

# Report on the Conference of the Royal Sanitary Institute.

HELD AT DUBLIN, *June 25-29, 1907.*

INSTITUTE OF MARINE ENGINEERS

Represented by

MR. JAS. GIRVIN (MEMBER).

THE Royal Sanitary Institute held its Annual Conference this year at Dublin during the closing days of June, the Institute of Marine Engineers being represented by Mr. Jas. Girvin, Member, of Carrickfergus. The proceedings were opened on Tuesday the 25th, when the members and delegates lunched at the Exhibition and visited the various sections and the grounds. The Provost of Trinity College, Dublin, received and welcomed the visitors in the hall of the College, where the inaugural meeting took place. The Provost, who presided, expressed regret at the absence of the Lord Lieutenant, owing to the illness of Lady Aberdeen, whose return to health was earnestly hoped for. The Provost said she had been present and gave an admirable speech at the opening of the Industrial section of the Exhibition and had, in many ways made noble efforts for the good of the country and the happiness of the people. Sir Charles Cameron in his inaugural address gave a further testimony to the valuable work done by Her Excellency, not only in initiating, but in carrying on so many good institutions for the welfare of the community, especially referring to the establishment of the National Health Association, having for its object mainly the lessening of the causes which produce tuberculosis and those which tend to increase infantile mortality.

In the absence of Lord Rosse the opening address was delivered by Sir Charles Cameron, M.D., Chief Medical Officer of Health

for Dublin, who pointed out that since more attention has been paid to sanitation the death rate had very materially decreased, and it was very desirable that by the publication of literature on the subject and by other means the people should be taught the general principles which are necessary for the health of the community. Consumption, its treatment and prevention, milk supply, the preservation of its purity; infantile mortality, the causes of its high rate were points dwelt upon in the course of a most interesting address. A vote of thanks was proposed to Sir Charles Cameron by Mr. H. Searleswood and seconded by Sir John Moore, who gave a high tribute of praise to the speaker for the excellent work he had done during the time he had held office in the city of Dublin as its medical officer of health.

The subjects discussed at the Congress give food for thought to those who regard the study of sanitary science as prosy and uninteresting. Preventive Medicine, Engineering, Architecture, Physics, Chemistry, Bacteriology, Biology, all are handmaidens in the service of public health, and the fact that life in our modern congested cities would be practically impossible were the sanitary precautions neglected, as they were in the days when plagues and epidemics devastated whole cities whose helpless inhabitants, ignorant of their real cause, looked upon them as "visitations" of Providence, adds an important personal character to the subject. This aspect was mentioned in his address by Sir Chas. Cameron, who drew attention to the enormous increase in population co-incident with the advance of sanitary knowledge. In the very early part of the last century there were no medical officers of health, there were practically no sanitary inspectors. The laws relating to public hygiene might almost be expressed by the word nil. The water supplies to towns were almost wholly obtained from local wells which were rarely quite pure. The main drainage of towns was almost unknown. The water-carriage system of filth removal had not commenced. Disinfection was rarely practised and never in a really efficient manner. During that long and dreary period, aptly termed the dark ages, the population of these countries and of most of Europe scarcely increased, mainly due to the insanitary conditions under which the people lived. Broadly speaking the great increase of population in England and Wales commenced early in the last century, and the extent of the increase is seen in the census figures for



1801 and 1901 being 8,892,536 in the former year and in the latter 32,527,843. The death rate of the city of London during the period 1728 to 1780 was in the ratio of about 50 persons per 1,000; in 1906 the death rate was 15·80 in spite of the increased density of population.

The white plague, consumption, still ravages the country, however, and in the efforts to grapple with and stamp out this curse of modern times, Prof. E. J. McWeeney in his paper on "Sanatoria as a Factor in Checking Tuberculosis" showed the important part played by the sanatorium, which he upheld on the grounds that it is the only *curative* institution; that without a place whither curable cases can be sent the work against tuberculosis can be at best only advisory and therefore ineffective; that it provides the best centre on which popular endeavour may be focussed and that it may be provided out of local taxation under the existing law. The speaker did not claim that the struggle against consumption has for its only weapon the sanatorium. He expressed his advocacy of measures for compulsory notification, the provision of bacteriological aid in the diagnosis of early cases before the physical signs have developed, the thorough disinfection of rooms vacated by consumptives, the establishment of special dispensaries in populous centres, the provision of a special hospital, the provision of spittoons wherever possible in places of public resort, and the formal prohibition of spitting in public, a thorough system of inspection of all milk-producing establishments and other preventive measures; but his view was that since the campaign against consumption must begin somewhere, the point at which to start is the provision of a working-class sanatorium in each populous centre. Without such provision much of the good obtainable from the measures mentioned is done away with, for mere knowledge of the whereabouts of a disease is of little use unless a remedy be provided, and early diagnosis and good advice are of little use in the absence of means for adopting the methods indicated.

On each of the three days papers were read relating specifically to Ireland—"Poor Law and Sanitary Administration in Ireland," by Sir Charles A. Cameron; "The Economic Housing of the Working Classes," by Mr. P. C. Cowan, M. Inst. C.E.; and "The Climatology of Ireland in relation to Public Health," by Sir John Moore, M.D., the latter paper doing much to advance the claims of Ireland on those who are in search of health, of rest

and of novelty in the midst of beautiful surroundings. The central plain of Ireland rests for the most part on the carboniferous limestone, over which in several places there are remains of the upper carboniferous strata, or coal measures. Here and there in the central plain the limestone crops to the surface, but elsewhere it is overlaid by boulder clay, the result of glacier action, by the sands and gravels of a bye-gone shallow sea, or by the peat bogs which tell of ancient oak forests and fir-woods, which in time were killed by mosses and other peat-producing plants. Through evaporation from these water-soaked morasses or bogs, which according to the estimate of the late Sir Robert Kane, M.D., cover 2,830,000 acres or about one-seventh part of the entire surface of Ireland, the superincumbent atmosphere is rendered moist and cool. The soil is naturally fertile, composed largely of detritus carried down to the plains from the varied mountain strata. Strong retentive clay, sand, chalk and gravel soils are almost wholly absent. The temperature of the sea which washes the Irish shores has a far-reaching influence upon the climate of the country. In January there is a mean sea temperature as high as 44.6 deg. at Cleggan, Co. Galway, and even at the Kish lightship, nine miles off Kingstown Harbour it is 44.0 deg. compared with 37.0 deg. at Yarmouth and Berwick. In July, on the contrary, the mean sea-temperature at the Kish lightship is 56.3 deg or 4 degrees below the mean temperature of the air in Dublin (60.3 deg.). From these figures it is clear that the proximity of the sea is a source of warmth in winter and coolness in summer. The isotherms indicative of the mildest British climate in winter are seen enveloping Ireland in January. The veteran Scottish meteorologist, Dr. Alexander Buchan, shows that the lowest temperature in winter is found in the interior towards the north-east, or lee, side of the island, and from this central area, in which the January mean does not exceed 40 deg. F., the temperature rises all round, but especially towards the south-west, on advancing in which direction it rises successively to nearly 45 deg. F. In the summer months the warmest portion of Ireland is the south-east, and the isotherms in that district follow a course more nearly north and south than east and west. A tendency to northing of the summer winds also plays an important part in the peculiar distribution of temperature, as shown in the distribution of the isotherms in the west of Ireland in summer. The lecturer gave many convincing facts and



figures in support of his argument that Ireland has probably the most temperate climate of all countries, but Dr. Kaye struck the right note, from the medical point of view, in his statement that although no one could deny the important bearing which the climate exercised on the progress of life yet whatever might be the influence of the weather, it is inferior to the influence of the conditions which prevail in the home life. A curious question was opened by Dr. T. Cameron of Leeds, which did not elicit any precise information, but indicates the possibility of what may be termed the political influence on national health. For years there had been an exodus of the strongest and sturdiest portion of the population of Ireland. The older and younger people were, therefore, in a greater proportion, and it was amongst the younger that phthisis was most prevalent. A large number of the emigrants returned in later years suffering from phthisis contracted in America, and he wished to know what effect this had on the ravages of the disease.

The question of cost is very often a secondary consideration with the civil engineer or medical officer of health in the design of a scheme of main drainage or sewage disposal, the thorough efficiency of which they rightly regard as of prime importance, but the councillors of urban and rural districts of a low rateable value are often slow to move when the adoption of such a scheme would mean a heavy and in many cases a crushing sanitary rate. To obtain expressions of opinion as to how this difficulty might be overcome, Mr. W. Kaye-Parry, F.R.I.B.A., read a paper with the question "Could the Existing Statutory and Departmental Requirements as to Sewage Disposal be Relaxed in Certain Cases with Advantage to the Community?" for its title. Loans will not, as a rule, be sanctioned by the Local Government Board for sewers unless purification works are also provided. The practical result is that in many cases nothing has been done to improve the sewers. It often happens that the river on which a town is built is so situated that the water is never used and never will be used for dietetic purposes below the town. Given these conditions, is it wise for the sake of a mere sentiment to prohibit the discharge of the partly purified or clarified sewage into such a river, when the other alternative is the permanent pollution of the wells from which the inhabitants obtain their drinking water? This was the author's main point, and he expressed the opinion that, provided the solids are

removed as effectually as possible by mechanical means, and provided the sewage is diluted with a sufficient volume of fully aerated river water, no real harm would be done if the water is not used for dietetic purposes. Professor Adeney and Professor McWeeney supported Mr. Kaye-Parry's views, the former mentioning that the present regulations were really based upon the late Sir Edward Franklin's experiments and conclusions, but the very deduction he made, namely, that there was no stream in the United Kingdom sufficiently long for self-purification from organic matter, had been shown to be ill-founded. Strong opposition, however, came from Professor Bostock Hill, County Medical Officer of Health for Warwickshire, which boasts the largest sewage works in the world, who said that Mr. Kaye-Parry's suggestion would not bear looking into from the sanitary standpoint. However clear they might send the effluent away, in the course of a few hours, especially in summer, secondary decomposition took place and nuisance resulted further down the stream.

The last paper of the Conference was by Dr. S. Rideal, D.Sc. F.I.C., on "Disinfection considered from a Medical, Chemical and Bacteriological Standpoint," in which at the outset he referred to the growth of popular knowledge on the subject of disinfectants, the majority of which to-day are several times more potent than carbolic acid, on which formerly such great reliance was placed. Similarly with disinfecting appliances great advances have been made. Dependence is not now so largely placed on aerial disinfection, the air-borne theory being to a large extent exploded, but it is combined with other methods, such as spraying and the removal of infected material as far as possible; in fact the necessity of destruction or steam disinfection of clothes, etc., has been generally recognized. The author advocated standardizing the test culture in every experiment and stated that, during 1903, in conjunction with Mr. Ainslie Walker, he suggested a method—the carbolic acid co-efficient test—so that by adopting strict uniformity of procedure and the insertion of carbolic acid as a control in every test, comparable results could be obtained by different observers.

Reaction alone, whether acid or alkaline, plays an important part in disinfection, and some preparations, depending upon a fine emulsion for their germicidal value, are considerably modified by traces of acidity. However, if a preparation that is stated in certain dilutions to destroy disease germs does not



kill under the more simple conditions as those of the carbolic acid co-efficient test, it is worse than useless for any disinfectant purposes. Soap has marked germicidal properties and perhaps would with advantage displace a few disinfectant preparations that have been put on the market. Many of our most reliable disinfectant substances are unfortunately incompatible with soap, and in ignorant hands this causes great waste. Where there is much organic dirt it should first be removed with precaution and cremated; by doing this the greatest economy and efficiency in the subsequent disinfection is secured. Indiscriminate scattering of costly disinfectants on masses of filth is useless and wasteful.

Dr. S. G. Moore of Huddersfield, decried the number of useless and sometimes injurious disinfectants on the market. Ordinary daylight and, in particular, bright sunshine, he said, were the best disinfectants. Next was oxygen, heat or steam, and common soft soap and water—not disinfectant soap—and with these, complete disinfection was satisfactorily and regularly carried out.

During the three days, visits were paid to Messrs. Guinness' Brewery, St. Patrick's Cathedral and the Iveagh Trust Buildings, the New Main Drainage Outfall Works and the Science and Art Museum, Kildare Street. Social functions included a Garden Party at the Vice-Regal Lodge, Phoenix Park, on the invitation of the Lord Lieutenant and the Countess of Aberdeen, and a Smoking Concert at the Mansion House, by invitation of the Lord Mayor of Dublin.

The International Exhibition held in the city at the time, in which an opening lunch was held on the first day, also proved an attraction to the visitors.



58, Romford Road,  
Stratford, *Sept.* 26, 1907.

GRADUATES, APPRENTICE ENGINEERS, who propose to compete for the prize (value £3 3s.) offered by Mr. A. E. Battle (Member of Council) for the best essay on "A Visit to the Engineering Exhibition," must comply with the following rules:—

The Essay to be—

- 1.—The certified sole work of the competitor.
- 2.—To be not more than 3,000 words.
- 3.—To be delivered addressed to "The Institute of Marine Engineers, 58, Romford Road, Stratford," and marked "Prize Essay," not later than November 1.
- 4.—To be marked at the end of the essay with a *nom de plume*, and a sealed envelope inside, containing the name and address of the competitor, with a note certifying the essay to be his sole work, the outside of this sealed envelope to bear the *nom de plume*.

#### NOTICE.

THE BOHEMIAN CONCERTS, which formed a pleasant feature during last session, will be resumed on Friday, October 11. Others will follow once a month approximately on the invitation of office bearers and members of Council as may be announced in subsequent issues when arranged.

Invitation cards will be issued at the ordinary meetings of the Institute on Monday evenings preceding the concerts.

J. A.



# C. E. HEINKE & Co.,

Established 1828.

*Submarine Engineers,*

Actual Manufacturers of

## DIVING APPARATUS

of every description

For SALVAGE, DOCK, HARBOUR and  
NAVAL WORK,

Diving  
Pumps,  
Helmets,  
Dresses,  
Hose,  
Patent  
Telephone  
Electric  
Lamps,  
all made  
at our  
Works.



Divers  
and  
Diving  
Gear  
ready  
for  
Despatch  
anywhere  
at a  
moment's  
notice.

Diver Stepping on Ladder to Descend.

**87, 88 and 89, Grange Road, BERMONDSEY, LONDON, S.E.**

---

Telegrams, "Heindig," London, A B C Codes. Telephone, 1998, Hop.

---

Over ONE THOUSAND of our DIVING PUMPS  
are in daily use in The World's  
Pearl Fisheries.