that it will be necessary to discuss it at greater length, particularly as a public health congress is about to meet at Folkestone, within two miles of these homes.

ON the retirement of His Majesty the King from the office of President of St. Bartholomew's Hospital the governors decided to commemorate that illustrious presidency, which had extended over a period of 34 years, by procuring, by subscription amongst themselves, a portrait of His Majesty. That portrait, with His Majesty's permission, has been painted by Mr. Luke Fildes, R.A., and is a replica of the well-known picture exhibited in the Royal Academy in 1901. It has been placed in the great hall of the hospital.

Mr. A. Forbes Sieveking, son of the late Sir Edward Sieveking, is requesting the loan of any of his father's letters to assist him in writing an extended biography of this distinguished physician. The letters, or copies of them, as well as any memoranda of a personal kind illustrating Sir Edward Sieveking's character, should be sent to Mr. Sieveking at 12, Seymour-street, Portman-square, London, W.

THE annual dinner of the West London Hospital will be held at the Trocadéro Restaurant on Saturday, June 25th, when Dr. J. Barry Ball will occupy the chair. All those connected either with the Post-Graduate College or by past and present service with the hospital will be welcome. Communications should be made to Mr. L. A. Bidwell.

A MEETING of the Royal Medical and Chirurgical Society will be held on Tuesday, May 31st, at 8.30 P.M., at 20, Hanover-square, London, W., when Dr. W. P. Herringham and Dr. W. A. Wills will read a paper on the Elasticity of the Aorta, being a contribution to the Study of Arterial Sclerosis, which will be followed by a discussion.

Sir Dyce Duckworth delivered an address before the British Balneological and Climatological Society at 20, Hanover-square, London, W., on May 18th on the subject of British Winter Resorts. The address was followed by the annual dinner of the society and a smoking concert at the Criterion Restaurant.

Sir William H. Broadbent, Bart., Dr. Nathan Raw, and Dr. A. P. Hillier have been appointed to represent the British National Association for the Prevention of Consumption and other Forms of Tuberculosis at the International Conference on Tuberculosis now being held in Copenhagen.

THE forty-fourth annual dinner of King's College, London, will be held at the Hotel Cecil, on Monday, June 20th, when the Marquess of Salisbury will occupy the chair. Communications should be made to Mr. John Chapman, honorary secretary of the committee, at King's College, London.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—The authorities of this College have recently adopted regulations for academical costume. The general body of the Fellows are authorised to wear a black stuff Master of Arts gown, faced with a St. Patrick's blue Irish poplin border five inches in width, narrowing round the collar behind and extending to each end of the gown in front. Inside of the blue poplin there shall be a crimson Irish poplin lining five inches in width and of similar extent as the blue. The cap is black velvet with St. Patrick's blue and crimson tassel. The Licentiate's costume is similar but the poplin facings and linings are only two inches in width and the cap is black cloth with a black tassel. The gowns and caps may be worn at all public functions, College ceremonials, State and civic public meetings, and on all occasions when academical costume is worn by the Fellows of the Royal Colleges of Surgeons of England and Edinburgh.

EPIDEMIC OF PLAGUE IN JOHANNESBURG.

BY WALTER C. C. PAKES, M.R.C.S. ENG., L.R.C.P. LOND.,
MEDICAL OFFICER OF HEALTH, RAND PLAGUE COMMITTEE.

Previous Precautionary Measures.

PLAGUE having existed for many months on the south and east coasts of South Africa it was obvious to those who had charge of the public health in the Transvaal that sooner or later it was highly probable that the Transvaal would be visited by the disease. In order if possible to prepare for such an epidemic the medical officer of health of the Transvaal, the medical officer of health of Johannesburg, and the Government bacteriologist had all made arrangements for (1) preventing if possible the influx of plague into the Transvaal and (2) dealing with it should it arise.

These arrangements consisted of: 1 (as regards the medical officer of health of the Transvaal). The appointment of a special plague officer at Volksrust (the first town on the Natal line in the Transvaal), the establishment of an observation camp at Vereeniging, a general supervision of Asiatics, natives, and so on. 2 (as regards the medical officer of health of Johannesburg). It was felt that as Johannesburg was the point to which the vast majority of the traffic tended the first signs of plague would arise in that city whether in the human subject or in the rat. As early as February, 1903, the medical officer of health of Johannesburg sent out circulars to the local medical profession containing extracts from the Plague Memorandum, dated September, 1900, by Mr. R. H. Power. These circulars described the symptomatology of the disease and gave full directions for obtaining and forwarding for bacterioscopic examination material from suspected plague cases. He recommended and the Johannesburg town council, in connexion with the Government, organised a plague camp within the confines of the Government lazaretto at Rietfontein in order that immediately upon the outbreak of plague all such cases as well as suspicious cases could be transferred at once. 3 (as regards the Government bacteriologist). The Government laboratories were specially developed in order to be able to undertake the bacteriological diagnosis of this disease even on a large scale. In January, 1903, the general manager of the Central South African railways was requested (1) to issue instructions to all his employés upon the lines of communication from the Cape, Natal, and the Portuguese borders to be on the look-out for any dead rats, and (2) to request the responsible officials where such were found to send them to the Government laboratories for diagnosis. The Johannesburg municipality appointed a professional rat-catcher and all dead rats found by him were sent to the laboratories for bacteriological examination and there examined.

The first intimation of the existence of plague in this colony was obtained by the Government laboratories in April, 1903, when a dead rat was sent to the laboratories from Johannesburg. This rat was shown to have died from plague. Between the previously mentioned date and the outbreak of plague in Johannesburg 13 rats were found to have died from plague. These rats came from different neighbourhoods in Johannesburg and the most careful inquiry failed to reveal the slightest connexion between any two spots from which dead rats had been obtained. The inevitable conclusion was that these rats had been imported singly from the coast in grain or forage. Each place from which a plague-stricken rat had been taken was visited by the rat-catchers and disinfectors and cleaned up. It is a noteworthy fact that it only once occurred that a second rat was obtained from the same place. The authorities did not confine their attention to rats; cats and dogs, and by chance ducks, fowls, and small birds, came under bacteriological observation, with the result that, although the rest proved negative, one cat was certainly found to have died from plague and this fact was also notified to the Government.

The Government laboratories had received from the Chamber of Mines a grant of money to be expended in investigating the various causes of pneumonia occurring on the Rand, with especial reference to the deaths among the coloured population. The examination of the rats and the investigation into pneumonia in the human subject were

being carried on side by side in the same laboratory and by the same observers. It is practically impossible, therefore, as the Government laboratories were endeavouring to find the various causes of pneumonia in this country, that they should have failed to identify in the sputa which they were examining an organism which they were finding in the rats. It can therefore be asserted with confidence that no material from a case of plague in the human subject had been sent to the Government laboratories before March 19th, 1904. During the course of 1903 there was a scare of plague. This has been reported by the medical officer of health of Johannesburg in his annual report and this report has been sent to England. The Government laboratories certified these cases as cases of either streptococcal septicæmia or pneumococcal septicæmia. It may be suggested that the evidence of the bacteriologist was not sufficient and that the failure to isolate the plague bacillus from these cases was not conclusive evidence; but a careful consideration of the whole of the circumstances surrounding those cases (with two exceptions) showed that the bacteriological diagnosis coincided with the clinical and post-mortem appearances. The two cases in question were cases of natives who had suffered, according to the clinical and post-mortem reports, from adenitis. From these two cases an extremely pathogenic pneumococcus was isolated and the bacteriologist certified the cause of death as pneumococcal septicæmia. It may here be remarked that in this colony the pneumococcus produces conditions which are rarely met with elsewhere and many clinicians have found that in epidemics of pneumonia long prior to the introduction of plague into this country natives suffering from the usual pneumococcal disease did suffer from adenitis. The death returns showed that there was immediately preceding the outbreak of plague a slightly increased mortality from what was certified as pneumonia in the coolie location and the adjacent district of Burghersdorp. This was not altogether unanticipated either by the medical faculty or the health authorities since there had been three weeks of unprecedented wet, misty weather succeeded by a sudden fall in the temperature and cessation of rain.

The Present Epidemic.

Nothing of an alarming nature was brought before the health authorities of Johannesburg until the evening of March 18th, 1904, when the health inspector of the municipality informed the district surgeon of Johannesburg that he had found in the coolie location a large number of sick persons collected together. The assistant district surgeon was instructed to visit the place in question and he reported to the district surgeon that he found a number of sick Asiatics suffering from what appeared to him to be pneumonia in a house in the coolie location. At 6.30 A.M. on March 19th the district surgeon, the acting medical officer of health of Johannesburg, and the assistant bacteriologist for the Transvaal visited the house in the location. They found five corpses and 12 cases of sick in a four-roomed house.

The post-mortem examinations revealed nothing which could not be explained by death from pneumonia. There was not a single classical symptom of death from plague; the spleens were not enlarged and were not markedly hyperæmic; there were no ecchymoses or hæmorrhages; the organs, with the exception of the lungs, were normal. The lungs showed patchy pneumonic consolidation of the lobular type and although a very careful search was made for enlarged glands none were found. It is to be remarked that not even a single bronchial gland was found. Portions of the lung on bacteriological examination showed organisms morphologically identical with the plague bacillus. Owing to the insanitary condition of the coolie location and to the large and unknown number of cases in that location it was decided to cordon the whole area in order, if possible, to keep the actually infected people within a limited area. The cordon was formed at 4 A.M. on March 20th and on the same day at 9 A.M. an emergency meeting of members of the Johannesburg town council was held, when the acting medical officer of health and the district surgeon were instructed to take all necessary steps. By 9 A.M. on March 20th further deaths had taken place, making a total of 26 deaths in 36 hours. It is to be remarked here that not a single case of these showed any signs of buboes. On March 22nd the Government published plague regulations and constituted the Rand Plague Committee, composed of ten members from Johannesburg and representatives from the various local authorities within the

Witwatersrand area. This committee was given plenary powers to deal with the outbreak within that area and to establish plague and isolation camps.

One of the first decisions arrived at by the plague committee was to remove the whole of the population of the coolie location to some site outside the town and the transfer of the population within the cordoned area to the segregation camp was completed on March 30th. This population consisted of 1600 Asiatics, 1358 natives, and 142 coloured people, making a total of 3100 transferred to the segregation camp. During the incubation period of the disease only one death from plague occurred. After 12 days' interval the inhabitants of the segregation camp were allowed to come and go under certain nominal restrictions. On April 8th the coolie location was burned to the ground. In order to prevent the escape of rats, cats, dogs, fowls, and other creatures a galvanised iron fence was put up round this location and the various animals and birds which had not been previously caught and destroyed were then caught, killed, and burnt in the fire.

Methods Adopted for Coping with the Epidemic.

The plague committee has carried out in the main the recommendations of the Durban Plague Congress. "Contacts" are not segregated; so far as possible they are kept under observation but their movements are limited to the least possible extent. "Suspects" are isolated as such in a suspect camp adjoining the plague camp at Rietfontein; with the exception of the medical officers the suspect and plague camps at Rietfontein are treated as separate entities. So far as possible the methods adopted are early notification, removal and complete disinfection of all suspects, and observation of contacts. The natives working on the mines within the Witwatersrand area are inspected daily by the compound managers and any natives who are found to be sick are at once examined by the mine medical officer. It has been made compulsory upon all employers of natives to have every sick native medically examined within 24 hours of his falling sick. In order to minimise the spread of the disease no Asiatic is allowed to travel by rail, even within the limits of the colony, unless he receives a clean bill of health from the medical examining officer. During the period from March 29th to April 19th there have been 14,010 natives brought under medical observation and one case of plague and seven suspects have been detected and transferred either to the plague or suspect hospital. The total number of deaths from plague recorded from March 18th to April 23rd in Johannesburg district and the Rand area was 76—namely, eight whites, 52 Asiatics, and 16 natives. How the disease originated has not yet been discovered but the following may be accepted as established facts: (1) There has not been up to the present moment anything approaching an epizootic; (2) it is unlikely that there were more than one or two bubonic cases preceding the epidemic for the reasons above mentioned unless there had been unrecognised cases of pestis minor; and (3) the disease might not have been diagnosed for many days after March 18th had there not been a sudden explosion which from a scientific point of view was almost as interesting as it was alarming.

ÉTABLISSEMENT HIVERNAL ET THERMO-MINÉRAL D'HAMMAM-R'HIRA (ALGÉRIE).

BY D. W. KEILLER MOODY, M.D., C.M. ABERD.

IN December, 1903, I was sent in charge of a patient who was ordered to winter in Algiers. While there, and on the advice of Dr. A. Thompson, the resident English medical man, I went to Hammam R'Hira to see the baths. I had never before heard of the place and I believe there are hundreds of medical men who can say the same. It has, however, been visited by several eminent medical men, and among others by the late Sir Morell Mackenzie, by Sir Lauder Brunton,¹ by Mr. G. D. Pollock who says: "I know of no place offering similar advantages within the same distance and as accessible to London"²; and by Dr. R. A. Gibbons

¹ Practitioner, April, 1881.

² THE LANCET, March 5th, 1881, p. 362.