the making of such increase.

IV.—DISTINGUISHING TITLES OF ORDINARY MEMBERS AND FELLOWS.

13. Any Member desiring to designate himself as belonging to the Institute as a Member thereof shall, as to Fellows, be entitled to so designate himself by the description, Fellow San. Inst.; and in the case of an Ordinary Member be entitled to so designate himself by the description, Mem. San. Inst.

V.—HONORARY FELLOWS.

14. The Council shall have power to elect from time to time, and for such period not exceeding three years, as they shall think fit, as Honorary Fellows of the Institute, such foreigners whose names have been distinguished in connection with Sanitary Science, as the Council shall approve, provided that no person shall by election to the distinction of Honorary Fellow become a Member of the Institute.

VI.—ASSOCIATES.

15. There may be Associates of the Institute and the persons coming within, or complying with the following regulations relating to Associates, may become such; provided that no person shall by becoming an Associate become a Member of the Institute.

16. Any person who on the registration of the Institute shall be a Life Associate of, or a Life Subscriber to the said Sanitary Institute of Great Britain, or who at any time during the twelve months preceding such registration, shall be, or shall have been an Associate (other than a Life Associate) thereof, or an annual subscriber thereto, shall be entitled upon signing before the 31st December, 1888 (unless in particular cases a longer time for such signature shall be allowed by the Council), an application or request in the prescribed form to become an Associate of the Institute, and every person becoming an Associate under the provisions of this Clause 16, who shall have been a Life Associate of, or Life Subscriber to, the said Sanitary Institute of Great Britain, shall be exempt from any liability to make any payment whatever to the Institute by reason of his Associateship.

17. The Council shall have power to elect from time to time as an Associate any person not entitled to become an Associate under the provisions of Clause 16, who shall have applied in the prescribed form to be elected an Associate.

18. Subject to the exemption in Clause 16, and until otherwise determined by the Council, the fees and annual subscriptions and contributions payable by the Associates to the Institute, and the terms of compounding for the same shall be as follows:—

- (a) Every person who shall become an Associate under Clause 16, and who shall not be among those exempted by such Clause, from any liability to make any payment to the Institute, and every person who shall be elected an Associate, and who shall also at the time of his election either have received the Certificate of the Sanitary Institute of Great Britain or of the Institute, of competency for the appointment of Inspector of Nuisances, or have held the appointment of Inspector of Nuisances

in any district at the date of the incorporation of the Institute shall be entitled to become or be elected Associate without entrance fee, but shall on his becoming or being elected Associate pay by way of subscription for the year of his election the sum of 10s. 6d., and thenceforth on the 1st day of January of every year succeeding his election, by way of annual subscription for such year the like sum of 10s. 6d., and shall be exempt from the payment of any entrance fee.

(b) Every other person elected an Associate shall, upon his election, pay, by way of entrance fee, the sum of £2 2s. 0d., and by way of subscription for the year of his election, the sum of £1 1s. 0d., and thenceforth on the 1st day of January of every year succeeding his election, by way of annual subscription for such year, the sum of £1 1s. 0d., provided always that the first annual subscription paid by any persons elected as Associates between the 25th September in any year, and the 1st January in the following year, shall cover the year commencing on the said 1st January following.

(c) Subject to the special provisions, hereinbefore contained, every Associate shall be entitled, at any time during his Associateship, to compound for annual subscriptions then, or thereafter, at any time payable by him (including the subscription payable for the year in which he so compounds) by a payment to the funds of the Institute in one sum of £10 10s. 0d., and on such payment all further liability for contribution to the funds of the Institute except for entrance fee (if any) shall cease.

19. Provided always that any increase of fees, subscriptions, or composition money made by the Council, over and above what shall have been payable at the time of becoming an Associate, shall not affect any person who has become an Associate previous to such increase.

20. The failure of any Associate to pay his entrance fee, if one be payable, and if he shall not have compounded as aforesaid, or be exempt as aforesaid, the sum payable by way of subscription for the year of election within one month after his election, or if he shall not have compounded, or be exempt as aforesaid, his annual subscription as aforesaid within one month after the same shall have become payable as hereinbefore provided, shall render such Associate liable to have his name struck off the List of such Associates, and the Council shall be empowered to erase the name of any such Associate from the List of Associates, subject to the right of the Council to reinstate the name of any Associate whose name the Council shall have erased in any case in which the Council shall think fit so to do.

VII.—DESIGNATION OF ASSOCIATESHIP.

21. Any Associate desiring to designate himself as connected with the Institute as such shall be entitled so to designate himself by the description "Assoc. San. Inst."

VIII.—RESIGNATION AND EXPULSION OF MEMBERS AND LIABILITY TO CONTRIBUTIONS.

22. Any Member who may desire at any time to resign his membership, and who is not in arrear in the payment of the subscriptions payable by him to the Institute, according to the Rules for the time being, regulating the payment of subscriptions, may do so by letter, in writing, addressed to the Secretary, at the Office of the Institute, and thereupon as from the date at which such letter of resignation shall be received as aforesaid, the Member so desiring to resign shall cease to be a Member, and his name shall be erased from the List of Members.

23. Any Member whose subscription to the funds of the Institute for the year previous to any then current year, and for such current year, shall not have been paid on or before the 1st of March in such current year, shall be liable to have his name erased from the Register of Members, on the ground of non-payment of subscriptions; and if upon notice on behalf of the Institute given to such Member, requiring him to pay his subscriptions in arrear as aforesaid, he shall fail to pay the same according to the exigency of such notice, his name may, by resolution of the Council, be erased from the Register of Members, and if his name be so erased, such Member shall thereupon cease to be a Member. Provided always that a Member, who shall so cease to be a Member, shall nevertheless remain liable to pay the contributions, for the non-payment whereof his name shall have been erased from the list of Members as aforesaid. And provided further that, notwithstanding that the Membership of any Member may have become determined as aforesaid, the Council shall in any case in which they may think fit in their discretion so to do, have power in the current year in which the right of a Member to continue Membership shall have determined for non-payment of subscriptions as aforesaid, but not afterwards, by resolution to reinstate any such Member in his Membership upon his payment of all arrears of subscription, and he shall in such case and upon payment of arrears be reinstated as a Member accordingly.

24. Should any requisition signed by not less than twenty Members be transmitted to the Council requiring that any Member be expelled from the Institute, and stating the reasons or grounds on which such requisition is made, the Council shall, in case the reasons or grounds stated by the Requisitionists shall appear to the Council to afford a good and sufficient *prima facie* cause for the expulsion of such Member, cause to be forwarded a letter signed by the Secretary and addressed to the Member whose expulsion is required, and take all such other steps as they shall deem requisite for giving him a fair opportunity of denial, defence, or explanation; and in case the member in question shall decline or neglect to avail himself of such opportunity, or shall fail to satisfy the Council by his denial, defence, or explanation, the Council shall have power at a meeting of the Council called for the purpose of considering such expulsion, and consisting of not less than ten Members of Council (one of whom

shall be the President, or one of the Vice-Presidents, or the Chairman of the Council), to remove the name of such Member from the Register, and thereupon he shall cease to be a Member of the Institute.

25. All entrance fees and subscriptions to the funds of the Institute payable by any Member shall be a debt due from him, and until he pay the same he shall remain liable for the payment of the contributions payable by him to the Institute under the Regulations or Rules of the Institute for the time being with reference to the payment thereof.

26. In any proceeding by the Institute against any Member for the recovery of any contribution payable by him to the funds of the Institute, it shall be sufficient for the Institute to prove that the name of the person proceeded against is on the Register of Members and that such contribution remains unpaid, and proof of the matters aforesaid shall be conclusive evidence of the debt.

27. The Council shall at all times have power, in reference to the case of any Member who in the opinion of the Council has distinguished himself in the cause of Sanitary Science, but who from ill-health, advanced age, or other sufficient cause, in the opinion of the Council, is unable to pay his contributions to the funds of the Institute, to remit altogether the payment of the contributions and all arrears (if any) thereof, or to accept Books, or Drawings, or Models, or such other contributions, not being a money contribution, as in their opinion in the circumstances of the case may seem appropriate to accept in lieu of the contributions payable by such Member.

IX.—FORMS OF APPLICATION FOR MEMBERSHIP OR ASSOCIATESHIP.

28. The Council shall have power from time to time to determine and prescribe the forms of application for Membership and Associateship respectively, and also in any particular case to regard and treat as made or given, in the prescribed form, any application for Membership or Associateship which they may think fit to allow.

X.—GENERAL MEETINGS AND PROCEEDINGS THEREAT.

29. The first Ordinary General Meeting of the Institute shall be held at such time, not being more than four months after the Incorporation of the Institute, and at such places as the Council shall determine, and subsequent Ordinary General Meetings shall be held at such times and places as shall be from time to time, or by way of By-law, prescribed by the Council; and if no other time or place be prescribed for it, an Ordinary General Meeting shall take place at four o'clock on the last Tuesday in the month of January in each year at such place as may be determined on by the Council.

30. All other Meetings shall be called Extraordinary.

31. The Council may, whenever they think fit, and they shall upon a Requisition made in writing and signed by not less than fifteen Members, convene an Extraordinary General Meeting.

32. Any Requisition made by the Members shall express the object

of the Meeting proposed to be called, and shall be left at the Registered Office of the Institute.

33. Upon the receipt of such a Requisition the Council shall forthwith proceed to convene a General Meeting; and if they do not convene the same within twenty-eight days from the date of the receipt of the Requisition, the Requisitionists may themselves convene a Meeting.

34. Not less than seven days' notice of every General Meeting, specifying the place, the day, and the hour of the Meeting, and in case of Special Business, the general nature of the business to be transacted thereat, shall be given to each of the Members residing in the United Kingdom, in such form and manner as the Council may from time to time prescribe; but the accidental omission to give such notice to, or the non-receipt of such notice by, any Member shall not invalidate the proceedings of any General Meeting.

35. Every Ordinary General Meeting may, as ordinary business (when such election shall, under the Regulations, be part of the business of such Meeting), proceed to the election of the President, Vice-Presidents and Treasurer, for the ensuing year, the election of Members of Council in place of those retiring under the Regulations, and of Auditors, and may receive and adopt and confirm, either wholly or in part, any Report or Statement made to the Meeting by the Council, and the Accounts and Balance Sheets (if any) presented to the Meeting, and may decide on any recommendation made in any Statement or Report of the Council or any question arising out of the matters aforesaid. All other business, whether transacted at an Ordinary or Extraordinary Meeting, shall be deemed special, and cannot be entered upon unless specified in the notice convening the Meeting; and any Member desiring to bring forward any business at an Ordinary Meeting must give not less than six weeks' notice thereof to the Council, who may, if they think fit, specify the same in the notices convening the Meeting.

36. An Honorary Fellow may attend and speak in any General Meeting, but shall have no vote.

37. No business shall be transacted at any General Meeting except the election (when necessary) of a Chairman, unless a Quorum of Members be present at the time when the Meeting is prepared to proceed to business.

38. In order to constitute a Quorum at a General Meeting there shall be present at least six Ordinary Members.

39. If within half an hour from the time appointed for the Meeting a Quorum of Members be not present, the Meeting shall, if convened upon the requisition of Members, be dissolved, and in any other case shall adjourn to some time (not later than the twentieth subsequent day) and place to be fixed by the Members present, of which three days' notice at the least shall be given; and if at such adjourned Meeting a Quorum be not present, the Member or Members present may proceed to the transaction of the business.

40. At every General Meeting all matters which come under the consideration of such Meeting shall, unless it shall be in any case

otherwise provided, or unless where otherwise by law required, be decided when the vote is not unanimous by a simple majority of the votes of the Members personally present. The Vote to be taken by a show of hands or by dividing the Meeting as the Chairman shall decide, unless a division be demanded by at least six Members.

41. The President or in his absence the Senior Vice-President, or in case two or more Vice-Presidents of equal standing shall be present, such one of them as shall be chosen by the Members present, or in the absence or unwillingness to act of the President and all the Vice-Presidents, the Chairman of Council, or in his absence or unwillingness any Member chosen by the Members present, shall preside as Chairman at any General Meeting.

42. The Chairman may, with the consent of the Meeting, adjourn any General Meeting from time to time and from place to place, but no business shall be transacted at any Adjourned General Meeting other than the business left unfinished at the Meeting at which the adjournment took place.

XI.—VOTES OF MEMBERS.

43. Every Member shall, upon a show of hands or Division, have one vote only. In case of an equality of votes, the Chairman shall have a second or casting vote.

XII.—THE PRESIDENT, VICE-PRESIDENTS, AND TREASURER OF THE INSTITUTE, AND MODE OF THEIR ELECTION.

44. Among the Fellows of the Institute there shall be one who shall hold and bear the title, and discharge the duties of President of the Institute; and unless and until the Institute in General Meeting shall otherwise, either by special or extraordinary Resolution so resolve, there shall be two or more Fellows who shall respectively hold and bear the title and discharge the duties of Vice-President of the Institute; and there shall also be elected from among the Fellows of the Institute one who shall bear the title and discharge the duties of Treasurer of the Institute.

45. The first President, Vice-Presidents, and Treasurer of the Institute shall be elected at the First General Meeting of the Institute to be held after its incorporation, and they shall respectively hold office until the Ordinary General Meeting of the Institute, or, if more than one, the first Ordinary General Meeting of the Institute to be held in the year next but one after the year of incorporation, or such other Ordinary General Meeting as shall be determined at the time of their election.

46. At the Ordinary General Meeting until which a President, Vice-President, or Treasurer is to hold office, the office which he vacates is to be filled until such subsequent Ordinary General Meeting as shall then be determined, or, if no other shall be so determined, then until the only or first Ordinary General Meeting in the following year, and [subject to the provisions of the next article] a retiring President, Vice-President, or Treasurer shall be re-eligible.

47. The President shall not be eligible for re-election more than twice in succession.

48. The President and Vice-Presidents shall, if more than one name for each office be proposed, be elected by ballot.

49. Not less than three weeks previous to the General Meeting at which the President and Vice-Presidents are to be elected, the Council shall send by post or deliver to every Member a list of Members suitable for proposal to the offices of President and Vice-Presidents respectively; and the name of any other Fellow not in such list, if proposed by any two Fellows and sent to the Council not less than two weeks before such General Meeting as aforesaid, with a written undertaking by the nominee of such Fellows to serve if elected, shall be added by the Council to their said list; and the list sent out by the Council with any other name or names proposed as aforesaid shall be the Balloting List for the election of President and Vice-Presidents respectively.

50. In case, for any reason, or by any inadvertence whatsoever, the election of President, Vice-Presidents, or Treasurer shall not be made at the General Meeting or any adjournment thereof, at which in due course it ought to have been made, the Member, or Members, discharging the office, or offices, with reference to which there shall have been such failure of election as aforesaid, shall be considered as continued in office until the next period of election.

XIII.—THE COUNCIL AND ITS POWERS.

51. Until otherwise determined by the Institute in General Meeting, the Council shall consist of not more than 31 nor less than 21 elective Members, and also the President, Vice-Presidents, Treasurer, and Registrar as *ex officio* Members.

52. The first elective Members of Council shall be such persons as at the date of the incorporation of the Institute shall be elective Members of the Council of the Parkes Museum, or of the Council of the Sanitary Institute of Great Britain respectively, and they shall hold office until the first Ordinary General Meeting in 1889.

53. At such last-mentioned Meeting, and at every subsequent first Ordinary General Meeting of the year, eight of the elective Members of Council shall retire from office, and a like number of Fellows shall be elected to fill the vacated offices.

54. Four of the retiring Members of Council shall not be eligible for re-election until the next Ordinary General Meeting following their retirement.

55. The Members of the Council who shall retire at the first Ordinary General Meeting in the year 1889, and at the first Ordinary General Meeting in every subsequent year thereto, shall be determined as follows:—

- (a) The four retiring Members who are not eligible for re-election shall be determined by vote of the Council by ballot.
- (b) The four retiring Members who are eligible for re-election shall be those amongst the remaining Members (after

excluding those determined by Clause 55a) who have been longest in office, and whenever, by reason of the number of Members who have been in office for the same period that test shall fail, the individuals of the class who are to retire shall be determined by drawing lots.

56. Any vacancy by retirement or otherwise existing at the time of the Ordinary General Meeting, at which elections are to take place, or of any adjournment thereof, shall be counted as one of the vacancies to be provided by the retirement of the four Members not eligible for re-election, provided always that, subject to previous notice being given, any such Meeting may reduce the number of the Council by the number of vacancies, or any less number.

57. Unless and except so far as it shall be resolved to reduce the number of the Council at the Ordinary General Meeting at which Members retire, then, in case such meeting or any and every adjournment thereof shall fail to elect successors to all the retiring Members, such retiring Members, or such number of them as with the successors elected will make up the entire number of retiring Members, shall continue to act as if they had been re-elected at such Meeting, the retiring Members who are so to continue being determined by the Council by ballot.

58. The powers of the Council shall not be affected by vacancies and all acts done by any Meeting of the Council, or of a Committee of the Council, or by any person acting as a Member of the Council shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any persons or person acting as Members, or a Member of the Council at such Meeting or otherwise, or that they or any of them were or was disqualified, be as valid as if every such person had been duly appointed and was duly qualified to act.

59. Only Fellows shall be elective Members of Council, and any Member of the Council shall vacate such office in case he shall cease to be a Member of the Institute.

60. A Member of the Council may at any time give notice in writing of his wish to resign, and on the acceptance of his resignation by the Council, but not before, his office shall be vacated.

XIV.—POWERS OF THE COUNCIL.

61. Subject to the Regulations the Council shall meet for the despatch of business, adjourn and otherwise regulate their Meetings as they shall think fit; and the Quorum necessary for the transaction of business shall, unless and until the Regulations otherwise provide, be five, and questions arising at any Meeting of Council shall, unless and until the Council shall otherwise determine either generally or with reference to any particular case, be decided by a simple majority, and in case of equality of votes the Member acting as Chairman of the Meeting shall have a second or casting vote. Any two Members of Council may at any time summon a Meeting of Council.

62. The President of the Institute shall be entitled to preside and act as Chairman at every Meeting of Council if and when present, or in his absence one of the Vice-Presidents, and if more than one Vice-President shall be present, then such one of them as shall be selected by the Meeting shall be entitled to preside as Chairman.

63. The Council shall have power to elect annually from among the Members of Council a permanent Chairman, who shall when present preside as Chairman on all occasions on which both the President and the Vice-Presidents shall be absent, and in the absence of President, Vice-Presidents, and permanent Chairman, a Chairman *pro hac vice* shall be elected by the Meeting.

64. Casual vacancies occurring among the elective Members of Council may be filled up by the Council.

65. The entire business of the Institute shall be arranged and managed by the Council, who may exercise in all respects all the powers of the Institute, save such as are by law, or by the Regulations declared to be exercisable only by the Institute in General Meeting. The generality of the power hereby conferred shall not be deemed to be limited by any express powers conferred on the Council by the Regulations, and no new Regulation or resolution of a General Meeting shall invalidate any prior act of the Council, which would have been valid if such Regulation had not been made or resolution passed.

66. Particularly, and without limiting or controlling the effect of the preceding Article, the Council may:—

- (a) In case of any casual vacancy occurring in the office of President, Vice-President, or Treasurer of the Institute between the periods at which, according to the Regulations, the President, Vice-Presidents, and Treasurer are to be elected, elect a Member to fill any such casual vacancy until the next regular period of election.
- (b) Elect from among the Fellows of the Institute, and appoint a Registrar of the Institute, and determine or agree with the Registrar as to his remuneration. So far as the Council may think fit so to do, regulate, limit, and define the duties of the Treasurer and Registrar respectively; but such duties as to the Registrar shall comprise the keeping of a Register of Candidates who have passed the examinations and obtained Certificates from the Institute, and the preparation in concert with the Board of Examiners of a Report of each Examination to be submitted to the Council. The Registrar shall be appointed annually, but shall always be re-eligible.
- (c) Elect from among the Fellows of the Institute the several Members who shall constitute the Board of Examiners to conduct the Examinations to be held by the Institute.
- (d) Elect and appoint the Judges of the Exhibitions to be held by the Institute.
- (e) Determine the time, place, and mode of holding the Examinations for Certificates of competency, and other

Certificates of the Institute, and the subjects on which Candidates shall be examined, and the conditions under which Candidates shall be entitled to present themselves for examination.

- (f) Regulate and determine the fees payable by Candidates for Examination, and the conditions under which any of the Prizes offered by the Institute may be competed for by Candidates.
- (g) Determine how and in what proportions, and to or between whom the fees paid by Candidates for examination shall be paid or divided, or how otherwise the same shall be applied. Provided always that no Member of Council shall vote upon any question in which his remuneration for services rendered or to be rendered by him to the Institute as Examiner or otherwise is to be determined.
- (h) Draw up for the purpose of presenting the same at General Meetings all such Reports and recommendations, or statements of the affairs of the Institute and all such Statements of Account as they shall think fit.
- (i) Publish and edit, or cause to be edited and issued in the name and on behalf of the Institute all such Books, Papers, Periodicals, or other literary productions connected with Sanitary Science as to the Council shall seem fit.
- (j) Accept for, and on behalf of, the Institute either solely or subject to such reservation of copyright, or otherwise, as may be agreed, any book, picture, drawing, periodical, literary production, or other work.
- (k) Appoint a Secretary and such other Officers and Assistants of the Institute as they shall deem requisite, and fix the amount of the salaries or remuneration of any Officers of the Institute and the duties from time to time to be performed by them respectively; and delegate to any Officer of the Institute whether paid or honorary, or to any Committee consisting of such number of Members of their body as they shall determine, such powers of the Council, either in respect of the appointment of Officials or Servants, or otherwise as the Council may think fit to be so delegated.
- (l) Purchase, acquire, adapt, or erect from time to time on behalf of the Institute all such sites, not exceeding in the aggregate two acres, and buildings as they may think necessary or convenient for the purposes of the Institute, and for such purposes enter into all necessary contracts, and ratify any provisional or other contracts entered into before the incorporation of the Institute, and offer any premium or premiums for designs of buildings adapted for the purposes of the Institute.
- (m) Agree to all terms, assume all liabilities, and do all acts necessary or proper with reference to taking over all or

any of the assets and liabilities of the Parkes Museum, and the Sanitary Institute of Great Britain, or either of them.

- (n) With authority of a General Meeting, but not otherwise, borrow on Mortgage of all or any part of the present, or the future property of the Institute, or on the Debentures or Promissory Notes of the Institute (such Promissory Notes to be signed on behalf of the Institute by two Members of Council and countersigned by the Treasurer and Secretary), any sum or sums of money which they may think proper, and apply the money so raised to the purposes of the Institute, and in every Mortgage made in pursuance of this power, if they think fit, insert a power of sale, and all usual or proper Mortgage powers and provisos.
- (o) With the authority of a General Meeting, but not otherwise (except as to sales of moveable property no longer required, or for the purpose of being replaced), sell or dispose of any land, buildings, or other property belonging to the Institute.
- (p) Make, and from time to time afterwards repeal or alter all such By Laws for the conduct of the general affairs of the Institute, and for the despatch of business as the Council, from time to time may deem expedient, provided that such By Laws do not contravene any of the Regulations.
- (q) Without prejudice to the generality of sub-clause (p), it is expressly declared that such By Laws may determine the cases in which the Council shall vote by ballot, and the Quorum or majority of votes which shall be required in any particular case, and may impose conditions as to the qualification of Fellows, Honorary Fellows, Ordinary Members, Associates, and the mode of proposing them, and may provide for suspending the privileges of persons whose subscriptions are in arrear, and may prescribe the mode of proposing, voting for, and electing the President, and Vice-Presidents of the Institute, the elective Members of Council, the Auditors, and the Treasurer, and may provide for the appointment of Trustees of the Institute by General Meetings if any such are required.

67. The Council shall provide a Common Seal, and shall have full power to use the said Seal in the execution of all, or any of the powers hereby vested in them, or otherwise in relation to the business or affairs of the Institute, as they, in their discretion, think fit: and any document bearing the Seal of the Institute, and purporting to be attested by two Members of the Council shall, in the absence of proof to the contrary, be deemed to be duly sealed by the Institute.

68. Members of Council shall be paid all actual outlay on behalf of the Institute incurred by order of, or sanctioned by, the Council.

69. The Council are authorized, out of the moneys of the Institute, to pay such sum of money as they may think fit, in discharge of all

expenses (preliminary or otherwise) attending or incidental to the formation and incorporation of the Institute.

70. All moneys received by, or on behalf of, the Institute, shall be regularly paid into the banking account, to be kept in the name of the Institute, and no money shall be paid by or on account of the Institute other than petty cash disbursements, except by cheque on the said banking account. Petty cash disbursements shall be paid out of cash for which cheques on the said banking account shall be drawn, from time to time, as required. All cheques on the said banking account shall be signed and countersigned as may, from time to time, be directed by the Council.

71. The Council shall cause Minutes to be made of all proceedings at any Meeting of the Institute or of the Council, and shall at all times cause a register to be kept of the Members, both Ordinary Members and Fellows, and a list of Honorary Fellows and Associates, with their respective last known places of abode.

XV.—ACCOUNTS AND AUDITORS.

72. The Council shall appoint two Auditors, one of whom shall be a member of the Institute of Chartered Accountants, to audit the accounts of the Institute, to be presented to the Members at the first Ordinary General Meeting to be held in the year 1889; and at such Meeting, and thenceforth at the first Ordinary General Meeting in every subsequent year, two Auditors, one of whom shall be a Member of the Institute of Chartered Accountants, shall be appointed for the ensuing year to audit the accounts of the Institute.

73. An Auditor need not necessarily be a Member of the Institute, and a Retiring Auditor shall be re-eligible, and the Council may supply any casual vacancy in the Auditorship.

74. The Council shall cause true accounts to be kept of the receipts and expenditure of the Institute, and of all such matters as shall be necessary to show the true state and condition of the Institute financially, and shall cause the accounts of the Institute to be audited annually by the Auditors appointed pursuant to Regulations, and such Auditors shall have access at all reasonable times to the Books of the Institute, and shall verify and sign any Annual or other Statement of Account submitted by the Council to General Meetings.

XVI.—NOTICES.

75. Notices required to be given by the Institute or the Council to the Members may be given either personally, or by leaving the same for, or by sending the same through the post addressed to the Members at their Registered places of abode respectively. All Notices, if given by post, shall be deemed to have been given at the time when the letter containing the same, being properly addressed and posted, would have arrived in due course of post.

76. All Notices required by law to be given by advertisements shall be advertised in a newspaper circulating in London, and shall be deemed sufficient if so advertised.

Names, Addresses, and Description of Subscribers.

NORTHUMBERLAND. 2, Grosvenor Place; Peer of the Realm.

WESTMINSTER. Grosvenor House; Peer of the Realm.

DOUGLAS GAITON, K.C.B., late Royal Engineers. 12, Chester Street, Grosvenor Place, S.W.

GEORGE JAMES SYMONS, F.R.S., Meteorologist. 62, Camden Square, N.W.

THOMAS HAYTER LEWIS, F.S.A. 12, Kensington Gardens Square.

MARK HAYLER JUDOE, A.R.I.B.A. 8, Park Place Villas, W.

WILLIAM HENRY CORFIELD, M.A., M.D. (Oxon). 19, Savile Row, W.

THOMAS TWINING, Gentleman. Perryn House, Twickenham.

EDWIN CHADWICK, C.B. East Sheen, Mortlake, Surrey.

ROGERS FIELD, B.A., M.Inst.C.E. 4, Westminster Chambers, S.W.

T. ORME DUDFIELD. 14, Ashburn Place, S.W. (Doctor in Medicine).

CHARLES H. PARKES, Gentleman. Netherfield, Weybridge.

CHARLES E. CASSAL, F.I.C., F.C.S., Public Analyst. Town Hall, Kensington.

G. V. POORE, M.D., F.R.C.P., Physician. 30, Wimpole Street, W.

Dated the 16th day of August, 1888.

Witness to the above Signatures,

E. WHITE WALLIS,

Secretary of the Sanitary Institute of Great Britain, and of the Parkes Museum, 74a, Margaret Street, W.

LECTURE

BY SIR DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

Read December 6th, 1888.

My object in addressing you to-night, is to lay before you the hopes which have animated the Council in carrying into effect the amalgamation of the Parkes Museum and the Sanitary Institute of Great Britain.

Although it is scarcely necessary on the threshold of my address to justify our existence, yet I think that it will be of advantage to our new Institute to dwell for a moment upon the extensive area which sanitation covers, and to draw your attention briefly to the large extent to which sanitation, properly understood, enters into our daily life.

Dr. Parkes' admirable teaching, which he subsequently condensed in his book on Hygiene, may be said to have laid the foundation of Hygiene as a science in a complete form, for it was the first effort, in this country at least, to collate into one harmonious whole, the various laws relating to what may be termed Preventive Medicine.

The Parkes Museum was founded in commemoration of this effort.

Soon after the foundation of the Parkes Museum, Mr. Thomas Twining drew up a most interesting synopsis to explain and to keep prominently in view the various matters which it was the object of the Museum to illustrate.

It is well to recapitulate them here briefly under the several heads under which he enumerated them.

1. *Engineering and Local Hygiene.*—Under this head he included climatology, and causes of disease and death-rates appertaining to physical geography; information on health resorts: botanical hygiene; geology as bearing on salubrity and water supply; plans for the healthy arrangement of towns; principles of town drainage, water supply, scavenging, and disposal of refuse, &c.

2. *Architecture.*

- (a.) Designs and models connected with health in dwellings of every sort, factories, workshops, schools, &c.
- (b.) Materials and details of construction.

3. *Household Requisites*, including fixtures and furniture, and embracing all matters connected with lighting, warming, cooking, cleaning, and other domestic sanitary purposes.

4. *Clothing*, embracing materials, shape, climatic influences, &c.

5. *Food.*—Chemistry of food, and value for nutrition, as obtained either from the animal or from the vegetable kingdom. Beverages. Dietaries.

6. *Preservation and Relief.*

- (a.) Personal hygiene.
- (b.) Protection and rescue, including protection against disease, poison, dangerous insects. Life-boats. Fire-escapes. Lightning Conductors, &c.
- (c.) Industrial pathology, or the prevention of accidents, injuries, and diseases incidental to Industrial employments.
- (d.) Special hygiene of professional occupations.

You will thus see that the subjects which our Institute would illustrate are spread over the principal proceedings of our daily life.

It is not that sanitary knowledge in itself is by any means new, but our progress in what we term our civilization has developed various new contingencies attending our mode of living, which have altered the conditions which affect the application of sanitary knowledge, so that the want of an institution such as ours has come to be widely felt.

When we look around upon our rapidly increasing population, which is gradually occupying every piece of spare land in this small country; when we look at our Colonies, where sites abounded which with ordinary prudence might have been kept in a healthy condition, but in which ignorance and carelessness have in some cases produced, and in other cases may produce, conditions causing widespread disease and death; when we look at India, where under our regime above 38,000,000 have died in the last ten years from preventible diseases; when we reflect that every one of these deaths represents numerous cases of sickness, and that on a very low calculation the fever deaths alone would represent in fever attacks several times over the entire population of India, and all the loss of working power which fever attacks entail; when, I say, we consider these various facts, we feel that, great as are the advantages conferred upon us by the various societies which exist for pushing forward our knowledge

of different branches of science, such as geology, astronomy, entomology, botany, &c., yet that our Society, the Sanitary Institute, will yield the palm to none in respect of the advantages which, under proper direction, it will confer upon humanity.

What a wide field is open to us to labour in!

In looking around at our mode of life in this country, at our habits, our dwellings, is there not on every side an opening for instruction in, or for comment upon, the violation of sanitary knowledge?

For instance, look at the hecatombs of infants yearly sacrificed to our mismanagement.

The Registrar-General tells us that in last October the deaths of infants in London averaged 164 per 1000 born.

In provincial towns the mortality was greater; thus, in twenty-seven large towns, it averaged 227 per 1000 born.

In Sheffield it was 279 per 1000 born.

„ Leeds „ 294 „ „

„ Leicester „ 359 „ „

Amongst the many causes which lead to this sacrifice of infant life, ignorance of the elements of hygienic treatment is the main cause, and especially ignorance in feeding; for many babies are given food that an adult could ill digest.

But there lies a deeper question at the root of our infant mortality. It is not amongst the well-to-do classes that this wholesale slaughter prevails.

Why are such numbers of children born? Why have we allowed our population to grow up, herded together like the beasts of the field, without moral training or self-restraint?

When we look around at the masses of people congregated together in London and in our large towns, we feel in despair as to what methods to pursue to induce them to regulate their lives according to the principles of health and morality.

It would have been comparatively easy to have done so before the communities had attained their present gigantic proportions, had some far-seeing legislator recognised the importance of regulating the lives of those who dwelt together in communities; but whatever are our present difficulties, we may feel sure that they are less than those which will fall to the lot of our successors if we neglect now to grapple with them.

One of the main causes of the evils which arise from our congested population has been the utter neglect which has been allowed to prevail in respect of the condition of their dwellings.

No doubt the problem of how decently to lodge our population is fraught with difficulty; but we may safely assume as an axiom, that where aggregations of population are permitted to prevail, they must be regulated by laws which will prevent the

prevalence of habits amongst them which favour the propagation of disease.

The experience of our large provincial towns shows that it rests entirely with the governing body of the town to regulate the health conditions of the population; and the more closely we consider the application of sanitary laws to the dwellings of the poorer classes, the more apparent does it become that amongst dense populations it is as necessary to exercise supervision over the occupation of the dwellings as over their construction. We must hope that the new County Council for London may be able to take this matter in hand, and to give an impulse to the movement for improving and regulating the dwellings of the labouring classes, such as has produced useful results in the self-governed towns of Glasgow, Newcastle, and elsewhere.

There is another question connected with the health of London, and indeed of many other large towns, which through our neglect has grown to undue proportions. I mean the pollution of the air: first by means of fog, which is partly the creation of the dust which arises largely from the vast quantity of manure which we retain in our midst; and, secondly, by means of smoke, which blackens that fog, and is the result of our selfish system of burning crude fuel in our fire-places.

Among subsidiary matters which affect our health the question of Dress stands prominent.

As Architecture is the art and science of building, so Dress is the art and science of clothing. To construct and decorate a covering for the human body, that shall be beautiful and healthy, is as important as to build a shelter for it when so covered that shall be also both beautiful and healthy.

To build a healthy dress we must have not merely proper materials and sound construction, but the heating and ventilation should be carefully considered. Thus in a cold climate the dress should retain the heat of the body, and in a hot climate it should shield the body from the heat of the sun; but in both cases the dress should allow exhalations to pass freely away.

As health depends upon the free circulation of the blood, the dress should not be so tight as to impede this; nor should it be so loose as to compel the needless multiplication of garments.

Pure wool seems to fulfil hygienic conditions better than other textiles. It is a non-conductor of heat, and it absorbs and distributes the moisture from exhalations. Cotton, though inferior to wool, is superior to linen as a non-conductor, but it is a very poor absorbent; while linen is a rapid conductor, attracts moisture, and has a very low radiating power. In addition to material and texture, the sanitarian must consider

colour in dress; in regard as much to the dangers arising from poisonous colours, as to the effect of colour on heat and radiation.

A costume should be calculated to increase the functional powers of the body, and to perfect the action of the skin; and, moreover healthy or hygienic dress should have beauty of form and cut to recommend it; for health without beauty is after all a mere compromise with disease.

There is another subject which presses urgently for recognition, viz., the sanitary side of education.

One of our Vice-Presidents, Dr. B. W. Richardson, has long advocated the importance of founding the basis of national education upon the national necessities, which he has enumerated to be as follows:—That although in early youth the three simple elements of learning, viz., reading, writing, and calculating, are necessities, they will be comparatively valueless unless combined with further necessities of a physical kind. These are, first, sound and systematic muscular training, to ensure freedom of breathing and circulation of the blood, so that the body can be structurally built up and sustained in health; and secondly, preparation for duties requiring precision, decision, presence of mind, and endurance, and readiness for acquiring crafts or handicrafts that may bring a useful living. In a word, education should bring the mental and physical qualities into harmony.

Weighed by this standard, the present methods of teaching introduced by the code are injurious—mentally, bodily, and morally.

In the case of the children, they are not only a violation of physiological, but of psychological law.

The powers of receptivity of the minds of children of different ages, that is, their capacity for attention and retention is measureable. Certain brains can take in so much, and no more, according to age. The capacity grows with cultivation and skilful teaching, no doubt; but it must be permitted to grow. In the very young a lesson of a minute may be all-sufficient. Later, of three minutes, five, ten, fifteen, and so on, to one hour, two, or three. But to this there is a limit; and physiologists tell us that, although the receptivity varies in different children according to difference of temperament, physical health and build, the receptivity at one time, in all children, ceases at the end of three hours.

Even this degree of the receptivity of the brain is lowered by insufficient food.

It has become a burning question as to how both to compel the attendance of the poorer children at Board Schools, and to

ensure that they shall have received an adequate meal before they commence their brain work.

This question has been solved in a sensible and practical way in Paris.

In Paris primary education is free, and no fees have to be paid by the parents; but inasmuch as it is compulsory, the authorities hold that it is directly to the interest of the community at large that the children should not only be forced to go to school, but that they should attend in such a physical condition as to be able to take advantage of, and not be injured by, the teaching. Parents in Paris who fail to send their children to school are not summoned before a police magistrate; they are required to give an account of themselves to the *Commission scolaire*, which is composed of ordinary citizens in the *arrondissement*. If it is then found that the father and mother are really too poor to provide the children with proper clothes and boots in which to go to school, then such boots and clothes are at once provided for the children gratuitously.

"Cantines Scolaires"—school kitchens—have been established in connection with some of the schools, to provide meals for the children. For these meals ten centimes each (say a penny) is paid, the food being cooked on the spot. The distribution is managed in this way. Each child goes up to the teacher in turn, and receives its ticket in return for its penny. If, however, any child is too poor to be able to pay the penny, the teacher is informed of this beforehand, and the poor children receive their tickets in precisely the same way and at the same time as those whose parents have been able to pay for them, nor is it known to their companions that they are in receipt of free meals.

The education of a mental kind now being supplied will be imperfect, and may be dangerous, unless it be so combined with physical culture that a perfect, or comparatively perfect, health of body shall go with it.

Indeed, education should be so distinctly physical, that the body should be in no respect less improved than the mind at the close of the educational career.

I will quote this further remark from Dr. Richardson:—

"The education of the young of all classes, and of the poorest classes chiefly, should be so framed as to lead to the inducement of making the acquisition of knowledge a taste instead of a task, a pursuit instead of a labour: and to this end the subject of recreation should be made a scientific branch of study amongst all who are engaged in educational work."

In the case of boys their sports and occupations may easily be so directed as to ensure this result.

With girls, who seldom practise games of this nature, the use of trained physical exercises is more important, in order to bring all parts of the body into play, and thus to set up equal circulation, distribution of nervous power, and nutrition, without any part being overtaxed.

Such systematic training would prevent much of that physical weakness and consequent ill-health amongst women which is the cause of much domestic misery. Moreover, it has been wisely and truly remarked that "with the feebleness of the mother begins the feebleness of man."

Again the sanitary problem is as much concerned with the food of the population as it is with the dwellings.

Our Museum contains a collection made by Mr. Twining of samples of food.

We require food of a certain character, which is known as nitrogenous food or albuminates, for the purpose of building-up the tissues of the body in the time of growth and repairing them in the time of adult life and old age. And, secondly, we require other food, which is generally called non-nitrogenous or carboniferous, which has to be consumed in the body by means of the oxygen in the atmosphere, in order to form that amount of energy which is necessary both to support the animal heat of the body and also to produce actual visible practical work. Besides that, we require other substances, such as mineral salts, which are necessary for carrying on the functions of digestion and regulating the way in which the different constituents of the food are taken up and assimilated.

And, in addition to all these, we may say there is still another class, such as the acids which are present in fruits and in vegetables, and whose absence produces the disease called scurvy, which has by no means disappeared from the community at the present time.

The knowledge of the uses and value of these different constituents of food, enables us so to frame our diet as to draw, under varying circumstances of climate and supply, the most effectual advantage from our sustenance.

But food is subject to various contingencies which regard our health.

There are dangers which may be concealed both in animal and in vegetable food arising from occult forms of disease; and there is little doubt that some descriptions of food are favourable vehicles for the propagation of certain diseases. This seems to be especially the case with regard to the spread of enteric and scarlet fevers through the agency of milk.

That milk should present such dangers is indeed unfortunate, for milk has been termed the "model food." Pure milk is the

natural food of infants, and in many cases the most appropriate food for invalids; and it may be said to contain every element which is essential to the growth of a healthy race of men and women.

We have also to protect the constituents of our food against adulteration.

Adulteration may be described as the act of debasing articles for pecuniary profit by intentionally adding thereto an inferior or deleterious substance, or by taking therefrom some valuable constituent.

On sanitary grounds the adulteration of food merits the severest condemnation, even when the substance added merely reduces the nutritive value or characteristic property of the food; but the offence becomes highly criminal when the adulterant also possesses properties injurious to health.

It is the poorer classes who have ever been the greatest sufferers from adulteration of food.

No doubt the most crying evils from which they suffered have been removed by the legislation of recent years. Yet much still remains to be done. Milk continues to be largely adulterated. The number of samples of adulterated milk, purchased by the inspectors under the Adulteration Act, are almost or quite as numerous as the adulterated samples of every other kind of food put together.

Sanitary science, having taught us to select our diet, further leads us in the next place to prepare it for use.

We have still much knowledge to spread respecting the science of cookery. I do not say to learn, because nearly one hundred years ago the subject of cookery was scientifically investigated by a man who began life as a poor schoolmaster, who became a great general, a great statesman, a great scientific man, and who was Dictator and Governor of Bavaria for a while. Benjamin Thompson, better known as Count Rumford, investigated cookery, and applied the science of cookery to the art; for great as he was in war, and great as he was in statesmanship, that which he evidently regarded as his greatest triumph was his economical cookery—the fact that he fed the poor of Munich, the beggars, thieves and vagabonds, which abounded there to a fearful extent, for less than a 1d. per day, with good nutritious and appetising hot food. The daily dinner provided by him at the House of Industry for 1200 persons, each receiving a portion weighing twenty ounces, cost altogether £1 15s. 2½d., about one-third of a penny each— $\frac{422}{1200}$ of a penny exactly.

Count Rumford was the founder of the Royal Institution of Great Britain, whose charter dates from the 13th of January,

1800. As a portion of this large project, the founder of that institution had in view something closely similar to what the Parkes Museum has attempted to realise. Mere descriptions he knew were insufficient to interest and instruct the public. The public demanded something visible and tangible, and he therefore proposed that the Royal Institution should be made a repository for models of all contrivances and inventions which are calculated to promote the health, comfort, and general well-being of rich and poor.

His list embraces all the objects which we have at heart, as well as the diffusion of knowledge therein by means of appropriate lectures.

As regards these technical objects, the scheme of Count Rumford did not succeed; though, thanks to the genius of the great men who have been its professors, the Royal Institution has flourished in other directions.

We hope to succeed where Rumford failed; because, first, the scheme of the Council is a more manageable one; secondly, because public opinion has been acted on since Count Rumford's time by that period of latency, that process of permeation, which was wanting in Rumford's case.

Public education in sanitary matters has reached a level that makes the Parkes Museum answer to a public demand. It is the direct outgrowth of public needs, and will, we trust, as such, enjoy a permanence greater than it could enjoy as a cut-and-dried institution superimposed upon the public.

I have given you a brief synopsis of some of the important questions which are included in the work of the Sanitary Institute and the Parkes Museum, as educators of the nation in sanitary knowledge.

Let me now proceed to explain what is our future programme.

Our progress hitherto has been tentative. The original ideas which led to the foundation both of the Parkes Museum and the Sanitary Institute of Great Britain were to foster and to diffuse sanitary knowledge; and by the light of our experience, I think that we are now able clearly to see the direction in which we may extend our operations, and obtain useful results.

The holding of examinations has been one of the most important of the functions of the Sanitary Institute of Great Britain.

We have examined above 630 candidates, and granted certificates to 57 surveyors and 347 sanitary inspectors during the past twelve years.

These examinations have done a great deal towards raising

the standard of knowledge required from sanitary inspectors; they have also brought to light the fact that there are many men holding appointments who are lamentably ignorant of their duties.

The value of these examinations has been recognised by Local Boards and by the candidates themselves all over the kingdom; but many persons are deterred from coming forward for examination by the expenditure of time and money required for the journey to London, and the necessary stay of three or four days.

We hope that we may be able to overcome this difficulty by arranging for local examinations to be carried on in all the chief centres of England, on the same lines as those in London; and besides this to add to the examinations already held, others suitable for different appointments requiring sanitary knowledge, such as—

Port Sanitary Inspectors;
Trade Masters;
Builders or Clerks of Works;
Schoolmasters and School Inspectors;
Nurses;

Town Mission Workers, &c., &c., &c.

The Examinations brought into prominence the important fact that there is at present no school in the country where systematic sanitary teaching is available for either Surveyors or Sanitary Inspectors. The Parkes Museum consequently instituted classes for the Sanitary Inspectors. These classes were first commenced about three years ago; a course of twelve lectures was arranged, and delivered by leading Sanitary authorities, upon Sanitary Law, House Drainage and Water Supply, Cubic space and Ventilation, Scavenging, and other subjects cognate to the duties of Inspectors of Nuisances. The numbers who have taken advantage of these lectures have continuously increased: 65 students entered for the first course, whilst for the course held during the past autumn the entrances numbered 114. These results show how eagerly such instruction is sought for. But persons living at a distance from London are quite unable to attend these classes; and the Institute aims at establishing similar classes in the provinces to precede the local examinations referred to. It also aims at devising other courses of instruction suitable for Local Surveyors and for the other appointments for which examinations are suggested.

I am extremely anxious that the new courses should include lectures which would be available for those students who have received appointments in the Indian Civil Service.

I will explain why I advocate this.

The sanitation of India is in a deplorable condition. A

quarter of a century ago Lord Herbert of Lea caused a Royal Commission to be appointed to enquire into the sanitary condition of the Indian army; that Commission found that the death-rate of the army in India averaged 69 per 1,000.

In Bengal from 1830 to 1845 the deaths from zymotic diseases had averaged 58 per 1,000. These evils have been corrected, and the death-rate in the Indian army has, in late years, varied from 10 to 15 per 1,000; but further improvement in the health of the army in India is contingent upon improved sanitary arrangements amongst the native population.

No doubt some improvement in the sanitary condition of the native population has taken place of late years, but you have only to read the reports of the Sanitary Commissioners of the various Presidencies and Districts to see for yourselves that the sanitation of the native population of India, including Calcutta, remains a disgrace to English methods of administration.

But this matter would not be one of insuperable difficulty if we could only ensure that the necessities of India in respect of sanitation should be recognized.

It is not so much a matter of money as one of knowledge and will. There are numerous English civilian officers spread over the whole of India, who administer the revenue; and if these officers received some instruction in practical sanitary knowledge before they went out to India, and as an integral part of their education, we should in a very few years have a large amount of sanitary knowledge spread over the whole of India, and in possession of the very class whose duties would enable them to see how it could be applied with the best effect.

The neglect of sanitary laws which now prevails so universally, arising largely from ignorance, would thus be checked; and I do not hesitate to say that with increased sanitary knowledge in the ruling class in India the present conditions would be changed. Fevers, and other preventible diseases, which now almost decimate the population, would be checked. Cholera would no longer continue to be an endemic disease in India any more than typhus fever is now in this country.

I am therefore desirous of so framing our courses of lectures on sanitary knowledge, and following them by examinations, that we may afford opportunities of education to this class of students, in addition to those for whom we have already provided.

We trust also to organise demonstrations of hygienic apparatus for medical men, as well as courses of Domestic Hygiene for ladies.

We should propose eventually to supplement our courses of lectures by developing in connection therewith such laboratories

for practical work as experience might show to be necessary for completing a sanitary training.

The students who attend these various courses would have access to our valuable and indeed unique sanitary library, as well as to our Museum.

It has been our custom at the Parkes Museum to give general lectures open to the public during the session on all the principal hygienic questions. This we propose to continue and to extend; the programme of lectures for the winter session is already published. We propose further to avail ourselves of an opportunity which the Charity Commissioners have recently offered to the Institute for delivering similar lectures in the Institutions towards whose funds the Commissioners are about to contribute in various parts of London.

We trust also to organise sessional meetings, in order to give facilities to members and others to bring forward for discussion subjects relating to Hygiene which it is undesirable to hold over until the annual Congresses.

In pursuance of the main object of our Society, which is, by educating the public, to raise the standard of sanitary knowledge in this country, we propose to continue the arrangement originally adopted by the Sanitary Institute of Great Britain of holding Congresses from time to time in some important centre of population.

These Congresses have hitherto been eminently successful. Amongst the towns at which they have been held may be mentioned Exeter, Newcastle-on-Tyne, Glasgow, Dublin, Leicester, York, and Bolton. They have in each case brought together into personal relation with each other the Medical Officers of Health, Surveyors, and others connected with sanitation from all surrounding districts, as well as from distant parts of the country, and have thus been fruitful of most valuable discussions, paving the way for sanitary progress.

These Congresses have in each case been accompanied by Exhibitions of Sanitary Appliances, where the newest improvements in sanitary matters have been brought forward.

The Institute inaugurated a most careful system of judging the exhibits, by giving stability to its court of Judges; that is to say, whilst necessarily some change in the personnel of its judges goes on, yet the larger number of judges remain from year to year, so that there has been a uniformity in the principle upon which the awards have been based. An essential feature in judging articles for award, is the practical testing of those exhibits whose merit cannot otherwise be determined.

In connection with this matter of testing, it may be interesting to mention here that the Sanitary Institute of Great

Britain has on occasion appointed Special Committees, and advanced money, to enable tests to be made, apart from the exhibits, on some definite subject of interest which may have arisen. For instance, at the present time there is a committee which is making an exhaustive series of tests on all the various forms of cowls in use for chimneys and ventilating flues. The work of this committee has extended over some years. The enquiry has recently been completed, and the results are being prepared for publication. It has cost several hundreds of pounds. The money has been provided partly from the funds of the Sanitary Institute of Great Britain, but principally by contributions from individuals.

The Exhibitions form a valuable adjunct to the Parkes Museum. The Exhibitions bring forward what is new in sanitation; the Judges award prizes to what is good. The practice has been to make a careful selection from the exhibits to be annually added to the permanent Museum of the Institute, replacing the older forms, with the object of giving those visiting the Museum an opportunity of studying the new forms of apparatus and appliances which are being introduced in different parts of the country, but are not necessarily placed on the London market.

The awards made at the Exhibition, after careful testing, are intended in future to be recorded in the Museum, in order to afford the public a formal expression of the opinion of the Institute on the various appliances exhibited.

In the Museum all the exhibits will eventually be arranged, as far as possible, to demonstrate their practical working; and we propose to have in connection with the Museum testing rooms, and testing appliances of various kinds, for testing and experimenting on the sanitary apparatus. Moreover, inasmuch as an exhibition of details may sometimes be misleading, unless accompanied by the teaching of the principles upon which the details are founded, one of the main objects which we had in view in establishing the Museum as a means of education will not be complete until we have organised in connection therewith special demonstrations to explain to members and others the sanitary principles which underlie the construction of the articles selected for exhibition, as well as those principles which have guided the selection of the specimens of food, clothing, and other subsidiary matters.

We have held special Exhibitions, of limited extent, in the Museum from time to time. One, for instance, was an Exhibition of Domestic Gas Appliances, including gas fires, cooking stoves, ovens, coffee roasters, and water heaters, as well as washing and drying machines, &c., &c. This Exhibition was

accompanied by lectures upon cooking. Exhibitions of this sort entail but little expense on the exhibitors, and might be usefully extended if space admitted of it.

The Sanitary Institute of Great Britain published its first volume of Transactions in 1880, and has continued the publication annually since that time. These volumes have been edited with great care, and contain a large amount of valuable matter. The Parkes Museum has published from time to time some of the more important lectures delivered there. The new Institute proposes to publish its Transactions annually, so as to continue the valuable series commenced by the old Society.

The Sanitary Institute of Great Britain moreover published, at its own expense, two very important standard Sanitary works. One was the "Selections from the Reports and Writings of Dr. Farr on Vital Statistics," under the editorship of Mr. Noel Humphreys, which is the best existing text book on that science. The other is "Public Health Reports" of Sir John Simon, K.C.B., another highly distinguished pioneer in Sanitary Science and Preventive Medicine. This was edited by Dr. Edwd. Seaton. Both these works were undertaken by the Institute with the object of rendering accessible writings which were distributed through a mass of Blue Books and Reports, many of which are out of print, and which, until reproduced in a condensed form, were necessarily beyond the reach of students.

The new Institute hopes to continue the plan of assisting in the issue from time to time, as occasion may arise, of standard works on sanitation.

The Council hope further to develop the usefulness of the Institute by making the Museum a centre, where facts relating to recent progress in sanitation will be recorded, and available for the information of persons anxious to learn the newest recognized improvements, and in conjunction with its library and reading room, to make the Institute as it were, a house of call for persons connected with sanitation who come up to London from the provinces.

I have thus endeavoured briefly to lay before you a summary of the work which we trust that the Sanitary Institute in its new form will be able to organize and accomplish.

But in order to carry it into effect on a due scale, we shall require larger accommodation and better appliances than the Museum on its present site will admit of being provided. We especially want a curator whose whole attention can be directed to the Museum.

For these purposes we therefore require larger funds than we have hitherto had at command.

In their early careers the two separate Societies have each

had great difficulties to contend with; but in spite of those difficulties, they have achieved a distinct measure of practical results.

They point to these results as an evidence that the founders of the combined Society possess the knowledge, the capacity, and the will which are necessary for carrying on the further development of the Institute as a means of Sanitary education, and I trust that we may obtain such a measure of public support that our desire to supply what is undoubtedly a great public want may be realized.

THE SANITARY INSTITUTE.

Parkes Museum, 74a, Margaret Street, W.

REPORT OF THE COUNCIL,

READ AT THE FIRST ORDINARY GENERAL MEETING,

NOVEMBER 22nd, 1888.

In presenting the First Report to the Fellows and Members, the Council record with much pleasure the successful commencement of the Institute.

The Society was duly incorporated and registered on the 17th of August, 1888, and nearly 500 Members and Associates who were previously connected with the Sanitary Institute of Great Britain or the Parkes Museum, have joined the Institute.

In the Memorandum and Articles of Association, a large field of useful work is marked out for the Institute. It is proposed to hold Examinations, and grant Certificates of competency in Sanitary Knowledge; to maintain the Parkes Museum of Hygiene, and its valuable Sanitary Library; to establish Laboratories and Lecture Rooms in connection therewith; to institute courses of Lectures and Demonstrations; to hold Congresses in Provincial Towns for the discussion of subjects relating to Hygiene; to hold exhibitions of Sanitary objects and appliances, to test various exhibits, to award Medals and Certificates of Merit; to issue Transactions, and also to publish books or memoirs relating to Sanitary Science.

The Institute has had the honor of enrolling amongst its Members, H.R.H. The Duchess of Albany, H.R.H. The Duke of Cambridge, His Grace the Duke of Northumberland, His Grace the Duke of Westminster, The Earl of Derby, Earl Fortescue, Viscount Cranbrook, The Bishop of London, and many other influential persons.

H.R.II. The Duchess of Albany has graciously consented to accept the position of Patroness of the Institute.

The Council have nominated the following noblemen and gentlemen for election to-day.

PRESIDENT—The Duke of Northumberland.

VICE-PRESIDENTS—The Duke of Westminster.

Earl Derby.

Earl Fortescue.

Mr. Edwin Chadwick.

Sir Robert Rawlinson.

Mr. T. Twining.

TREASURER—Inspector-General R. Lawson.

The first Examination of the Institute was held on November 8th and 9th: 74 Candidates presented themselves, 15 as Surveyors, and 59 as Inspectors of Nuisances, being a larger number of Surveyors than ever presented themselves at any Examination of the old Society.

A programme of Lectures for the winter Session has been arranged.

The Council congratulate the members upon the success which has attended the commencement of the Institute, and they feel convinced that it will become a powerful means of promoting Sanitary Progress throughout the Country.

DOUGLAS GALTON,

Chairman of Council.

E. WHITE WALLIS, *Secretary.*

22nd Nov., 1888.

REPORT OF THE COUNCIL,

READ AT THE ORDINARY GENERAL MEETING,

NOVEMBER 27th, 1889.

In presenting their second Report to the Fellows and Members, the Council are glad to state that a considerable number of the objects set out in the Memorandum of Association have already been carried out by the Institute. The Institute itself has obtained a large measure of support, and the utility of its work has been recognised by the Crown Agents for the Colonies, the Charity Commissioners, Municipal Corporations, and other important public bodies.

Although some branches of the work of the Institute were referred to in the short Report made at the Ordinary General Meeting in 1888, the Council think it desirable to record in this Report the chief work done since the Incorporation of the Institute, including matters carried on partly under the auspices of the old societies but adopted by the new Institute.

During the year three Examinations have been held; one in November and one in May, of persons desirous of qualifying for the appointment of Inspector of Nuisances, and one in July of persons desirous of qualifying for the appointment of Local Surveyor.

In November fifty-nine Candidates presented themselves, the Examination extended over two days, being partly written and partly oral, and thirty-one Candidates were certified to be competent, as regards their sanitary knowledge, to discharge the duties of Inspector of Nuisances. In May seventy-six Candidates presented themselves, of whom thirty-eight were certified to be competent, as regards their sanitary knowledge, to discharge the duties of Inspector of Nuisances.

In July nine Candidates presented themselves, of whom five were

certified to be competent, as regards their sanitary knowledge, to discharge the duties of Local Surveyor.

Since these Examinations were first established 26 Examinations have been held, and 718 Candidates have been examined, of whom 62 have passed the Examination for Local Surveyors, and 385 that for Inspectors of Nuisances.

The Council believe that there are many persons who would be glad to avail themselves of these Examinations who are unable to come to London for the purpose; they have therefore arranged to hold Examinations in some of the chief towns of England. The first of these is arranged to be held in Manchester on December 20th and 21st next.

During the year two Courses of Lectures and Demonstrations for Sanitary Officers were held. These Courses are specially adapted for Candidates preparing for the Institute's Examinations for Inspectors of Nuisances. The first Course, held in October and November, 1888, comprised the following Lectures:—

Introductory Lecture. "General History, Principles, and Methods of Hygiene." GEORGE VIVIAN POORE, M.D., F.R.C.P.

"Drainage and Construction." Prof. H. ROBINSON, M.INST.C.E.

"Water Supply, Drinking Water, Pollution of Water." LOUIS PARKES, M.D., D.P.H. (LOND.)

"Ventilation, Measurement of Cubic Space," &c. Sir DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

"Sanitary Appliances." Prof. W. H. CORFIELD, M.A., M.D. (OXON.)

"Scavenging, Disposal of Refuse and Sewage." H. PERCY BOULNOIS, M.INST.C.E.

"Food (including Milk), Sale of Food and Drugs Act." CHARLES E. CASSAL, F.C.S., F.I.C.

"Infectious Diseases and Methods of Disinfection." SHIRLEY F. MURPHY, M.R.C.S.

"General Powers and Duties of Inspectors of Nuisances.—Method of Inspection." J. F. J. SYKES, M.B., B.SC., D.P.H.

"Nature of Nuisances, including Nuisances the abatement of which is difficult." J. F. J. SYKES, M.B., B.SC., D.P.H.

"Sanitary Law.—General Enactments, Public Health Act, 1875, Model Bye-Laws." Dr. CHARLES KELLY, F.R.C.P.

"Sanitary Laws and Regulations Governing the Metropolis."

A. WYNTER BLYTH, M.R.C.S., Medical Officer of Health for St. Marylebone.

The second Course was held in March and April, 1889, when Lectures under similar titles were given by BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S.; LOUIS PARKES, M.D., D.P.H. (LOND.); Sir DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.; Prof. H. ROBINSON, M.INST.C.E.; H. PERCY BOULNOIS, M.INST.C.E.; Prof. W. H. CORFIELD, M.A., M.D. (OXON.); CHARLES E. CASSAL, F.C.S., F.I.C.; SHIRLEY F. MURPHY, M.R.C.S.; J. F. J. SYKES, M.B., B.SC., D.P.H.; A. WYNTER BLYTH, M.R.C.S.

The preparation and delivery of these Lectures have entailed a large amount of labour on those who have so kindly come forward, time after time, to help in the work; and the Council desire to record their sincere thanks to them for the great benefits they have conferred upon the students.

The Council having understood that the Government proposed to introduce a measure for consolidating the Public Health Acts, and that one of its provisions was a requirement that all Inspectors of Nuisances should hold a Certificate of Competency, presented a memorial to the President of the Local Government Board, setting out what had already been done by the Examinations of the Sanitary Institute, and urging the desirability of these Examinations and Certificates being recognised in this proposed measure. The Council were informed by the President of the Local Government Board that the matter should receive consideration.

Early in the year a deputation from the Association of Public Sanitary Inspectors waited upon the Council, and urged the desirability of certain modifications in the Examination for Inspectors. The chief points in the suggested modifications were:—(1) That no Candidate should enter for Examination unless, by previous occupation and experience, he is fitted to discharge the duties of an Inspector of Nuisances; (2) That there should be two grades of Inspectors' Certificates; and (3) That building construction should be added to the Syllabus of Examination.

These subjects and others connected with the Examinations are of the greatest importance, and the Council have therefore referred the whole question of the Examinations to a Special Committee, in order to consider it in all its bearings. The difficulty of dealing with the sub-

ject is enhanced by the indefinite manner in which the duties and responsibilities of Officers are expressed in Sanitary Acts of Parliament.

The Course of General Lectures given during the Winter Session included the following subjects:—

"The Future of the Amalgamated Societies, the Parkes Museum and Sanitary Institute of Great Britain." Sir DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

"The new Local Government Bill and the County Councils, especially in relation to Sanitary Administration." ERNEST HART.

"London, Ancient and Modern, from a Sanitary point of view." G. V. POORE, M.D.

"The Worm Parasites of Human Food." Prof. F. JEFFREY BELL.

"Notification of Infectious Diseases." B. A. WHITELEGGE, M.D.

"The Metropolitan Sewage Question." Col. W. HOPE, D.C.

"Fungi in their relation to Putrefaction and Sanitation." Prof. GEORGE R. MILNE MURRAY.

"House Sanitation from a Householder's point of view." Prof. W. H. CORFIELD, M.A., M.D.

"The Bagshot Sands in relation to Health." ALFRED HAVILAND, M.R.C.S.E., late Lecturer at St. Thomas's Hospital.

"Rural Epidemics." BUSHELL ANNINGSON, M.D.

"Fires and Fire Escapes, and the Prevention and Arrest of Fires." H. E. DAVIS, late Chief Officer of Margate, Westgate, Broadstairs, and St. Peter's Fire Brigades.

The Council desire to record their thanks to the Lecturers for the service they have rendered in advancing the objects of the Institute.

A Course of Lectures to Ladies on Domestic Hygiene was held during Lent, and included the following subjects:—

"Child Culture." A. T. SCHOFIELD, M.D., M.R.C.S.

"The Chemistry of Dairy Produce." (Two Lectures.) A. WYNTER BLYTH, M.R.C.S., F.C.S., F.I.C.

"Chemistry of Cleaning." Prof. V. B. LEWES, F.C.S., F.I.C., &c.

"Bread." WILLIAM JAGO, F.C.S., F.I.C.

"Domestic Uses of Petroleum Products." BOVERTON REDWOOD, F.C.S., F.I.C.

The ladies attending were invited to write reports upon the Lectures, and Certificates for satisfactory reports were awarded to eight ladies.

Many of the Lectures were elaborately illustrated with experiments, diagrams, and specimens, and the Council wish to express their gratitude to the lecturers for the trouble taken by them.

In June and July a Course of Ten Lectures and Demonstrations was arranged, dealing with subjects connected with Hygiene of special interest to the medical profession. The following Lectures were given, and were open free to all members of the medical profession:—

"Some Considerations on Ocular Hygiene." R. BRUDENELL CARTER, F.R.C.S.

"On the Infectious Hospitals of London as a Defence against Epidemics." EDWARD SEATON, M.D., F.R.C.P.

"Vital Statistics." LOUIS PARKES, M.D., D.P.H. (LOND.)

"The Water we drink." R. W. PEREGRINE BIRCH, M.INST.C.E.

"House Sanitation." Prof. W. H. CORFIELD, M.A., M.D. (OXON.)

"Adulteration." CHAS. E. CASSAL, F.C.S., F.I.C.

"Medical Guidance in the Selection of Schools for Certain Children." CLEMENT DUKES, M.D. (LOND.), M.R.C.P. (LOND.)

"Warming, Lighting, and Ventilation." Sir DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

"Meteorology in Relation to Health." G. J. SYMONS, F.R.S.

"Bacteria in Relation to Disease." Prof. E. M. CROOKSHANK.

In recording their thanks for all these valuable Courses of Lectures, the Council would point out that the lecturers have given their services gratuitously, and without any expense to the Institute for diagrams or apparatus.

The Congress was held in the city of Worcester in September, 1889, under the Presidency of Mr. G. W. Hastings, M.P., and The Right Hon. Earl Beauchamp, the Lord Lieutenant of the County, accepted the office of Patron of the Congress. The reception given to the Institute was very cordial; there were present about 100 Members and Associates of the Institute, 178 holders of Congress tickets, and about 50 invited guests, including representatives from sanitary authorities in several important towns.

The subjects brought forward in the various sections were of considerable importance and interest; a full report of the papers read and the discussions upon them will appear in the Transactions of the Institute for 1889.

The Conference of Medical Officers of Health has now become a very important feature of the Congress. This year the country meeting of the Society of Medical Officers of Health was held in Worcester at the same time as the Meeting of the Sanitary Institute, and the organisation of the Conference was jointly undertaken by the Institute and the Society; subjects of considerable interest were brought forward and discussed by well-known and representative medical officers, and the Conference was well attended. This Conference has afforded an example of the utility of providing an opportunity for those engaged in sanitary work all over the country to meet and discuss matters in which they are severally interested, and has led to a proposal that a Conference for Sanitary Inspectors should be arranged in future Congresses. The Council will take the matter into early consideration.

The Exhibition was open 23 days, and was visited by about 23,000 persons. There were 108 Exhibitors. The Judges awarded 17 Medals and 46 Certificates; 73 exhibits were selected for further practical trial and testing. The results of these trials will be reported at a special meeting in the spring, when the Medals and Certificates will be presented.

A Special Committee has been appointed to consider Bills relating to Sanitary matters introduced into Parliament, and on their recommendation the Council decided to take the following action with regard to Bills introduced last session: to petition against the Sanitary Registration of Buildings Bill; to petition in favour of the Diseases Notification Bill, and of the Poor-Law Bill. The Sanitary Registration of Buildings Bill did not reach the second reading, but the other two have become law.

The important question of Smoke Abatement has been several times under the consideration of the Council. At the Exhibitions of the Institute a special Section is devoted to apparatus designed to promote this object. The Council have appointed a Special Committee to consider in what way the Institute can best take action to promote the abatement of smoke, which so largely affects the health and well-being of the community.

Early in the present year H.R.H. The Duchess of Albany graciously consented to become Patroness of the Institute.

It is with much regret that the Council have to report the deaths

of James Howard, Fellow, of the Right Hon. Lord Mount Temple, Dr. S. O. Habershon, William Parkes, and Dr. J. W. Sanders, Ordinary Members, and of R. C. Chappell, Associate; two Members have retired.

Since the incorporation of the Institute in August, 1888, 554 Members and Associates from the Sanitary Institute of Great Britain, and from the Parkes Museum have been enrolled, and 96 Ordinary Members and 104 Associates have been elected. The registers of the Institute contained, on September 30th, 116 Fellows, 421 Ordinary Members and 207 Associates, making a total of 744.

The Council are glad to record this large and rapid increase during the year of nearly 200 Members and Associates, as evidence of the appreciation of the work done by the Institute.

Several interesting exhibits have been added to the Museum during the year, including a Health Cabinet for the purpose of demonstration at Lectures. About 8500 persons visited the Museum.

Owing to want of funds, the Council have not yet been able to complete the catalogue and classified index of the Museum which they have long had in view and much at heart. They trust that the increased support which the Institute is receiving, will enable them to proceed with the matter during the ensuing year.

The Library is now much used by Students attending the Lectures. Since August, 1888, about 750 volumes and pamphlets have been added, and the general Catalogue is now nearly complete.

The Examiners of the Royal College of Physicians, of the Royal College of Surgeons, and of the University of London, have made use of the Museum for the purpose of the practical portion of their Examinations for the Degree or Diploma in Sanitary Science. The Maria Grey Training College, the Home and Colonial College, Professor Corfield, Mr. Fairchild, Dr. Kelly, Dr. Louis Parkes, Mr. Pope, Mr. Walter Pye, Dr. E. Seaton, Dr. Turner, and Dr. Walters, have also on several occasions made use of the Museum for the purpose of giving practical demonstrations to their classes.

The Council have been urged to take steps towards a Federation of the various Sanitary Societies, and in response to a deputation from the Manchester and Salford Sanitary Association, which waited on them at the Worcester Congress, they have agreed to draft a scheme and bring it under the consideration of the principal

In accordance with the Articles of Association the Council have prepared a code of By-Laws, which has been issued to the Members and Associates.

The financial statements appended to the Report show the assets and liabilities taken over from the old societies, and also the cash receipts and payments up to September 30th, 1889. As the financial year does not close until December 31st, this latter statement does not include assets and liabilities, and in no way shows the financial position of the Institute at the present time.

The Council, therefore, propose to make out a complete statement upon the close of the financial year and to issue it to the Members.

Chairman of Council.

E. WHITE WALLIS, *Secretary.*

27th Nov., 1889.

Statement shewing Liabilities & Assets taken over by THE SANITARY INSTITUTE, covering the period to end of the year 1888.

LIABILITIES.		ASSETS.	
£	s. d.	£	s. d.
<i>Sundry Creditors—</i>		<i>Lease of Premises, Margaret Street—</i>	
Watson Bros., Builders—account for alterations in Museum in progress ..	92 17 10	12 years unexpired to July, 1880	595 16 8
Less Discount	7 17 10	<i>Library and Contents of Museum—</i>	500 0 0
		Estimated Value	100 0 0
Soper, A.—Arrangement of Library...	85 0 0	<i>Furniture and Fixtures—</i>	
Eyre & Spottiswoode, Printers	10 0 0	Estimated Value	145 8 0
Kenny & Co.	213 18 9	<i>Transactions and Publications—</i>	306 19 0
Boot & Son	295 6 3	727 Transactions, bound, at 4s.	42 13 0
Thompson (Evans & Co.)	56 10 11	1754 " unbound, at 3s. 6d.	
Noel Humphrey	3 0 0	Advertisements, Balance owing	495 0 0
MacDowell—Rent to Christmas	2 5 0	<i>Farr's Works—</i>	
E. White Wallis, Salary to Christmas.	48 10 10	168 Copies, bound, at 7s. 6d.	63 0 0
Wages (Increase to December, 1888)...	68 15 0	Subscriptions due, £14 14s., valued, <i>vide</i> list in old books	2 11 0
Petty Cash Disbursements to Dec., '88	8 9 0	<i>Simons' Works—</i>	
Gas to Christmas	57 5 4	70 Copies, bound, at 10s.	35 0 0
Examination Fees and Expenses in	9 15 4	196 " unbound, at 7s. 6d.	73 10 0
Suspense		Subscriptions due, £28 4s., valued at	14 14 4
Broadbent	136 0 9	<i>Subscriptions in arrear—</i>	
Amalgamation and Incorporation Ex-	10 8 4	Parkes Museum, as per old books, valued at	10 10 0
penses	253 9 5	Sanitary Institute of Great Britain, as per old books, valued at	30 9 0
To Balance of Assets over Liabilities at this Date.....	1808 6 8	<i>Cash at Bankers—</i>	
		Union Bank, Parkes Museum account	867 7 5
		Drummond's Bank, S.I.G.B. "	279 3 2
			1146 10 7
			£3067 1 7

18th November, 1889.

Examined and approved,

ALFRED LASS, } Auditors.

MAGNUS OHREN, }

18th November, 1889.

THE SANITARY INSTITUTE.

Abstract of Cash Receipts and Payments from October 1st, 1888, to September 30th, 1889.

To	£	s.	d.	£	s.	d.
Cash received on account of the Assets transferred from the old Societies, viz.,						
Balance of Banking Accounts	1146	10	7			
Arrears of Subscriptions, &c.....	52	10	4			
Sundry Accounts for Advertisements, &c.	42	13	0			
				1241	13	11
Cash received on account of the Current year's income, viz.—						
Entrance Fees	39	18	0			
Life Compositions.....	52	10	0			
Subscriptions	407	19	6			
Donations	4	14	6			
Sale of Publications.....	16	14	4			
Sale of Farr's Works	13	6	7			
Sale of Simons' Works	6	12	3			
Lectures, &c.	47	15	4			
Examination Fees, &c.....	171	16	8			
Congress	21	10	6			
Exhibition (Worcester)	550	16	0			
				1333	13	8
Subscriptions paid in advance (1890) ...				1	1	0
Temporary Loan				150	0	0
				<u>£2726</u>	<u>8</u>	<u>7</u>
By						
Cash paid on account of the Liabilities transferred from the Old Societies, viz.,						
Sundry Accounts						1108 18 1
Cash paid on account of the current year's expenditure, viz.,						
Rent	126	13	0			
Salaries and Wages	313	0	0			
Printing, Postage, and Incidental Expenses.....	114	5	10			
Lectures, &c.....	68	9	10			
Examinations	117	1	4			
Congress	41	2	9			
Exhibition (Worcester)	392	16	0			
Office Furniture.....	6	9	10			
				1179	18	7
Balance in hand—						
At Bank	135	12	11			
" (Exhibition Account)	280	13	9			
Petty Cash	20	5	3			
				437	11	11

18th November, 1890.

Examined and approved,

ALFRED LASS.

MAGNUS OHREN, } Auditors.

REPORT OF THE COUNCIL,
READ AT THE ORDINARY GENERAL MEETING,
MARCH 25th, 1890.

From the completion of the period covered by the last Annual Report, but a short time remained to the end of the year 1889: there is therefore little for the Council to record in the present Report.

Two Examinations have been held—one in November in London, and one in December in Manchester; both for Inspectors of Nuisances. In November sixty-nine Candidates presented themselves, and thirty-nine were certified to be competent as regards their sanitary knowledge to discharge the duties of Inspector of Nuisances. In December twenty Candidates presented themselves, and twelve were certified to be competent as regards their sanitary knowledge to discharge the duties of Inspector of Nuisances.

This Examination at Manchester is the first that the Institute has held out of London, and it was arranged on rather short notice; but the result shows that it was useful in making the Examinations of the Institute available to those who could not conveniently come to London for the purpose. The Council have now under consideration the arrangement of an Examination at Bristol at the end of June, and a number of applications have already been sent in by Candidates.

Since the Examinations were first established, Twenty-eight Examinations have been held, and eight hundred and seven Candidates have been examined, of whom sixty-two have passed the Examination for Local Surveyors and four hundred and thirty-six that for Inspector of Nuisances.

A course of lectures and demonstrations for sanitary officers was held in October and November, 1889. The course is especially

adapted for candidates preparing for the Institute's Examinations for Inspector of Nuisances, and comprised the following lectures:—

Introductory Lecture. "General History, Principles, and Methods of Hygiene." Sir EDWIN CHADWICK, K.C.B.

"Water Supply, Drinking Water, Pollution of Water." Dr. LOUIS PARKES, D.P.H. (LOND.)

"Drainage and Construction." Prof. H. ROBINSON, M.INST.C.E.

"Ventilation, Measurement of Cubic Space, &c." Sir DOUGLAS GALTON, K.C.B., D.C.L., LL.D., F.R.S.

"Sanitary Appliances." Prof. W. H. CORFIELD, M.A., M.D. (OXON.)

"Scavenging, Disposal of Refuse and Sewage." H. PERCY BOULNOIS, M.INST.C.E.

"Food (including Milk), Sale of Food and Drugs Act." CHARLES E. CASSAL, F.C.S., F.I.C.

"Infectious Diseases and Methods of Disinfection." SHIRLEY F. MURPHY, M.R.C.S.

"General Powers and Duties of Inspectors of Nuisances; Method of Inspection." J. F. J. SYKES, M.B., D.S.C., D.P.H.

"Nature of Nuisances, including Nuisances the Abatement of which is Difficult." J. F. J. SYKES, M.B., D.S.C., D.P.H.

"Sanitary Law. General Enactments, Public Health Act, 1875, Model Bye Laws." A. WYNTER BLYTH, M.R.C.S.

"Sanitary Laws and Regulations Governing the Metropolis." A. WYNTER BLYTH, M.R.C.S.

The Council desire to record their sincere thanks to the lecturers for the great benefits they have conferred upon the students.

The numbers attending these lectures show a considerable increase.

A desire having been expressed for discussions upon sanitary subjects, which were hardly in place after general lectures, the Council arranged for Sessional Meetings during the winter and spring. The first was held on December 11th, when a paper was read upon "The Disposal of Sewage," by W. Santo Crimp, ASSOC.M.INST.C.E. The paper was followed by a discussion.

It is with much regret that the Council have to report the deaths of H. R. Newton and W. H. Weddell, Members. Four Members have retired. Since Sept. 30th 18 Fellows, 20 Members, and 6 Associates have been elected. The Registers of the Institute con-

tained on December 31st, 134 Fellows, 416 Ordinary Members, and 211 Associates, making a total of 761.

The Library is in continual use by students attending lectures and others. About 70 volumes and pamphlets have been presented since September last.

The examiners of the Royal College of Physicians and of the Royal College of Surgeons have made use of the Museum for the practical portion of their examination for the Diploma of Public Health, and teachers of hygiene have on several occasions brought students to the Museum for the purpose of giving demonstrations.

The Council append to this Report a complete statement of the Income and Expenditure for the year ending December 31st, 1889, and also statement of Assets and Liabilities at the close of that year.

With reference to these statements, they would remark that the deficiency on the year of £602 3s. 2d., shown in the statement of Income and Expenditure, is made up of two items; one a cash deficiency of about £530, the other, a reduction of stock and depreciation of leasehold, amounting to about £72. The cash deficiency is primarily due to the large amount of work undertaken by the new Society since the amalgamation, and to the profits from the Exhibition at Worcester having been less than the average amount. The Council are making efforts to clear off this deficiency by donations, and have appointed a special Committee, to consider the whole question of the financial position of the Institute, and to advise the Council what will be the best steps to take, to make the expenditure and the income of the Institute balance in the future. Certain modifications in the working of the Institute have already been made towards accomplishing this object.

DOUGLAS GALTON.

Chairman of Council.

E. WHITE WALLIS, *Secretary.*

March 25th, 1890.

GENERAL BALANCE SHEET, 31st DECEMBER, 1889.

Liabilities.		Assets.	
	£ s. d.		£ s. d.
Sundry Creditors.....	875 0 8	Lease of Premises, Margaret Street, 11 years unexpired.....	546 3 8
		Library and Contents of Museum, Estimated Value	500 0 0
		Furniture and Fixtures, Estimated Value	100 0 0
		Transactions and Publications	450 14 6
		Farr's Works	57 0 0
		Simon's Works	106 0 0
		Sundry Debtors—	
		Members' Subscriptions, 1889.....	54 12 0
		" Arrears	24 3 0
		Fellowship Fees	42 10 0
		Entrance Fees.....	21 0 0
		Exhibition Accounts	13 0 0
Balance of Assets over Liabilities at this date.....	1206 3 6	Cash at Bankers	155 5 0
			166 1 0
			<u>£2081 4 2</u>

Examined and approved,

ALFRED LASS & CO., Chartered Accountants, } Auditors.
MAGNUS OUBEN, Assoc.M.Inst.C.E.

67

Congresses held by the Institute.

LEAMINGTON, 1877.

President.—B. W. RICHARDSON, M.D., LL.D., F.R.S.

Presidents of Sections.

Section I.—EDWIN CHADWICK, C.B.
" II.—GEORGE WILSON, M.A., M.D., F.C.S.
" III.—R. BRUDENELL CARTER, F.R.C.S.

STAFFORD, 1878.

President.—EDWIN CHADWICK, C.B.

Presidents of Sections.

Section I.—B. W. RICHARDSON, M.D., LL.D., F.R.S.
" II.—HENRY DAY, M.D., F.R.C.S.

CROYDON, 1879.

President.—B. W. RICHARDSON, M.D., LL.D., F.R.S.

Presidents of Sections.

Section I.—ALFRED CARPENTER, M.D., M.R.C.P.Lond., C.S.S.Camb.
" II.—CAPTAIN DOUGLAS GALTON, R.E., C.B., D.C.L., F.R.S.
" III.—G. J. SYMONS, F.R.S.

EXETER, 1880.

President.—THE RIGHT HON. EARL FORTESCUE.

Presidents of Sections.

Section I.—PROF. DE CHAUMONT, M.D., F.R.S.
" II.—R. RAWLINSON, C.E., C.B.
" III.—SIR ANTONIO BRADY.

NEWCASTLE-UPON-TYNE, 1882.

President.—CAPT. DOUGLAS GALTON, R.E., C.B., D.C.L., F.R.S.

Presidents of Sections.

Section I.—DENIS EMBLETON, M.D., F.R.C.S.
" II.—H. LAW, M.Inst.C.E.
" III.—ARTHUR MITCHELL, M.A., M.D., LL.D., F.R.S.

GLASGOW, 1883.

President.—PROF. G. M. HUMPHRY, M.D., F.R.S.

Presidents of Sections.

- Section I.—PROF. W. T. GARDNER, M.D., LL.D.
 " II.—PROF. T. ROGER SMITH, F.R.I.B.A.
 " III.—R. ANGUS SMITH, Ph.D., F.C.S.

DUBLIN, 1884.

President.—SIR ROBERT RAWLINSON, C.B.

Presidents of Sections.

- Section I.—T. W. GRIMSHAW, M.A., M.D.
 " II.—C. P. COTTON, M.Inst.C.E.
 " III.—CHARLES A. CAMERON, F.R.C.S.I.

LEICESTER, 1885.

President.—PROF. F. DE CHAUMONT, M.D., F.R.S.

Presidents of Sections.

- Section I.—ARTHUR RANSOME, M.A., M.D., L.S.A., F.R.S.
 " II.—PERCIVAL GORDON SMITH, F.R.I.B.A.
 " III.—WILLIAM MARCET, M.D., F.R.Met.Soc., F.C.S., F.R.S.

YORK, 1886.

President.—SIR SPENCER WELLS, BART.

Presidents of Sections.

- Section I.—PROF. F. DE CHAUMONT, M.D., F.R.S.
 " II.—BALDWIN LATHAM, M.Inst.C.E., F.R.Met.Soc.
 " III.—WILLIAM WHITAKER, B.A., F.G.S.

BOLTON, 1887.

President.—RIGHT HON. LORD BASING, F.R.S.

Presidents of Sections.

- Section I.—PROF. J. RUSSELL REYNOLDS, M.D., F.R.S.
 " II.—PROF. T. HAYTER LEWIS, F.S.A., F.R.I.B.A.
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 Conference of M.O.H.—PROF. W. H. CORFIELD, M.A., M.D.

WORCESTER, 1889.

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SERMON

PREACHED BY CANON CREIGHTON,
IN
WORCESTER CATHEDRAL,
Sunday, September 22nd, 1889.

PSALM CXXVII. 2.

"Except the Lord keep the city the watchman waketh but in vain."

It is in no spirit of mere complimentary speech, but with a deep sense of reality and earnestness, that I say there is no occasion that could more strikingly bring before our minds all the greatness of England's past and all the hopes of England's future than the occasion on which we meet to-day. I see before me the representatives of all that have made England great in the past, of all that constitute the strength of our national life in the present. In you, Mr. Mayor, and the members of the Town Council I see the symbols of that spirit of local self-government upon which the freedom of England has always rested; I see the symbols of those qualities which have made our country great, and which still distinguish it from other countries in Europe and at large. For the spirit of local self-government, the capacity for the management of our own affairs, is the special characteristic of Englishmen, the distinguishing inheritance of our past. It is an inheritance which our own day has increased, which daily becomes more precious to us, which we hope takes deeper root, and will spread still further in the future. And that power of local self-government—what moral qualities does it entail, not only on those who bear office, but on those who submit to their rule, not only upon the rulers, but upon the people whose representatives those rulers are? It is amazing, it is gratifying, when we think of the amount of civic patriotism which every great English city can display, the amount of self-devotion to public interests, the willingness to sacrifice time and money, to give of your best to the good of the community of which you form part. It is a great symbol of, and a great testimony to, the unity of our English life and the way in which we are striving onwards and upwards to find out a path towards better things. We have reason to be proud of our local institutions; we have reason to rejoice in the feelings of civic patriotism. Woe betide us if we let them go, woe betide us if the love of

self-government, which is the foundation of our freedom, does not beat high in the heart of every Englishman.

And yet you will observe that that sense of local patriotism, of which we are so proud, does not stop short at the boundaries of our domains. We have no exclusive civic pride. We do not rejoice that we are greater or better than other places. We are content to feel that we are citizens of no mean city. We are content to have the spirit of a dignified Corporate life displayed amongst us. We are content to go upon our way without jealousy, without rivalry, without wishing to put ourselves forward, merely striving that we may be worthy of the vocation whereunto we are called. Our local patriotism is strong and vigorous; but it does not separate us from the great current of the national life. Not rather it leads us more distinctly and decidedly to flow strongly into that great stream, and to pour our energies into its mighty waters. We are reminded of that fact to-day by the presence here of my brethren, the Volunteers. They show the contribution which this city willingly makes towards bearing its share of the national burdens. It is again a characteristic of England that it does not lay burdens upon unwilling shoulders. England can count upon the willing offering of the time, the labour, the patience, the endurance of a sufficient number of its citizens to provide for the work of the national defence. Again, England rests upon a basis of true freedom; English life is laid upon the firm foundations of duty; England appeals to its citizens, and England knows that this appeal will be readily listened to.

Yet another thought, characteristic of the best side of English life, is suggested by the special circumstances under which we are met to-day. We are proud as a city to welcome guests within our walls; we are proud as a city to think that we shall be the seat for a short time of the deliberations of those who are engaged in striving to direct the national attention to objects of great and serious national concern; and we welcome the Sanitary Institute. We welcome them that we may listen to the teaching which they bring us; that we may learn those lessons of which we all stand in need. It is another characteristic of English life that we are progressing, that we desire to go onwards, not resting satisfied with the achievements of the past, but with a deep sense of the problems which we have to face in the present, and of the difficulties which we have to overcome in the future. Convinced of this, we welcome all teaching we can receive. We ask that we may be shown how we may discharge our duties better. We beg that the seriousness of our responsibilities may be brought home to our minds. We do not refuse to undertake great tasks or to face onerous obligations. We only ask that

we may be convinced, assured; that we may see our duty clearly; and then, in all humility, we are ready to accept the accompanying obligation.

How important is the subject that is to be brought before our attention this week I perhaps need hardly say; but here in this place there are one or two considerations which I will lay before you—considerations bearing on the religious duty, and the religious spirit, with which we ought to enter upon our hearing, or our teaching, in the week that begins to-day.

The question of the organization of common life is one which increasingly comes home to us. More and more does it become an object of general concern that common life should be organized well, that it should be organized in a healthy way, so that every human being should have his due share of the great gifts which God bestows upon all men. But we have to admit that the rapid development of modern days—all that we proudly speak of as progress, civilization, and the advance of industry—all this has done much to deprive the great masses of Englishmen of many blessings which they enjoyed in simpler times. I take it that it is the highest glory of the Sanitary Institute to recognise this grievance and try to remove it. It tells us that modern progress has been bought at a heavy price. It has done ill as well as good; it owes a compensation for the evils which it has wrought. Industry and commerce sacrifice many victims to their progress. It is for us to do our best that the sacrifice should not be excessive, that the good of the few should not be procured at the sacrifice of the many. We have to consider in what way we can make compensation for the evils which our industrial system unavoidably inflicts upon a great number of our population.

God made the world and took pleasure therein. God spread a covering of free pure air which all admit men could enjoy. Aye, but modern industry, remember, has poisoned that clear air of God, has filled it with fumes pestilential and detrimental to the health of many who are compelled to live within their reach. God made the water to trickle from many fountains, and gather in many streamlets, that flow into the rivers. God sent it forth pure and clear, a refreshment unto man. Modern industry has polluted the sources of our streams, has filled them with noxious products, has rendered them turbid and discoloured, no longer a joy unto the eye, no longer fitted to supply man's needs. Modern industry has drawn men to live together in masses in which they never lived before; and by bringing men together in masses has brought about conditions of common life which are in many case hurtful to health, and in all cases tend to rob life of its simple and natural pleasures.

This is the subject which you have undertaken to consider, which is of universal concern—how these wrongs may be remedied, how clear air may again carry health into the lungs, how our water may again be made pure, and refreshing to the weary and the toiler, how the surroundings of life may be made decent, so that life itself may be made healthful, may be made pure. These are great questions. Surely they appeal to the natural justice of every man. Surely the organisation of our common life, so that every man can enjoy those great boons of nature which he was born to possess, is a question to which, as Christian men, we ought to turn our most serious attention.

But yet another thought—the progress of science. We speak of it, we are proud of it. The progress of science—have you thought of the responsibilities which the growth of knowledge brings to every man? The surer knowledge of the laws of Nature—what is it but a perpetual revelation of God's purposes to man? The contents of that revelation are assuredly binding on our consciences and form part of our duty as Christians. Whatever science shews us to be true it has a claim upon our attention and ought to influence our acting. Remember the answer of Jesus to the question, "Master, who did sin, this man or his parents, that he was born blind?" The answer came, "Neither did this man sin nor his parents, but that the works of God might be made manifest in him." The cause of affliction and ill-health is not to be found, as of old it was found, entirely in the sin or offence of the sufferer or his ancestors. Suffering and affliction is a manifestation of the works of God, and we recognise God's call to us as individuals when we have to face illness. All manifestations of God's works call for a corresponding effort on our part; and when science demonstrates the causes of ill-health, there is an addition to human knowledge, which involves a new responsibility both for our individual selves and for the common welfare. Every man has the right to live in such way that he can offer himself, with all his natural gifts and capacities, to God's service. Shall we offer unto God the maimed and the lame and the blind and the halt? Shall we not consider that it is our duty to see that all men should grow up in the enjoyment of health and strength and vigour, that thereby they may be the more able to serve God in their day and generation.

Oh! to pass along the street and see the pallid faces, the languid step! It is a reproach to us—these things ought not to be, for we know that they need not be. And if there come any among us who can teach us better how these things may be avoided, if there come any among us who, with wisdom and with forethought and with prudence, can put before us means

by which our common life may be improved, by which that precious gift of health can be increased and brought unto the humblest and the lowliest; then, dear friends, are we not bound to give them a hearty welcome, to listen to them, to value them highly for their work's sake, to submit ourselves to the message which they have to bring?

Again there is the analogy between the health of the body and the health of the soul which St. John recognised when he hoped that his friend "might prosper and be in health even as his soul prospered." It is hard for those who live with enfeebled frames amid neglected and filthy surroundings to feel strong aspirations after the beauty, the purity and the truth of a spiritual life. The other night I passed through one of the back streets of this city. It was at a time when the workmen left their work, and when the street was crowded with many men who were hastening, some to their homes, some to their pleasures. And as I passed by I saw one little group which consisted of three little girls of the age of four or five who had been placed by an elder girl upon a doorstep that was higher than the street. There they were, ranged in a row, their little hands were folded and their eyes were shut, and the elder girl, who stood below in the crowded street, was teaching them to lisp out the words of the Lord's Prayer. I thought that there in this crowded street was a symbol of the real operation of the work of God's Holy Spirit, that there was a lesson from which every casual bystander had much to learn, and then I thought of those fair young souls, like rosebuds opening in the garden of God—what would be their future? Would the seed thus sown take root and bear fruit? Would those buds blossom with all the beauty God could give, or would the canker worm destroy? Would they perish there amid the evil that gathered round them?

The conditions under which life is lived, the unwholesome air of the factory, the crowded room, the ill-ventilated chamber, all those things that rob the body of its vigour, how must they react upon the soul? You heard in the Epistle this morning of the works of the flesh—uncleanliness, hatred, variance, drunkenness, revelling. Do not these things, think you, come very largely from, and are they not greatly affected by, the physical conditions with which life is lived? If we allow health and strength to be slowly sapped by want of consideration of the actual physical conditions in which life is lived, surely we are responsible for bringing ruin to the young soul, for not doing our part to clear the weeds from the fair garden of God, so that every plant that is sown therein by the grace of His Holy Spirit may grow into all the beauty which the grace of God alone can give. Yes, there is much to be done. It is useless for us to fold our hands

and speak of past progress or present civilisation. The level of the past can only be maintained, and the progress of the future can only be assured, if we offer ourselves, hearts and souls, to God, and work our work in humble dependence on His will—It is as true now as it was in the days of old. It is useless that you raise your voices as guardians of the public health, unless God provides the attentive ear and the willing heart; for you ask both for prudence and unselfishness; you urge measures of precaution which are often opposed to self interest.

Our common life cannot be built upon a basis of self interest. No; our common life must be built upon the basis of self-sacrifice—self-sacrifice which God can bless. Our sacrifice must be brought to the altar of God that He may hallow it before we offer it to the service of our fellow men. That is the great reason of our meeting here to-day, that we may hallow to God all we have striven to do for the common good in the past, that we may ask God's blessing upon all our endeavours in the future. We have brought ourselves to Him that we may ask Him that He will now lift up our hearts, so that we may see and know what things we ought to do; that by the help of His Holy Spirit we may have that true judgment in all things whereby only the lessons of science and the teachings of wisdom can be made fruitful to the eternal good of man.

INAUGURAL ADDRESS

Delivered Sept. 24th, 1889,

By GEORGE WOODYATT HASTINGS, M.P., LL.M., D.L., J.P.,

PRESIDENT OF THE CONGRESS.

LADIES AND GENTLEMEN OF THE SANITARY INSTITUTE,

It was, I assure you, with unfeigned reluctance that I consented, at the kind request of your Council, to accept the Presidency of your Congress; not from any want, as you may well believe, of sympathy with your objects or of admiration for your past efforts, but because I did feel how many there were much more competent than I can pretend to be to fill this position. To-night there are many here from whom I would gladly learn, there must be very few whom I could presume to teach. The great profession of medicine has, for instance, the highest claims to precedence on the subject of sanitary science. Sanitary engineers, again, can speak with an authority far beyond that of anyone who has not been trained in their profession, and sanitarians of all classes who have been able to devote their time to this great subject are entitled to be heard when others who have not had their advantages ought to be silent. There are, indeed, two respects in which I may venture to think that I may have some knowledge and some claim to be heard. The Social Science Association, to which my friend Sir Douglas Galton has alluded, dealt largely for many years with the great subject of public health. Its transactions are replete with information. They are a storehouse of knowledge on sanitary subjects, and it would be affectation in me to pretend that during my long connection with that Association I did not learn a good deal, at any rate in a theoretical point of view, in regard to

sanitary work. And again, during seven sessions of Parliament I have served on that Sessional Committee of the House of Commons, which goes by the name of the Police and Sanitary Committee of the House, to which committee are referred all bills dealing with sanitary questions, and of that committee I have now through three sessions had the honour to act as chairman. Naturally, during that period I have had a large number of sanitary questions brought before me, argued before me by some of the ablest counsel in the land, supported as to their details by expert witnesses of great knowledge, and I have learnt, necessarily, sitting with that committee, much of the detail of the work with which you in this Institute deal.

I therefore will venture, though with humility, to make a few observations to you this evening on some practical questions relating to sanitary administration in this country. But before I do so I ask to be permitted to express one great regret of mine concerning an absence this evening. I had hoped to have seen here one—I sent a special invitation to him,—one whom I must call the father of sanitary science in this country, Sir Edwin Chadwick. He had been most anxious to be present. He has written to me a most kind letter expressing his sympathy with this meeting and his undiminished desire for the improvement of public health; but at his patriarchal age, with the weight of 90 years upon him, it is not to be wondered at that he does not feel equal to the journey to Worcester and the return journey home. That, I believe, is the only reason for his absence.

Now, I would venture to point out that there are many influences on the state of public health in this country which, in dealing with this question, we ought to take into consideration, and it is the consideration of these influences on public health which, I think, will lead us to understand by what means public health can be best preserved. First, there is one great influence on the state of public health, and that is the influence of habitation, one, perhaps, much wider than we are usually in the habit of believing. I fancy that a very wide research into the various conditions of habitation would be necessary before we could arrive at any exact knowledge as to the causes of the fluctuations of public health in this country. We should have, for instance, to go into geological questions with regard to soil before we could solve all the problems. We should have to consider conditions of subsoil and many others which we are not usually in the habit of taking into account. It was only to-day that I heard an interesting fact bearing on this aspect of the question—that in the city of Salisbury, for instance, in

consequence of the drainage of the subsoil, the deaths from tuberculosis in that city were diminished by one half.

Now, I venture to say that many people will exclaim, "who would have thought it?" Who, on looking at a town, would have been able to divine that by some alteration in that which is wholly hidden from our gaze—the condition of the subsoil—you could, by a simple process, produce such a wide and beneficial result? That is one of the circumstances which we have to take into account.

Now, in this matter of habitation, one of the first necessities to which we have to look is that of efficient drainage; and that, again, is a very much wider subject than the public at large, perhaps, are apt to believe. When you talk to them of drainage they imagine that if the drain is put in there is an end of the matter; the work is done. But I think we know, as sanitarians, that there is a good deal more to be thought of. We have, of course, to consider, in setting about the work of the drainage of the town, respecting the removal of the sewage. What are you to do with the product? What are you to do with the sewage which you carry away? When the work of draining towns was first commenced that was thought to be very simple. The nearest river or the neighbouring stream was thought to be by far the most convenient receptacle for everything that was carried away from the town; but I hope we have all learned better things than these, and are beginning to understand that the very last place into which you should turn your sewage is that which is intended by Providence for giving one of the first necessities of life to the population, and affording alike health and pleasure to all who are able to look on it or drink of it.

Now, in regard to this matter, I would venture to point out to you that a recent Act has given greater facilities for preventing the pollution of rivers and streams than existed before. The Local Government Act has placed in the hands of County Councils extensive powers, and it depends upon them to decide in what way those powers shall be used. If they are used firmly and efficiently I cannot doubt that a very considerable improvement in the condition of our rivers and streams will take place throughout the country. In this county, to which this evening I may be permitted more especially to allude, we have two fine rivers, intended, I think we may venture to say, by Providence for the supply of food, for the supply of pure water, for the purposes of health and recreation. But, so far as I have been able to judge, if things go on as they are, neither the Severn nor the Teme are likely to be useful for those purposes. I do not know whether many here will recollect the

beautiful lines in which one of the great poets of our country addressed the river Severn. He spoke of her as a lovely nymph:

"Sabrina fair,
Listen where thou art sitting
Under the glassy, cool, translucent wave,
In twisted braids of lilies knitting
The loose train of thy amber-dropping hair."

That was Sabrina or the river Severn; but I can only say that if John Milton were now alive, and were able to look at some spots to which I could take him on the river Severn, where an outfall sewer is discharging its contents from the neighbouring town, he would begin to doubt whether if the tresses of Sabrina dropped at all it was anything like amber with which they dropped; and you know well that what I say of the Severn applies to the rivers to a very large extent throughout our land. Now, it will rest with our County Councils to say whether they will resolve that the powers which Parliament has given them—powers which I am convinced that public opinion will support if they are rightly exercised—shall be so used that this pollution can go on no longer. I am glad to say the County Council of Worcestershire have already taken the important step of addressing the County Councils of Herefordshire, of Salop, of Montgomeryshire, and other counties—I name only those three for obvious reasons—asking them to unite with us in forming (as the Act enables us to do) a conjoint board, for the purpose of preserving the streams of the Severn and the Teme throughout the whole length of their flow from pollution. But I regret to say that up to this moment our negotiations have been fruitless—not a single county has been found willing to join with Worcestershire in this good work, and I can only express my hope that wiser thoughts will ultimately prevail. It is useless or next to useless for a county to take steps to prevent the pollution of a stream within its own borders if that stream is to suffer contamination from towns and counties above. Unless the counties of Montgomery and Salop and Hereford will join with us in protecting the Severn and the Teme, those two noble rivers can never be free from pollution, and it is my wish, speaking here this evening to an assembly drawn from a much wider area than our County Council here can be, to appeal through you to public opinion, and to ask whether, when we are willing to do our utmost to save those two rivers, to keep them free from impurity for the discharge of the duties for which unquestionably in our belief Providence has created them—whether we are to be thwarted by the reluctance of

other counties to join in the good work by protecting the streams above, while we are willing to keep them pure below?

Now, ladies and gentlemen, with regard to a very vexed question—that is, the disposal of sewage—I would say a few words. I have myself a very strong belief that the best way of disposing of town sewage is to allow it to flow direct in a liquid form upon the land. It then passes through the natural purifier, the earth, and can be returned to the adjacent stream without doing any detriment thereto; and I have had before me in the Committee of the House of Commons to which I have alluded a remarkable example in the town of Reading of the success of such a system. Now, the town of Reading sends the whole of its sewage after it has passed through its sewers on to a sewage farm below the town. The sewage simply flows upon the land. As you well know, this greatly fertilises the land, and facilitates a rapid production, and the sewage farm is used for the purpose of feeding cows, who give a large milk supply to the inhabitants of the borough. Now, it seems to me that that is one of the best devices possible for the disposal of sewage. It answers every purpose; it is very quick; it is very easy in its operation; it is also highly beneficial. It disposes of the sewage immediately; it makes the sewage highly fertilising to the land; and at the same time it tends to supply the towns with an article which among an urban population is of urgent and daily request.

There is one detail with regard to the disposal of sewage to which I desire to allude. It came prominently before me during this last Session in the Bill promoted by the Corporation of Norwich, and it is a curious illustration of the defects which inevitably exist in technical legislation upon this matter, and the need for remedying those defects. The Corporation of Norwich applied for power to construct and maintain two different sets of sewers—one for carrying off the sewage, the other for carrying off the storm-water. I, in my ignorance, inquired why it was that they did not, if they desired to have a separate set of sewers to carry off storm-water, construct such sewers without coming to Parliament for powers to do so. Then it was properly pointed out to me that it was impossible for them to do so without Parliamentary powers; and for this reason, that although any sanitary authority can of course construct a separate system of sewers for storm-water, they cannot compel the householders to make any connection with their house-drains for that purpose. They have the power of compelling a householder to make a connection with the sewer by means of his house-drain for the purpose of carrying off sewage, but they have no power to compel him to make the

connection for the purpose of carrying off storm-water. Consequently, if they desire a separate system of sewers for storm-water, which, as far as I have been able to learn, is very desirable, especially where the sewage is intended to be used on a sewage farm, then they must come to Parliament for special powers for that object. We immediately granted those powers to Norwich, and unquestionably shall grant them to any other municipality that in future Sessions may apply to us for that purpose. But surely it would be far better that in the general law of the land there should exist a power enabling any sanitary authorities who desire it to compel householders to make connections with separate sewers for the purpose of carrying off storm-water.

I am anxious also to allude to another matter in connection with drainage—that is, to the absolute necessity of employing skilled and trained and intelligent labour for the purpose of making internal fittings. In the first place you make a house-drain to run into its sewer, and that is comparatively easy; but the question is are you sure that the internal arrangements behind are such as to convey into the drain, which is to run into the sewer, the sewage matter which you desire to be taken there. I have had within my personal knowledge a curious instance that the anticipated result—the naturally anticipated result—does not always follow. I remember in a building to which I will not allude more particularly—I well remember that with great pains the outside drains were constructed on the best sanitary principles, that the internal drain was made, and that it had been entirely believed that everything had been arranged in the most satisfactory way, and then it was discovered afterwards, when certain evils arose, that unfortunately the intelligent workman who had been employed to finish the arrangements had forgotten to make any connection between the internal fittings and the house-drain, and the consequence was that the whole of the sewage was pouring out under the floor of the place where the connection should have been made. I am told by those who have had considerable experience in the metropolis and other large towns that such events are by no means uncommon.

Now, I think a most excellent work has been done and is being done by the Plumbers' Company in London, in taking care that a body of men are trained who can carry out this work in an efficient and skilful manner, who hold examinations to insure that the men to be employed shall know their work, and who further keep as I am told a register of skilled and certificated workmen, so that anyone who desires to make sure that the man who is employed for this work really knows his

business has nothing to do but to consult that register, and he may be quite sure he will obtain what he wants. These are humble details, but on them, remember, health and life depend. A very small amount of neglect in sanitary work of this kind may lead to endless and terrible disasters in a household.

Then, on the subject of ventilation again there is a great deal to be said. I am afraid we all think too little of it, and certainly amongst those—and there are many in this country—who have not studied sanitary matters it is always difficult to discover whether they are aware of the benefits of pure air, and the necessity of letting external air flow freely through the house. In this connection I would call your attention to what I think is rather a remarkable exhibit in the exhibition—the Sanitary Exhibition—which was opened this afternoon in this city. I was very glad to see that a prize was given to this exhibit. I allude to the reversible window exhibited by Mr. Miller there. I had an opportunity when I was attending the British Association in Newcastle the other day of seeing the manufactory where these windows are made, and of having a specimen shown to me and the whole construction explained to me by the maker, and I have not a doubt that these reversible windows are most valuable on sanitary as well as upon other grounds. The windows can be operated upon by an ingenious system, so as at once to admit a free flow of air through nearly the whole aperture of the windows. On the ordinary plan of course each of the sashes will only let down or push up for a certain portion of the space; but in this case the sashes by being both operated at the same time admit at once a free flow of air through the whole extent of the aperture. At the same time they are productive of this other great advantage—that they allow the window to be cleaned from the inside upon both sides of the glass; and although that may be perhaps for many private houses no very great convenience, for public institutions, for hospitals, for schools, for places that have to be built in many storeys, it is an immense improvement. It is a sanitary improvement even, because it offers an opportunity for the more frequent cleaning of the window, and it is also an immense help in the way of saving danger to life and limb, by preventing the necessity for sending persons outside to stand on sills, or to clean the window under other dangerous circumstances.

Now, I would venture also, as I am sure I am speaking to many who are interested in municipal administration, to say in one word how important it is to all that there should be good by-laws in regard to all these matters in force under sanitary authorities. A great deal, as I am sure you all know, depends

upon by-laws. The general law can only for the most part lay down principles. It is through the by-laws of the various sanitary authorities that the real sanitary administration is carried out; and by having good by-laws with respect to all these questions of drainage with which I have been dealing, although you may not be able to remedy shortcomings with regard to old houses, you would be able to prevent the same defects arising in regard to new houses. Houses built after the by-laws had been enacted would have to be built on approved sanitary principles.

The second influence on which I would speak is that of occupation, and there again we are all perhaps apt to overlook the effect on health of the various occupations in which people are engaged. I had the pleasure this afternoon of saying a few words to some members of the Sanitary Institute at the Royal Porcelain Works, and I am sure from what I heard and saw that they all admired the beauty of the manufacture and recognised the success that has attended its development in this city. But I regret to say that there is no question that the pottery manufacture here as elsewhere has often been productive of disease amongst the operatives. I am glad to know that in our factory those causes of ill-health have been to say the least very largely diminished. Anyone who in going over the works will look at the old rooms and then look at the new rooms will see what an immense amount of improvement has been introduced in the matter of cubical space for those who are working, and also the improved ventilation which is everywhere characteristic of the new buildings; and in that way no doubt a great number of the causes of disease have been prevented. But I fear that even still there are artisans who suffer from the occupation, and it will be our duty as it is our interest—when I say ours, I mean everyone interested in the porcelain works—to see that as far as possible those causes shall be done away with. And it is consolatory to know that invention is always at work to diminish the causes of disease.

I was present at Newcastle the other day when a very interesting paper was read upon a recent invention which I believe will almost entirely remove the causes of mortality in one important industry in this country. I mean with regard to the making of bottles. A Mr. Ashley has invented a machine which will do away with altogether, or, at any rate, will largely diminish, the process of what is called bottle blowing. As many of you probably know, the old way (the present way) in which a bottle is made is by the operative blowing through a tube, blowing out the melted metal, which is heated to an almost incredible temperature, blowing it out

with his mouth at one end of the tube until it forms a bottle at the other end of the tube. Well, the consequence of the glass blowers breathing the enormously heated air which is produced by the molten glass—how hot it is I should be afraid to state, because I do not exactly remember—and the consequence of their applying their mouth to the tube in which this metal is contained is so destructive to the throat and lungs that few bottle blowers live beyond the age of 32. I believe the average age of a bottle blower is still lower, but very few live beyond the age of 32. Now, as I said in the discussion of this paper the other day, I believe if this great mechanical invention (of which more than one expert then present spoke with admiration) can only be used throughout the country, the result will be that the occupation of a bottle maker will be just as healthy as that of any other artisan, and one cause of disease and death will have been removed from the industry of the country.

Very often these appliances are not used because they are disliked by the men employed. It rests with Societies like this to spread a knowledge of sanitary truths throughout the country among the great bulk of the population, so that working men may become alive to their own interests, and be ready to adopt the beneficent means constantly being devised to improve the various industries in which they are engaged. There is another leading influence which acts upon health—the influence of the food which we take. A great deal might be said on this subject, coupled with that of adulteration; but I am not going to dwell upon it. But there are two matters on which we ought to exert ourselves to prevent evil to the people. One is with regard to the water supply. Unhappily in many towns of this country the water is not really pure. It is very often believed to be pure when it is not absolutely free from the elements of disease. Knowing as I do the difficulties under which many municipal authorities labour in this question, I would not for one moment impute to them anything but a desire to preserve the health of those whose lives are entrusted to their care. But I do say the question of a really pure water supply is one which every sanitary authority throughout the country should be constantly bearing in its mind. It means a question of life or death to the people. It means constitutions constantly injured even when death does not ensue, and when the quality of the water itself, even though not absolutely impure, requires constant attention. There is another liquid to which attention should be directed. It is not even yet generally believed that the evidence of facts is the best way of calling attention to a matter of this kind. But I

can give you from the records of the Local Government Board, which have been most kindly placed at my disposal on this subject, the particulars of cases in which disease of the most terrible nature has been traced to milk. One is the famous Hendon Case, of which no doubt you have all heard.

In that instance disease was extensively spread throughout a considerable district of London by the supply of milk, as it was believed, from a particular farm. An outbreak of scarlet fever took place wherever this milk was distributed. Where the milk went there was scarlet fever. I could not say that every-one who partook of the milk had the fever, but in every district in which it went there was a large percentage of scarlet fever. I am well aware of the controversy which raged, and which, no doubt, still continues, or which might be stirred up even out of the smallest provocation in relation to this case. I know well that two health departments of this country were at issue upon the question, and therefore I speak with reserve; but, after studying the facts of the case, I venture to say it might not settle the question scientifically, but it might perhaps settle it practically, if the issue whether the responsibility for the outbreak attached to the milk or not was submitted to a jury of twelve educated and intelligent gentlemen. And with all the facts before them, I cannot imagine a jury which could find any other verdict than that the scarlet fever came from the milk. Of course, there are scientific questions behind the open question of ordinary deduction from fact; but I maintain that, as a reasonable man guided by the ordinary weight of evidence and fact, I could not possibly arrive at any other conclusion than that the outbreak of scarlet fever in that case did result from the consumption of milk from that particular farm.

The Veterinary Department seem to have taken up their position as if with an instinctive dislike of the idea that cows could be in any way to blame.—“How do you know but that there was somebody who went from a scarlet fever case to this farm, and took the infection of scarlet fever with him, which was taken up by the milk and re-produced scarlet fever in the persons to whom the milk was supplied?” My answer must necessarily be that I could not possibly accept a mere hypothesis as against actual facts placed before me. There is no proof whatever that any human being carried the scarlet fever to that particular farm, and that not being proved, and there being no evidence of any possibility of the transfer of contagion in that way, the only supposition is that it was in the milk itself. It was ascertained that most of the cows on that farm were suffering from a disease, slight in itself so far as the cows were concerned, and which simply bore so close a resemblance

to the ordinary vaccine disease, which is a prophylactic against small-pox, that one might have easily been mistaken for the other, but that this disease, on examination, proved to be of a distinctive character. That of itself would not have been sufficient proof that the disease poisoned the milk of the cows with scarlet fever. But then came this extraordinary fact, that there was one cow which had not that particular disease. She had come from another part of the country, and she remained healthy during the investigation taking place week after week by trained officers of the Local Government Board. And it was proved that her milk was, in the first instance, mixed with the milk of other cows. It was all thrown together and distributed together, and scarlet fever ensued amongst the people who partook of that milk. During the investigation it was thought important to keep the milk of the one cow separate. This was done and the milk was sold separately, and no person to whom that milk was sold had scarlet fever. It was then mixed again, and it was found that scarlet fever arose amongst those to whom it was supplied. I want to know whether that is not sufficient legal evidence, to say the least of it, that it was the other cows which infected the persons to whom the milk was supplied.

I have no doubt, morally, that the disease in cows, by whatever name it is to be known, is capable, through the agency of the milk, of conveying scarlet fever to human beings. When thinking that over it is impossible to avoid becoming impressed with a very strong conviction as to the care there ought to be taken by all sanitary authorities in carrying out the provision of the Dairies' Order in respect to the healthy or unhealthy conditions of the cows who supply to the dairies their milk.

There is another remarkable case. There was a dinner party at South Kensington. Sixteen people sat down. There were, of course, a certain number of servants in the house, and there were 150 people who came to an “At Home” in the evening. Now of the sixteen people who dined seven were seized with scarlet fever in a very short period. Several servants were seized with the scarlet fever also, and not a few of the people who attended the “At Home” were similarly stricken down. There was an accurate investigation by an official of the Local Government Board, who could find nothing in the ordinary sanitary conditions of the house which would in any way explain the matter. It was shown that two children of the house who had been sent away the day before this party was given had remained healthy, and the question was to what positive cause could the outbreak be attributed. I desire at this point to be permitted to express my admiration of the way in which these

inquiries are conducted by the officials of the Local Government Board. I have necessarily during my life had something to do with public inquiries. I have been cognisant of and presided over the most searching and accurate investigations in Courts of Justice by able counsel. I have sat on Royal Commissions on which we had the advantage of the most highly-trained assistance. But I venture to say that in nothing in which I have been engaged have I been more struck than by the painstaking, laborious, and truly scientific method of investigation adopted by the officials of the Local Government Board in inquiries relating to sanitation. Well, the official who inquired into this case tracked the question through all the various occupations of the household, the varied character of every food, until he arrived at the conclusion that it must have been something that had been eaten at the dinner and at the "At Home" which had produced the outbreak. He tracked it until he came to the cream that had been supplied, and he found that no person had been attacked with scarlet fever who had not partaken of this cream, and nearly all of those who had partaken of it had been seized with the fever. It was the same with the servants. The cook and the kitchenmaid had tasted the cream preparation, and they were seized with scarlet fever, while the servants who had only handed it about had escaped harmless. That is a remarkable proof of the necessity for watching over the management of dairies. Nothing was discovered in that case which could incriminate the keeper of the dairy; but it was undoubted that, from some influence or other, from some infection of the cows or some peculiar condition of the premises not ascertained, that cream had in fact the poison of scarlet fever, and had given the fever to nearly everyone who partook of it. There has been nothing over which I have watched with more care in the many local sanitary Bills I have had before me than this question of the milk supply, and I perceived early this difficulty, that a sanitary authority might be armed with full powers over the dairies within their own territory, might be able to carry out the most stringent methods of keeping the dairies pure, and might prevent milk being sold which was even open to the suspicion of disease or infection; but that in the great majority of cases towns were supplied from dairies outside their limits, and out of their jurisdiction. Consequently, the laws which gave them the powers within their own boundaries were inoperative in regard to those outside dairies which supplied the town.

Some sessions ago, as Chairman of the Committee to which I have alluded, I caused clauses to be prepared which have now been introduced into a number of local Acts, and which

give a Corporation power, not merely to regulate the dairies within its own jurisdiction, but also to exercise jurisdiction over all dairies whether within their own territory or not, whether near or distant, which have been proved to supply milk to the population within the boundaries of the town. I was convinced that exceptional authority, a great extension of municipal power, must be given if you are to preserve a pure milk supply for the inhabitants of boroughs, and I hope that Parliament will in this case see fit to do what it has done in several other cases, and make laws passed for individual places, which have been proved to work well, universal all over the country. I am glad to say that there has been an Act passed during the last session which exactly answers to that description—an Act which has been made universal throughout the country after it has long been local and exceptional. I mean the measure for enforcing the notification of infectious diseases. I have always been most particular when Bills for the adoption of these powers have been brought before me to enquire whether there has been any complaint with regard to the exercise of the powers in any of the boroughs where they had been already enforced; and I have failed to elicit proof of a single instance in which there had been any complaint of misuse of these powers, or of any evil result therefrom. This in itself is a very considerable proof that they have been solely beneficial. I am convinced that they have been productive of enormous benefit. In a great number of cases this system has been the means of stopping the spread of infectious disease at its outset. It does so by the communication to the Medical Officer of Health of the first intelligence of an outbreak of any infectious disease, whereby he is able at once to proceed to the spot, and take all necessary steps to prevent its spread. Infectious disease is very like a fire. If a fire takes place, a bucket of water may put it out at the beginning; but a fire engine might be impotent to stop it if it is allowed to have half an hour's start. It is so with zymotic diseases. Dealt with at the moment they arise, the first case promptly isolated, the outbreak would probably go no further. Left alone for a week or two, allowed to spread and get a hold, there would be some such outbreak as is now seen in the neighbouring city of Birmingham almost at our own doors, where an outbreak of scarlet fever is at present seen, even nurses having been stricken down, and the whole population being at its mercy. I cannot help remembering, and I hope the men of Birmingham will remember, that when they had a few years ago a Bill for enlarging their municipal powers, it was proposed to them, and recommended to them by some who knew the subject well, that they should avail them-

selves of the clauses for the notification of infectious disease. But in an evil hour they rejected that counsel, and refused to adopt the system of notification. I venture to say that the present outbreak would have been impossible if the Medical Officer of Health of Birmingham had had prompt notification of the first outbreak, and an opportunity of proceeding to the spot to stop its further spread. I will venture to give you, from my own experience, which happened in this city, an instance of the absolute necessity for taking precautions against scarlet fever. I had the honour of occupying for twelve years the position of Chairman of the Worcester School Board. It was my custom to drive into Worcester every Monday morning to receive a report from the attendance office of those children absent from school without cause. One morning there was the name of a little boy who had been absent for some little time. As I was going out of the building I met a little girl older than the boy. I knew that she was the sister of the child, and I said to her, "Why is it that your little brother is away from school?" Her reply was, "Please sir, he has the scarlet fever." I said, "That is a most excellent reason for stopping away; I hope he is getting better." "Oh! yes," she said, "the skin is peeling off him nicely." In other words, he was in the most infectious stage. I said, "Who has been nursing him?" She replied, with that air of virtue little girls assume when they have done a good action, "I have; I have had him in my lap all the morning." "Where are you going now?" I said. "Please, sir," she replied, "I am going to school." Here was a child as fully charged with the poison of scarlet fever as a galvanic battery is charged with electricity, going into a school of 150 children to spread the contagion right and left among everyone she touched. We have in this city, as I am sure you well know, for he is doing good service indeed, a most excellent Medical Officer of Health, Dr. Strange. If he had known that child was suffering from scarlet fever, I will venture to say he would have been promptly on the spot to take care he was shut up in the house, and that no one who came in contact with him was going into a place of public resort. But Dr. Strange did not and could not know it, because there is no system of notification in the city of Worcester; and in this city you may have scarlet fever, diphtheria, and other diseases of the most contagious and infectious kind, and the Medical Officer of Health may not know of it unless his attention happens to be called to the case. The object of this Act is to ensure that the medical officer shall know whenever any case breaks out. The Act provides that the attendant shall send notice to the medical officer at once of any case of infectious

disease, and I will venture to say that, if this system be effectually carried out, you will see a great diminution of zymotic disease throughout the country. It will come into force on the 1st of October, and then between eight and nine millions of the population of this country will have been placed compulsorily under the system of notification.* I was most anxious that it should be made compulsory over the whole country. I placed amendments on the notice paper to that effect, but I was compelled to drop them because it was found that the patriotic zeal of the Irish members, who had nothing whatever to do with the Bill, caused them to resolve to defeat it if possible, and the only way to avoid that defeat was to drop the amendments, and unite in getting the Bill as it stood through the House. It has been left optional to sanitary authorities throughout the country whether they will avail themselves of this system or not. I trust their good sense and patriotism will enable them to take the righteous step of bringing the Act into operation in their own localities. It is by such a system as this that you can save thousands of lives, which without it will unquestionably be sacrificed.

Upon this matter, as upon all others, I venture to say that the whole sanitary question resolves itself into the giving of an answer to the words which were pronounced by One whose utterances we must all, as Christians, listen to with profound humility and reverence. The author of our faith when pressed upon a matter of health on one occasion gave this answer: "Is it well to do good or to do evil, to save life or to kill it?" It is recorded of those to whom these burning words were addressed that they held their peace. They were struck dumb by the Divine scorn of their hard-heartedness and their wilful blindness to the plain truth before them. I am sure none present this evening require those words to be addressed to them. The very existence of this Institute shows that you desire to save life and not to kill it. But there are many in this land, who, through ignorance—for I know it is ignorance only—are willing rather to kill life than to save it. They are willing to indulge in their own apathy and prejudice and opposition to all change and improvement rather than to recognise the plain truths that are laid before them, to follow the path that lies clear under their eyes, to walk straight to the great prize of giving life and health to all around them. If those engaged in the work of sanitation will only persevere, if they will only bring public opinion

* That is, about five millions are already under notification by provision in Local Acts, and about four millions inhabiting the Metropolitan area will at once be brought under it.

to bear upon the causes of disease and death, they may rest assured that they will compass the noble words of the great poet of the day :

Oh ! still we trust that, somehow, good
Will be the final goal of ill ;
From pangs of nature, sins of will,
Defects of doubt and taints of blood.

These words apply peculiarly to all sanitary questions. We know there are great evils to grapple with. We know there are terrible diseases amongst us. But if we will persevere and bring the force of truth to bear on the causes which produce these diseases we may be assured that they will ultimately vanish, and health, vigour and long life be the inheritance of every man and woman borne into this land.

The MAYOR said that he was pleased to be the first person to be able to congratulate Mr. Hastings upon the distinguished position to which he had been appointed. Mr. Hastings had opened his address by stating that he accepted that important position with diffidence, but he had shown by the ability with which he had addressed them that he was more than fully qualified to occupy that distinguished position. If it were necessary to give them any further illustration of Mr. Hastings' fitness for the office, he would take them back to the lifetime of his late illustrious father, Sir Charles Hastings, a man eminent in his profession, and a citizen who yet lived in the hearts of the inhabitants of the Faithful City. His memory remained in the minds of the citizens more particularly from the fact that he belonged to that most useful of professions, the medical, and he believed that Sir Charles Hastings was the means of founding the British Medical Association. That Association was now identified with the majority of men connected with the medical professions, and therefore, taking those grounds into consideration apart from personal merit, he thought the Institute might congratulate itself upon having Mr. Hastings as its President. Although he agreed with many matters to which Mr. Hastings had alluded, he held a slight difference of opinion from him upon the subject of irrigation as regarded the disposal of sewage. He was prepared to admit that the system was a good one where the soil and circumstances were suitable, but he was strongly of opinion that the system of precipitation was far more preferable in many cases. In conjunction with a small system the irrigation principle might act successfully. But the *modus operandi* of the disposal of sewage was at the present time the cause of much difference of opinion amongst scientific men, and there was yet great doubt

as to the best method of treatment. He hoped that the counties who had not yet joined with Worcestershire to keep the water of the rivers running through them pure would soon be brought to a wiser state of mind. In conclusion, he proposed a vote of thanks to the new President for his address, and said that they owed him a debt of gratitude for bringing the various subjects before them in so practical a way.

Mr. MICHAEL, Q.C., in seconding the vote of thanks, said that to the labours of Mr. Hastings, Lord Brougham, and other men who worked at the problem of public health when it was extremely unpopular, they owed the present advanced state of knowledge upon the various subjects which made up the health and wealth of the nation. He had had many opportunities of judging how valuable was the work done both in and out of Parliament by Mr. Hastings; and there was no one more competent from having personal acquaintance than he (Mr. Michael) to speak of his great worth, which could only be known by those who had worked with him.

Mr. HASTINGS replied. He said he had not sought to raise any controversial points as to the best method for the disposal of sewage. He was only stating his own personal conviction, founded on observation, that where the system of disposing of sewage in a liquid state on the land could be carried out it was the best possible mode. There were many cases, however, where it might not be possible, and then they had to consider the next best method. The example of the town of Malvern, which deposited the whole of its sewage on a sewage farm, with, as far as he knew, the best possible results, had been one fact which led him to arrive at a conclusion as to the best practical method of disposing of town sewage.