begun on Monday, October 5th, and so far there has been a good entry of new and former students. From the annual statement of the Principal just published we learn that the number of medical students in residence last year was 371. All former medical students of the college will learn with deep regret that Professor Morgan, who has held the chair of medicine during the last few years jointly with Professor Ross, has through failing health felt himself obliged to resign his chair. Dr. Morgan has held a seat on the Senate since 1873. At the opening of the College this session the Principal referred in appropriate terms to the loss sustained by the medical school and the college in the resignation of Dr. Morgan, who has been connected with the medical school from its outset.

QUEEN'S COLLEGE, BIRMINGHAM.

THE medical session opened with a *conversazione* at Queen's College on October 1st, at which Lord Windsor, the President, distributed the prizes to successful students, and gave a short address on the subject of Vivisection, in which he expressed himself as satisfied with the compromise which at present exists on the matter in England. The meeting marks an important epoch in the history of the Birmingham School of Medicine, as it is probably the last which will be held at Queen's College, for it is anticipated that the amalgamation between Queen's and Mason Colleges will be completed a year hence, and the latter will then become the centre of medical teaching.

SHEFFIELD MEDICAL SCHOOL.

THE medical school commenced its session on October 1st with the introductory address, of which an abstract was published last week, by Mr. W. F. Favell, President of the school, and Senior Surgeon to the infirmary. Latterly the custom has been adopted of making the opening of the work of the school somewhat of a public ceremony. The lay community has been invited and welcomed at the inaugural meeting. The idea the promoters of this plan had was to encourage an interest among the townspeople in the Medical School which was in their midst. That success has attended this effort was evidenced by the good audience that assembled in the hall of Firth College to listen to the President's address, the lay as well as the medical element being well represented.

YORKSHIRE COLLEGE, LEEDS.

THE winter session of the medical department of the Yorkshire College was opened on October 1st, when an able address was delivered by Sir James Crichton-Browne, M.D., LL.D., which appeared in the *BRITISH MEDICAL JOURNAL* of October 3rd. Subsequently Sir J. Crichton-Browne was entertained at dinner at the Queen's Hotel, Leeds, by the members of the medical profession in the district, Dr. Eddison, Professor of Medicine at the Yorkshire College, presiding. The gathering was a thoroughly representative one, and the proceedings were of a pleasant and social character.

CATHOLIC UNIVERSITY OF IRELAND.

IMPORTANT changes and improvements have been made during the summer recess in the Medical School of the Catholic University of Ireland, Dublin. The greater part of the old structure (with the exception of the front block) has been pulled down, and a new and much larger building erected upon the site, and thus the available working space nearly doubled. Owing to the steady increase in the number of students during the last four years, and the additions to the medical curriculum, the question of enlarging the buildings had been for some time forced upon the consideration of the Medical Faculty. The Rector having brought the matter before the Bishops at their meeting in June last, it was decided to apply a sum of £4,000 (part of a bequest to the Catholic University of the late Dr. Lynch, of Belfast) to the purpose. Plans were approved and the work of reconstruction proceeded with, and will, it is anticipated, be completed by the end of October, and the school open for students as usual on November 1st. An entirely new block has been erected 60 by 28, consisting of an addition to the basement, a ground floor and two storeys above, giving great increase of working space, whilst the central block has been raised and several

modifications made. There has been added an Anatomical Department, with dissecting room 60 by 28, fitted with every necessary for the study of Practical Anatomy; new Histological, Physiological, and Chemical Laboratories. Also, in accordance with the recommendations of the General Medical Council, provision has been made for the formation of a Public Health Laboratory for students preparing for diplomas in Public Health.

MEATH HOSPITAL.

THE opening address was delivered at this hospital on October 5th by Professor Rawdon Macnamara. In the evening the annual dinner took place. There was a large attendance, and amongst the speakers were Colonel Dease, Sir George Porter, Bart.; Mr. Rawdon Macnamara, Dr. Jacob Mr. Croly, President of the College of Surgeons, and Mr. Lambert Ormsby.

NOTE ON THE COMPARATIVE MORTALITY IN THE UNITED STATES FROM THE DIFFERENT SORTS OF ILLUMINATING GAS.

By SAMUEL W. ABBOTT, M.D.,
Secretary of the State Board of Health, Massachusetts, U.S.A.

THE following facts relative to the mortality from illuminating gases in the United States have been gathered both from observation and from experiments which were conducted in 1884 for the purpose of settling the question of the comparative effects of different illuminating gases (when breathed unconsumed) upon human life. The sources of information are:—

1. The voluntary returns of health officials in most of the chief cities of the United States, made to the Health Office of Massachusetts¹ in 1884.
2. A careful search made by the writer in the same year, in the coroner's records of New York city, for the verification of the returns from that city, together with personal examination of many of the apartments where deaths had occurred.
3. Experiments made by the Health Department of Massachusetts upon animals.
4. The published reports of the Gas Commission of Massachusetts.

In the United States illuminating gases have been employed for lighting streets, houses, and public buildings, for sixty years or more, the principal use being confined to the cities and towns; the rural population, which largely outnumbered the urban, uses kerosene or petroleum oil, which has been very largely used since 1860. It is also used by the poorer classes very largely in all the large cities, where it can be bought for 10 to 15 cents. per gallon (5d. to 7½d.). Illuminating gas costs from 90 cents to 4.00 dollars (3s. 8d. to 16s.) per 1,000 cubic feet; say an average of 1.25 dollars in the large cities, and 2.50 dollars in the small towns.

Previous to 1878 coal gas was very generally employed in all the large cities for illuminating purposes, and before that date fatal accidents from asphyxia, due to breathing coal gas, accidentally escaping in apartments at night, were of very rare occurrence.

Water gas was first introduced extensively for illuminating purposes about 1878 in the city of New York, and other cities soon adopted it. In the State of Massachusetts, having a population in 1880 of one and three-quarter million of inhabitants, and two and a quarter millions in 1890, a law practically prohibited the manufacture of water gas (that is to say, any gas containing more than 10 per cent. of carbonic oxide). About four-fifths of its population live in towns where gas is used for illumination.

The average ratio of the carbonic oxide in ordinary coal gas is about 6 to 7 per cent., while the carbonic oxide in water gas ranges from 25 to 30 per cent.

In the three large cities of New York, Brooklyn, and Baltimore, which had in 1880 about two million people, there had been 16 cases of reported deaths from asphyxia by illuminating gas in thirteen years previous to the introduction of water

¹ At that time (1884) the Health Office of Massachusetts was one of the departments of the State Board of Health, Lunacy and Charity, afterward re-established upon its original basis as a State Board of Health.

gas, or an average of but little more than 1 in each year. In the seven years and six months following its introduction the deaths from this cause in these cities were 120, or 16 per year. The number of deaths from this cause in New York in later years is about 25 or 30 annually.

From the replies which were made to the circulars issued by the Health Department of Massachusetts in 1884, similar results were obtained from other and smaller cities throughout the country. Replies were received from 108 cities and towns.

The advocates of water gas endeavoured to secure the repeal of the 10 per cent. law, and persistently pressed their appeals, until after five or six years the Legislature unwisely yielded to their demands. The law was repealed, and now water gas is being introduced in several of the cities and towns. In some places coal and water gas are mixed in varying ratios.

As a result of this repeal of the law, in the city of Boston alone, having about 450,000 population, the number of deaths from this cause in the single year 1890 was greater than the entire number of deaths from the same cause in the fifty years previous to the introduction of water gas.

Since the establishment of a Gas Commission in Massachusetts in 1885, that Board has collected information upon this subject; and I gather the following facts from their fifth and sixth annual reports.

In the year 1889 the number of deaths which the Commission had found to have occurred in the United States was 107,² of which number 30 were probably suicides and 77 were accidental. These latter occurred in twenty-two cities and towns, of which New York city contributed 24, Baltimore 7, San Francisco 7, and Chicago 5. The greater number occurred in the winter months; 46 of these occurred in hotels. In 18 the gas was blown out by ignorant persons; in 46 it was found turned on without satisfactory cause; in 8 cases death was caused by gas stoves; 25 of the victims were females and 52 were males.

In 1890, as we learn from the Sixth Report of the Gas Commission, the reported cases of death from the same cause had increased to 174, of which 35 were known to be suicides and 139 were accidental; of the latter, 31 occurred in New York city, 17 in Philadelphia, 31 in Chicago, and 15 in San Francisco. To these should be added 10 deaths which occurred in Massachusetts in the same year, among whom were the wife and daughter of the president of a new university in Worcester. And finally, 100 cases of death were known to have occurred from the same cause in the United States in the six months of 1891, prior to the time of my leaving home.

And so the death-roll continues, and serves as a warning that greater restrictions should be placed upon the manufacture of this intensely noxious agent. It is quite true that the indirect causes which lead to a fatal result are too often intemperance, ignorance, carelessness, faulty or no ventilation of sleeping rooms, etc. In a personal inspection which was made by the writer in 1884 of places in New York city where deaths of this kind had occurred, it appeared that many such apartments had no more than 600, 700, or 800 cubic feet of air space in each, and in some of them two persons had been found dead in a single bed. In some hotels of the poorer sort a man is detained at night to keep up a constant inspection at keyholes or transoms in search of the smell of escaping gas.

Certain experiments which were made upon animals by the Health Department of Massachusetts in 1884 are worthy of record. In one small town of the State water gas was then made in defiance of the law. Experiments were conducted in that town and also in a city using coal gas only. About 40 animals in all were employed. The results may be summed up as follows: Two chambers were constructed of about the size of a small sleeping apartment, 725 cubic feet in each. A single gas burner, allowing a flow of about 6 feet per hour, was opened, lighted, and then the flame was blown out and the unconsumed gas allowed to escape. In the chamber in the coal gas city 8 animals were placed at the beginning of the experiment—2 dogs, 2 rabbits, 2 cats, and 2 pigeons. At the end of eight hours 1 of the cats and 1 of the dogs ap-

peared ill and the rest were unaffected. At the end of twenty-four hours the cat and 1 rabbit were dead. In the experiment with water gas 7 animals were used—3 dogs, 2 cats, and 2 rabbits. At the end of eight hours all of the animals were dead.

These two experiments, together with others which were made about the same time, are fully detailed in the Sixth Supplement to the Report of the State Board of Health, Lunacy, and Charity of Massachusetts. They only confirm the conclusions which had previously been derived from the greatly increased mortality from this cause. The repeal of the carbonic oxide limit was vigorously opposed by the medical profession throughout the State, and at least 100 prominent chemists, medical examiners—that is, coroner physicians—and other medical men signed the protest against such repeal.

ASSOCIATION INTELLIGENCE.

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

MEMBERS are reminded that the Library and Writing Rooms of the Association are now fitted up for the accommodation of the Members in commodious apartments, at the Offices of the Association, 429, Strand. The rooms are open from 10 A.M. to 5 P.M. Members can have their letters addressed to them at the Office.

COUNCIL. NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday, the 21st day of October next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

October 1st, 1891.

BRANCH MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The next meeting will be held at Wimborne on Wednesday, October 14th, 1891. The business meeting will be held at the Board Room of the Union, by permission of the guardians, at 2.30 P.M. Agenda: Election of officers for 1892. Place of the May meeting. Election of new members of the Branch. The President to move: "That a donation of five guineas be granted to the British Medical Benevolent Fund." Discussion: Common Affections of the Cornea. Communications:—Dr. Lush: Case of Infective Endocarditis. Mr. W. Wyke-Smith: Case of Excision of Knee-Joint. Dr. Lawrie: 1. Case of Polypus of the Uterus; 2. Case of Ovariectomy with Complications. Mr. D. Curme: Case of Ossification of the Falx Cerebri. Mr. T. W. Blake: Case of Lupus—photographic representations. Dr. Childs: Case of Hemoglobinuria. Dinner at the King's Head Hotel at 4.45 P.M.; charge, 6s. each, without wine. Members intending to be present are requested to communicate with Mr. Parkinson by Monday, October 12th.—WILLIAM VAWDREY LUSH, M.D., Weymouth; C. H. WATTS PARKINSON, Wimborne, Honorary Secretaries.

STAFFORDSHIRE BRANCH.—The eighteenth annual general meeting of this Branch will be held at the Swan Hotel, Stafford, on Thursday, October 29th, at 3.45. An address will be delivered by the President, Dr. Clarke.—GEORGE REID, Honorary Secretary, Stafford.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The inaugural meeting of the session will be held in the Town Hall, Mare Street, Hackney, on Thursday, October 15th, at 3.30 P.M. The chair will be taken by Dr. Cleveland, the President of the Branch. An address will be given by Mr. Lawson Tait, entitled New Views concerning the Pathology and Treatment of Displacements of the Uterus. All medical practitioners, whether members of the Association or not, will be welcomed.—H. E. POWELL, Honorary Secretary, Glenarm House, Upper Clapton, N.E.

OXFORD AND DISTRICT BRANCH.—The next meeting will be held at the Radcliffe Infirmary, Oxford, on Friday, October 30th, at 3.15 P.M. Gentlemen are requested to send notice of papers, etc., to W. LEWIS MORGAN, Honorary Secretary, on or before October 16th.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The next meeting will be held at Pontypool on Thursday, October 20th. Members desirous of reading papers, etc., are requested to send titles to Dr. Sheen, Cardiff, before October 13th.—A. SHEEN, M.D., Cardiff; D. ARTHUR DAVIES, M.B., Swansea.

² See Fifth Report of the Gas Commission of Massachusetts, page 11. As these were all from voluntary reports, it is quite possible that there may have been many more deaths from the same cause. In many States of the Union there is no compulsory registration of deaths.