

THE LANCET

FEBRUARY 22, 1890

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THE HYDERABAD CHLOROFORM COMMISSIONS.

IN the report of the Second Hyderabad Chloroform Commission, which appeared in *THE LANCET* of Jan. 18th last, an account was given of the reasons which induced Surgeon-Major Lawrie to apply for a Commission to investigate the action of chloroform, and led to the appointment, at his request, of the First Chloroform Commission in 1888. The report of this Commission, as mentioned in Clause 7 of the Report of the Second Commission, is republished as Appendix A to that report. We now reprint it in *THE LANCET*, as it contains the experimental data on which Surgeon-Major Lawrie founded the remarks on which we commented in *THE LANCET* of March 2nd, 1889. Our comments ultimately led to the appointment of the Second Commission, to which Dr. Lauder Brunton went as our representative; and the first part of the work of the Second Commission consisted in repeating and extending the experiments of the first. The reports of both Commissions, therefore, form parts of a single research, and the experiments in the first report, being of a simpler kind, form an excellent introduction to the work of the Second Commission, which we shall publish in future numbers of *THE LANCET*.

APPENDIX A

TO THE

REPORT OF THE SECOND HYDERABAD CHLOROFORM COMMISSION.

THE REPORT OF THE FIRST HYDERABAD CHLOROFORM COMMISSION.

*From Surgeon P. Hehir, M.D., F.R.C.S. Ed., President,
Hyderabad Chloroform Commission, Hyderabad, to
Surgeon-Major E. Lawrie, M.D., Principal, Hyderabad
Medical School, Hyderabad.*

IN accordance with the directions contained in your letter No. 141-A of Jan. 18th, 1888, I have the honour to state that the Chloroform Commission appointed by his Highness the Nizam's Government carried out 141 experiments on the effects of chloroform on dogs, and to submit the attached report with its appendices as the result of their researches.

(Signed) P. HEHIR, F.R.C.S. Ed.,
Hyderabad Chloroform Commission, Hyderabad.

REPORT.

1. At the recommendation of Surgeon-Major E. Lawrie, M.B., Indian Medical Service, Residency Surgeon, and Principal of the Hyderabad Medical School, his Highness the Nizam's Government appointed a Commission, consisting of a President and two members, to make a series of investigations in connexion with the effects of chloroform on dogs.

2. The following report by the Commission embodies the results of the experiments undertaken.

3. The experiments were commenced on Feb. 8th, 1888, and conducted from 11 A.M. to 3 P.M. daily in the verandah of the private ward of the Residency Hospital.

4. In this report the Commission have incorporated in detail the experiments performed upon 141 dogs with chloroform vapour by inhalation. This number, however, does not embrace all the experiments carried out, for many dogs were anaesthetised twice, and a few three or more times.

5. The Commission were not influenced in their investigations by experiments carried out previously by other observers.

6. It was decided to ascertain the influence of chloroform vapour on the circulation and respiration, and inquiries were mainly directed to the discovery of the exact relationship that exists in the dog, in point of time between the cessation of the respiration and of the heart's action.

7. A further object was to find out to what extent the heart is affected, primarily or secondarily, in poisoning by the inhalation of chloroform vapour. The Commission consider that the data collected definitely settle these questions. In no experiments hitherto performed, as far as can be ascertained from such English medical journals, reports, and text-books as are accessible, has the relation of the respiration to circulation during chloroform anaesthesia of animals been specially attended to, although the influence of the former on the latter is casually mentioned in several reports and medical periodicals.

8. The experiments were divided into the following four series, in which the dogs were:—

(I.) Anaesthetised until death took place—eight experiments recorded;

(II.) Chloroformed with large doses of the drug, and the

effects of artificial respiration noted—in this series seventy-five experiments are recorded;

(III.) Gradually anaesthetised with drachm doses of chloroform, with and without artificial respiration—seventeen experiments recorded; and

(IV.) Poisoned rapidly with large doses of concentrated chloroform vapour as far as possible without admixture with air—forty-one experiments recorded.

9. In each series the time of the occurrence of the following events were noted: (*a*) commencement of the inhalation; (*b*) when fully under chloroform; (*c*) when respiration ceased; (*d*) when the pulse stopped; (*e*) when artificial respiration was begun; (*f*) when the pulse returned; (*g*) when natural respiration was re-established; and (*h*) when the heart's action ceased.

10. Of the three observers, one confined his attention to the condition of the femoral artery, the second observed the state of the heart's action, and the third watched the respiration and recorded the time. If any doubt existed as to the condition of the pulse, heart, or respiration at any particular moment, a single opinion was not relied on.

12 (*sec*). Of the 141 animals experimented on, 113 were strong, full-grown, healthy pariah dogs and sluts; 25 were well-grown, pariah pups about eight months old; and 3 were healthy mongrel terriers.

13. The weight and size of the dog did not give rise to any noteworthy peculiarities during the administration of chloroform except such as might have been naturally expected; the larger and more powerful the dog, the more pronounced the struggling during the initial stage of the administration; the smaller the dog, the smaller the quantity of chloroform required to produce anaesthesia. The approximate similarity of results indicates that the weight of the animal is not an element that demands any special consideration.

14. The chloroform was administered from a conical cap made of two folds of coarse cotton cloth (*dungaree*), at the bottom of which some cotton-wool was placed. Free admixture of the chloroform vapour with air was allowed in all but those cases in which it was purposely excluded (fourth series), and to effect this latter purpose a layer of mackintosh was tightly stretched outside the inhaler, which was fixed as to exclude the air almost entirely.

15. About half the dogs had been deprived of food for twenty-four hours before being experimented on. The condition of the stomach as to fulness or otherwise was apparently of no consequence, for in no case did actual vomiting ensue, although attempts at retching were made in several instances.

16. Before commencing the administration of the anaesthetic, the animals were muzzled and their fore and hind legs secured to the table. After the first stage of the anaesthesia was induced, directly they got quiet, the muzzle and leg band were removed, so that there was nothing to interfere with the movements of respiration or the circulation.

17. The animal was considered to be completely under chloroform when, with the cessation of the conjunctival reflex, the general muscular system was relaxed. A very small quantity of chloroform, and that at intervals, was then needed to keep up the anaesthetic effect.

18. The purity of the chloroform was guaranteed by using that made by Messrs. Duncan and Flockart, of Edinburgh.

19. We have considered it better to place the groups of experiments separately than to give them collectively; and to make such remarks on them *seriatim* as the facts connected with each appear to warrant. We give the actual tables in the form of appendices, but attach to each series

an abstract showing the mean, maximum, and minimum of time that elapsed between the different events noted.

FIRST SERIES.

Dogs chloroformed till Death.

20. This collection of experiments was undertaken with the view to ascertain the natural sequence of phenomena in the dog poisoned by chloroform vapour.

21. The facts registered showed us what was to be expected in the succeeding series. This group might have been extended, but the comparative uniformity of the results made it unnecessary.

22. The drug was given the same way as it is administered to patients at the Residency and Afzul Gunj Hospitals—i. e., an unmeasured quantity of chloroform was poured into the cloth inhaler, and free admixture with air allowed during inhalation. In this group we pushed the chloroform beyond the stage of complete anaesthesia, and stopped the administration only when respiration had entirely ceased.

The sequence of events was then noted.

The interval of time that elapsed between the different incidents registered in the first series is as follows:—

No.	Nature of observation.	Interval of time.					
		Mean.		Maximum.		Minimum.	
		Min.	Sec.	Min.	Sec.	Min.	Sec.
1	Between cessation of respiration and stoppage of heart's action	3	27.5	5.0	..	1	15.0
2	Between cessation of respiration and stoppage of pulse	1	31.3	3	30.0	..	100
3	Between stoppage of pulse and that of heart's action	1	56.1	3	13.0	..	50.0
4	Between commencement of inhalation and cessation of respiration	7	6.1	16	30.0	1	5.0

These events are in what is considered to be the order of their practical importance. The average interval of time between the cessation of the respiration and that of the heart's action is, however, by far the most significant, and amounted to nearly three minutes and a half.

It was found that each animal passed through three stages: 1. A stage of excitement during which there was a temporary exaltation of the functions of the cerebrum and of the circulation; in powerful animals there was much struggling, and in all the blood pressure was raised. 2. These phenomena were followed by a partial relaxation of the voluntary muscular system, and a gradual lowering of the force and decrease in the volume of the pulse. The respirations were now more regular and tranquil. 3. This passed rapidly into the third stage, in which there were cessation of reflex action, of complete muscular relaxation, and complete anaesthesia.

23. The effects of chloroform vapour on the dog appear to be, primarily, those of a stimulant on the cortical part of the cerebrum, bringing about a discharge of motor impulses represented by struggling—partly voluntary and partly involuntary. As the blood becomes more charged with the vapour an impairment of voluntary muscular power takes place; the functions of the cells of the motor centres are then materially impaired. At this stage reflex action is still possible, for the spinal cord has not been to a similar degree affected by the chloroform. The cord is eventually involved, and then the only remaining manifestations of vitality are the action of the heart and of the respiratory muscles.

It was exceedingly interesting to observe the variations in the characters of the pulse and heart's action during the several stages of chloroform administration.

24. In the pulse there was primarily a slight and temporary increase in frequency and volume immediately after commencing the inhalation, followed by a decrease in volume and in blood pressure, but no alteration in frequency. In the stage of complete anaesthesia the arteries relaxed, and the number of beats decreased. In the second group of experiments (those of slow poisoning) the pulse in some cases became intermittent shortly after the cessation of respiration, and in the fourth series (rapid poisoning with exclusion of air), the pulse in several cases returned for a few beats after being absent for some seconds.

25. Although a gradual loss of tension in the arteries took place after the first stage, the ratio decrease of tension was more abrupt when the respiration became affected,

the slowing of the respiration was always succeeded by a sudden increase in the relaxation in the coats of the femoral artery and a fall of tension.

26. With regard to the heart's action it was observed that a transient stimulation of its force and increase of its frequency during the stage of excitement were speedily succeeded by a gradual decrease of the force of the systolic contraction of the ventricles. The first sound now appeared prolonged (as if the ventricles took a longer period to contract), and after the cessation of the respiration it soon became muffled. The intervals between the beats became longer. This was the moment chosen, as a rule, for artificial respiration in the three succeeding groups of experiments.

27. In this series, just as the heart was about to cease acting its frequency would become markedly increased (so rapid, indeed, as to be uncountable), and then it would cease contracting. In a number of the second collection of experiments intermission of the heart's action took place after cessation of respiration.

These were the main features observed in connexion with the circulatory apparatus. Others of minor importance were exceptionally manifested.

28. In some of the eight cases of this group, and in many of those in the following series, so rapidly was the anaesthesia induced that the second stage was absent entirely, the animal appearing to pass directly from struggling to complete anaesthesia.

29. In these eight cases, and in most of those of the other groups, we noticed complete dilatation of the pupils during the last stages of anaesthesia. This total mydriasis is an indication of approaching cessation of respiration, and consequently may be a point deserving of some attention during the chloroforming of dogs.

30. Roughly, we found the succession of phenomena to be (1) partial loss of sensation with slightly increased reflex irritability, followed by (2) complete loss of sensation and of reflex action; (3) cessation of respiration; (4) absence of pulse of femoral artery; and finally (5) stoppage of heart's action.

31. Although the intervals of time between the occurrence of these events varied within wide limits in different cases, in no instance was the sequence modified.

The heart's action never became dangerously affected or stopped until after cessation of respiration.

SECOND SERIES.

ARTIFICIAL RESPIRATION AFTER ARREST OF COMPLETE ANAESTHESIA.

32. In this collection of experiments anaesthesia was brought about by large doses of chloroform. Artificial respiration was tried in various stages of the anaesthesia, and in addition to the events given in the preceding class of experiments, the length of time it took to produce insensibility was noted.

The intervals of time that elapsed between the several events are as follows:—

No.	Nature of observation.	Interval of time.					
		Mean.		Maximum.		Minimum.	
		Min.	Sec.	Min.	Sec.	Min.	Sec.
1	Between the commencement of the inhalation and the stage of complete anaesthesia	2	5.5	8	..	..	40.0
2	Between stoppage of respiration and pulse . . . . .	..	47.90	6	15.0	..	5.0
3	Between stage of complete anaesthesia and cessation of respiration	4	45.3	13	10	..	20.0
4	Between stoppage of pulse and heart	3	0.5	13	26	..	13
5	Between cessation of respiration and stoppage of heart's action	3	47.5	13	40.0	..	45.0
6	Between cessation of respiration and commencement of artificial respiration	1	34.25	9	40	..	5
7	Between commencement of artificial respiration and return of pulse	2	12.3	6	10.0	..	10.0

In the above abstract the points deserving of special attention appear to be:—

(1) The rapidity with which dogs are completely anaesthetised with chloroform—an average of a little more than two minutes.

(2) The fact that the pulse went on beating for about three-quarters of a minute after the respiration ceased, and in one case for 6½ minutes.

(3) That the heart went on beating for three (and in one case for 13¾) minutes after the pulse had ceased to be felt.

(4) That the heart continued to act for 3¼ (and in one case for 13¾) minutes after the breathing had stopped.

(5) The average time allowed to elapse before commencing artificial respiration (after the breathing had ceased) was about a minute and a half.

33. In thirty-seven experiments of this group artificial respiration was commenced on an average fifty-two seconds after complete cessation of respiration. All the animals were resuscitated.

34. In forty-six experiments artificial respiration was begun immediately after the pulse could no longer be felt; in twenty-nine it was successful; in seventeen it failed.

35. In twenty-one cases artificial respiration was commenced after the heart's action had ceased; in all it proved unsuccessful.

36. It is generally recognised and taught that in the chloroforming of human beings the greatest danger arises during the initial stage from either cardiac syncope, due to the drug acting on the inter-cardiac nervous ganglia, from reflex inhibition of the heart's action brought about by irritation of the terminations of the sensory or afferent nerves in some part of the respiratory passages, or from "shock" during the performance of some operation. The Commission have endeavoured to ascertain how far these views could be substantiated in the chloroform anæsthesia of dogs.

The following are the deductions made:—

(1) In no case did arrest of cardiac action from syncope take place during the first stage—nor indeed in any other stage.

(2) In no case was there reflex inhibition of the heart's action in this or in any other stage.

(3) The inhalation of chloroform vapour, no matter in what doses or in what manner carried out, cannot kill a dog by acting directly upon its heart. We must invariably affect the nervous mechanism of respiration before involving the cardiac centres of the medulla oblongata or affecting the contractions of the ventricles and auricles to any extent.

(4) The Commission further consider that chloroform vapour administered to dogs never kills by acting on the intra-cardiac ganglia either primarily or secondarily. It is impossible to produce syncope from chloroform in dogs.

37. One noteworthy fact observed in this series is that in those cases in which the respiratory process was gradually extinguished the pulse became imperceptible with unusual rapidity after the breathing ceased, and in such cases it required more prolonged artificial respiration to revive the animal. This contrasts with what was found to be the case with the dogs of the fourth series, in which it was found that the larger the dose of the chloroform administered, the more rapidly is the anæsthesia produced; the longer the pulse was felt to beat after cessation of respiration, and the less the difficulty in re-establishing the respiration by artificial means.

38. In some instances, so gradual was the cessation of the action of the respiratory muscles that it was not easy to distinguish the precise moment at which respiration stopped.

39. In this group of experiments the influence of the respiratory process on the circulation became markedly apparent when the former ceased. The failure in the volume of the pulse in the later stages of slow poisoning was almost in exact proportion to the failure of the respiratory function.

40. The Commission are of opinion that in the dog the danger to life from chloroform inhalation arises only when the cells of the respiratory centres (both respiratory and expiratory) of the medulla oblongata have their functions interfered with.

41. So long as respiration is going on uninterruptedly, the chloroform vapour is rapidly given off in the expired air. Disturbance of this eliminative process, as manifested by shallow, jerky, or irregular breathing, forms the only dangerous phenomenon to be encountered in the chloroformisation of dogs.

42. The main practical point brought out by this series of experiments is that the strictest attention must be paid to the respiration throughout. So long as the respiration was watched and advantage taken of the moment it ceased to perform artificial respiration, no danger arose. Further, alternate chloroformisation till the complete stoppage of respiration and re-establishment of respiration by artificial

means might have been repeated on the same animal as often as we wished without the least risk to life.

43. The manner in which the animals respired during the inhalation affected, to some degree, the rapidity of the onset of the anæsthesia. This is well shown in the difference in the length of time it took to get some of the dogs (in all physical conditions identical) completely under the influence of the drug.

44. It was observed that irregular sighing, or shallow respiration, was in this series an indication for removal of the inhaler.

45. Stertor is not an indication of incipient respiratory difficulty in dogs.

46. Mechanical asphyxia from falling back of the tongue occurred in several cases during complete anæsthesia. It was readily remedied by opening the dog's mouth widely and drawing out the tongue.

47. In a number of cases there was frothing at the mouth.

48. In many of these experiments it was noticed that the return to consciousness was extremely rapid. Some dogs became sensible within two minutes.

49. This appears to indicate a speedy elimination of the drug. In most cases in which return to consciousness was permitted, the period of somnolence was very brief. It may be inferred from this that no great structural, metabolic, or chemical change can occur in the protoplasm of the grey cells of the central cortex during the anæsthesia. Probably no material, or at least appreciable, alteration does occur. The effects of chloroform appear to be such as would bring about a temporary abrogation of the physiological functions of the cells of the higher nerve centres.

50. During the stage of excitement in many cases there was relaxation of the sphincters of the bladder and anus, resulting in micturition and defecation. More rarely there was erection of the penis and seminal discharge.

51. Towards the end of the stage of struggling, in several instances we noticed that chronic spasms occurred in the extremities. They were very evanescent.

52. When any animal rigidity of the abdominal muscles appeared (this phenomenon being almost exclusively confined to the first stage) a few sharp slaps with the open hand was sufficient to re-excite respiration. It was further observed that struggling demanded that the chloroform be pushed and not withheld.

THIRD SERIES.

DOGS GRADUALLY ANÆSTHETISED WITH CHLOROFORM.

53. In the seventeen cases recorded in this group the anæsthetic was used in drachm doses. As will be seen from the figures given below, it took longer to render the animals insensible with those smaller doses. The average maxima and minima of time that lapsed between the several events that were registered are as follows:—

No.	Nature of observation.	Interval of time.					
		Mean.		Maximum.		Minimum.	
		Min.	Sec.	Min.	Sec.	Min.	Sec.
1	Between the commencement of inhalation and complete anæsthesia ..	2	34.25	5	10.0	..	37.0
2	Between complete anæsthesia and stoppage of respiration ..	6	59.12	13	27.0	1	5
3	Between cessation of respiration and stoppage of pulse ..	..	47.5	3	21.0	..	8.0
4	Between stoppage of pulse and beating of heart ..	2	16.5	4	48	..	35

These results are, on the whole, identical with those given in the preceding groups of experiments. The only noteworthy difference is in the rapidity with which the heart ceases to beat in very slow chloroformisation (two minutes and a quarter) as compared with anæsthesia more rapidly induced.

54. Artificial respiration was tried in five of these experiments when the heart's sounds were barely audible, and had almost stopped. In one case the animal revived.

55. In this series when the breathing had become shallow and less frequent a few whiffs of the chloroform were sufficient to cause its entire cessation.

FOURTH SERIES.

DOGS RAPIDLY ANÆSTHETISED WITH CHLOROFORM VAPOUR WITHOUT ADMIXTURE WITH AIR.

56. In the 41 cases enumerated in Appendix IV. the animals were poisoned with large doses of chloroform,

while special precautions were taken to prevent admixture of the vapour with air.

The intervals of time between the different events noted were as under :—

No.	Nature of observation.	Interval of time.					
		Mean.		Maximum.		Minimum.	
		Min.	Sec.	Min.	Sec.	Min.	Sec.
1	Between commencement of inhalation and complete anaesthesia	1	15.8	2	57	..	26
2	Between complete anaesthesia and cessation of respiration	2	11.33	9	28	..	10
3	Between stoppage of respiration and pulse	1	9.6	7	52	..	5
4	Between stoppage of pulse and heart's action	2	33.6	7	1	..	53

The points deserving of notice here are :—(1) the rapidity with which anaesthesia is produced with large doses of chloroform, the average time being one minute and a quarter, and (2) the fact that the cardiac action is less hampered than in anaesthesia produced gradually.

57. Artificial respiration was tried in one of these cases, and proved successful, when the pulse had ceased for twenty-eight seconds.

58. In sixteen cases, before the inhalation was begun, one drachm to two drachms of rum were administered. The stimulant produced no appreciable result.

59. In three cases after respiration had ceased, faradaic electricity was used to re-establish respiration. It proved unsuccessful in all.

60. The experiments recorded lead the Commission to consider that dogs are very susceptible to anaesthesia by chloroform vapour. Insensibility is rapidly induced, and these animals are easily killed by chloroform. The susceptibility varied somewhat with the size of the animal. In strong and healthy dogs, however, the results were comparatively uniform, although the differences between the maxima and minima of certain events might lead to the opposite conclusion.

The main point in the chloroforming of dogs is to watch the breathing. In all cases where artificial respiration was begun immediately the natural respiration ceased the animal recovered.

Artificial respiration is useless in the vast majority of cases if respiration has ceased for more than fifty seconds, and even after fifty seconds it is not invariably successful.

The animals could be revived in almost every case if not more than thirty seconds had elapsed after cessation of natural breathing.

In no case was artificial respiration of use after the heart had ceased to beat, and in only one case was it successful when the heart's sounds were barely audible.

Rapid induction of anaesthesia is succeeded by rapid elimination of the chloroform.

There is very little tendency to a cumulative effect of the chloroform as long as the process of respiration is not interfered with. Such an effect is, however, distinctly marked when the quantity of air leaving the lungs is materially decreased.

The more concentrated the vapour the more rapid the anaesthesia, and (unless an over-dose be given, which would interfere with the functions of the respiratory centre, and therefore with the elimination of the chloroform) the more rapidly is the return to consciousness re-established. In no case did the heart cease acting before the respiratory muscles. In no case during the anaesthesia did the irritation of the vapour on the terminal fibres of the afferent nerves of the nasal, pharyngeal, laryngeal, or pulmonary mucous surfaces or impulses from any other afferent nerves produce anything simulating reflex inhibition of the heart's action.

In no case did cardiac syncope occur. The Commission consider that it is impossible for chloroform vapour to kill a dog by acting primarily on the heart, and this holds good no matter in what doses or in what manner the poisoning is induced.

It is the opinion of the Commission that death from chloroform narcosis in dogs is absolutely avoidable, and ought never to occur from surcharging of the blood with chloroform. Once anaesthesia is induced, so long as the respiration is kept up, there is no fear of a cumulative effect—the drug is rapidly eliminated. Interference with this elimination brings about changes in the respiratory mechanism which ought to arouse suspicion and prepare us for artificial respiration.

For convenience of reference we give the subjoined table of the intervals of time that elapsed between the principal events noted :—

Combined Table of Intervals of Time between the different events registered in all four Series.

Number.	Nature of observation.	Intervals of time.																							
		1st Series. CHCl ₃ administered in ordinary way.						2nd Series. Slow poisoning.						3rd Series. Slow poisoning with drachm doses.						4th Series. Rapid poisoning.					
		Mean.		Maximum.		Minimum.		Mean.		Maximum.		Minimum.		Mean.		Maximum.		Minimum.		Mean.		Maximum.		Minimum.	
M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.	M.	S.		
1	Between the commencement of the inhalation and the stage of complete anaesthesia . . . .	..	..	..	..	..	..	2	55	8	..	..	40.0	2	34.25	5	10.0	..	37.0	1	15.8	2	57	..	26
2	Between stoppage of respiration and of pulse	1	31.3	3	30.0	..	10.0	..	47.9	6	15	..	5.0	..	47.5	3	21.0	..	8.0	1	0.6	7	52	..	5.0
3	Between stage of complete anaesthesia and cessation of respiration . . . . .	..	..	..	..	..	..	4	45.3	13	10.0	..	20.0	6	59.12	13	27.0	1	5.0	2	11.33	9	28	..	10.0
4	Between stoppage of pulse and of heart	1	56.1	3	13.0	..	50.0	3	0.5	13	26	..	13	2	16.5	4	48	..	35	2	33.6	7	1	..	..
5	Between cessation of respiration and stoppage of heart's action	3	27.5	5.0	..	1	15.0	3	47.5	13	40.0	..	45.0	..	..	..	..	..	..	..	..	..	..	..	..
6	Between cessation of respiration and commencement of artificial respiration . . . . .	..	..	..	..	..	..	1	34.25	9	40	..	5	..	..	..	..	..	..	..	..	..	..	..	..
7	Between commencement of artificial respiration and return of pulse . . . . .	..	..	..	..	..	..	2	12.3	6	10.0	..	10.0	..	..	..	..	..	..	..	..	..	..	..	..
8	Between commencement of inhalation and cessation of respiration	7	6.1	16	30.0	1	5.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

In conclusion, the Commission would state that many other interesting phenomena might have been brought out on these experiments. Additional observations could have been made, but they would have tended to lessen the value of the special investigations in hand. Any supplementary notes taken at the time would have prevented that concentration of attention which the facts herein accumulated demanded. The nature of the data collected attest that the keenest watchfulness was indispensable throughout; the loss of a few seconds in any particular case would

have vitiated the experiment. The Commission would suggest the continuation of the experiments on dogs, but with such modifications as to permit of a more complete comparison between the phenomena of chloroformisation in the dog and in the human being, so that the points of contrast and agreement might be rendered more demonstrable.

PATRICK HEHIR, M.D., F.R.C.S.Ed.
ARTHUR CHAMARETTE, L.M.S.
J. A. KELLY, L.M.S.

SERIES I.—(8 EXPERIMENTS.)

APPENDIX NO. I.—Dogs "chloroformed" till death occurred.

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart ceased beating.	Remarks.
1	Full-grown, powerful pariah dog.	H. M. S. 11 30 0	No record taken.	H. M. S. 11 46 30	H. M. S. 11 50 0	Not tried.	..	..	H. M. S. 11 51 30	—
2	Pariah pup, slut, six months old.	12 5 0	Do.	12 8 45	12 9 10	Do.	..	..	12 10 0	—
3	Pariah pup, fairly nourished, six months old.	12 20 0	Do.	12 21 5	12 22 5	Do.	..	..	12 25 18	—
4	Full-grown, well-nourished pariah dog.	12 38 0	Do.	12 41 45	12 41 55	Do.	..	..	12 44 17	—
5	Pariah pup, five months old.	12 56 0	Do.	1 0 30	1 3 15	Do.	..	..	1 5 10	—
6	Powerful Binjari dog, full-grown.	1 14 0	Do.	1 24 0	1 24 10	Do.	..	..	1 27 4	—
7	Full-grown terrier slut.	2 27 0	Do.	2 37 6	2 38 45	Do.	..	..	2 40 0	—
8	Full-grown, well-nourished terrier slut.	2 45 0	Do.	2 52 8	2 54 40	Do.	..	..	2 56 10	—

SERIES II.—(75 EXPERIMENTS.)

APPENDIX NO. II.—Artificial respiration tried after large doses of chloroform.

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart ceased beating.	Remarks.
1	Well-nourished, full-grown pariah dog.	H. M. S. 12 30 0	No record taken.	H. M. S. 12 18 30	H. M. S. 12 19 10	H. M. S. 12 20 0	H. M. S. 12 21 0	H. M. S. 12 21 30	H. M. S. ..	Artificial respiration successful fifty seconds after stoppage of pulse.
2	Pariah pup, one year old.	12 45 0	Do.	12 50 0	12 51 10	12 51 10	..	..	12 52 20	Artificial respiration unsuccessful immediately after stoppage of pulse.
3	Well-nourished, powerful Binjari slut.	1 2 0	Do.	1 5 40	1 6 1	1 6 4	..	..	1 16 0	Artificial respiration unsuccessful three seconds after stoppage of pulse.
4	Full-grown pariah dog.	1 28 0	Do.	1 31 30	1 32 0	1 32 2	..	..	1 35 0	Artificial respiration unsuccessful two seconds after stoppage of pulse.
5	Healthy pariah pup, five months old.	2 14 0	Do.	2 30 30	2 30 45	2 30 45	2 32 0	2 35 40	..	Artificial respiration successful immediately on stoppage of pulse.
6	Well-nourished, full-grown pariah dog.	12 17 0	Do.	12 34 40	12 35 40	12 35 40	..	..	12 37 0	Artificial respiration immediately after stoppage of pulse; unsuccessful.
7	Ditto.	12 48 15	12 51 0	12 52 50	12 53 15	12 53 16	12 56 30	12 56 45	..	Artificial respiration one second after stoppage of pulse; successful.
8	Ditto.	1 2 0	1 3 40	1 7 30	1 8 30	1 8 30	1 9 45	1 10 10	..	Artificial respiration after stoppage of pulse; successful.
9	—	1 12 30	No record taken.	1 15 55	1 16 30	1 18 30	..	..	1 18 25	Artificial respiration after stoppage of heart; unsuccessful.
10	Well-fed, old pariah dog.	1 33 0	1 41 0	1 45 5	1 45 50	1 45 50	..	..	1 47 8	Artificial respiration after stoppage of pulse; unsuccessful.
11	Full-grown, healthy pariah slut.	2 10 0	2 12 30	2 19 50	2 20 45	2 20 45	2 30 40	2 25 30	..	Artificial respiration after stoppage of pulse; successful.
12	—	2 26 0	No record.	2 34 55	2 35 10	2 37 40	..	..	2 37 35	Artificial respiration after stoppage of heart; unsuccessful.
13	Well-fed, full-grown pariah dog.	2 45 0	2 47 15	2 55 10	2 56 0	2 56 0	2 56 15	2 57 20	..	Artificial respiration after stoppage of pulse; unsuccessful.
14	—	2 58 30	No record.	3 4 15	3 5 10	3 7 60	..	..	3 7 60	Artificial respiration after stoppage of heart; unsuccessful.
15	Healthy, full-grown pariah dog.	3 15 0	3 17 30	3 23 30	3 24 10	3 24 10	..	..	3 25 0	Artificial respiration after cessation of pulse; successful.
16	Small-sized pariah dog.	3 38 0	3 40 10	3 48 45	3 49 30	3 49 30	3 53 20	3 54 0	..	Do. do.
17	—	3 55 0	No record.	3 55 40	3 57 0	3 59 10	..	..	3 59 0	Artificial respiration after stoppage of heart; unsuccessful.
18	Well-nourished, full-grown pariah dog.	12 6 0	12 10 45	12 20 0	12 20 45	12 20 45	12 22 10	12 25 30	..	Artificial respiration after stoppage of pulse; successful.
19	—	12 26 30	No record.	12 40 55	12 43 30	12 46 0	..	..	12 45 50	Artificial respiration after stoppage of heart; unsuccessful.
20	Full-grown pariah dog.	12 51 30	12 53 30	1 6 0	1 6 15	1 6 35	1 7 10	1 8 10	..	Artificial respiration after stoppage of pulse; successful.
21	—	1 10 0	No record.	1 16 30	1 16 48	1 19 0	..	..	1 19 0	Artificial respiration after stoppage of heart; unsuccessful.
22	—	1 40 0	1 41 10	1 44 55	1 47 35	1 48 0	1 49 40	1 50 0	..	Artificial respiration after stoppage of pulse; successful.
23	—	1 52 0	No record.	1 58 0	1 58 32	1 59 0	..	..	1 58 45	Artificial respiration after stoppage of heart; unsuccessful.

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart ceased beating.	Remarks.
		H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	
24	Healthy, full-grown pariah dog.	2 19 30	2 22 10	2 31 30	2 32 0	2 32 10	2 34 30	2 35 0	..	Artificial respiration after stoppage of pulse; successful.
25	—	2 37 40	No record.	2 44 20	2 46 20	2 49 40	..	..	2 49 40	Artificial respiration after stoppage of heart; unsuccessful.
26	Full-grown pariah slut.	2 56 57	2 59 0	3 0 30	3 0 45	3 0 48	3 1 20	3 5 20	..	Artificial respiration after cessation of pulse; successful.
27	Well-nourished pariah pup, four months old.	3 14 20	3 15 40	3 21 0	3 22 45	3 22 50	..	..	3 28 30	Artificial respiration after cessation of pulse; unsuccessful.
28	Pariah pup, three months old.	3 31 0	3 32 0	3 35 20	3 36 0	3 37 0	3 37 10	3 40 45	..	Artificial respiration after cessation of pulse; successful.
29	—	3 41 0	No record.	3 46 10	3 46 45	3 50 0	..	..	3 49 55	Artificial respiration after stoppage of heart; unsuccessful.
30	Fairly nourished pariah pup, four months old.	12 15 30	12 18 30	12 27 45	12 27 48	12 27 50	12 32 15	12 34 55	..	Artificial respiration after stoppage of pulse; successful.
31	—	12 37 30	No record.	12 40 30	12 40 45	12 43 50	..	..	12 43 45	Artificial respiration after stoppage of heart; unsuccessful.
32	Pariah pup, fairly nourished, four months old.	12 50 0	12 51 15	12 52 45	12 53 0	13 53 6	..	..	12 54 45	Artificial respiration after stoppage of pulse; unsuccessful.
33	Healthy, full-grown pariah slut.	1 8 0	1 11 0	1 14 10	..	1 14 20	..	1 16 10	..	Artificial respiration after stoppage of respiration; successful.
34	—	1 17 0	No record.	1 21 45	No record.	1 23 35	..	..	1 23 30	Artificial respiration after stoppage of heart; unsuccessful.
35	Powerful, full-grown pariah dog.	1 25 0	1 26 20	1 39 30	1 40 30	1 40 35	1 42 10	1 45 50	..	Artificial respiration after stoppage of pulse; successful.
36	—	1 48 30	No record.	1 54 30	2 0 45	2 4 10	..	..	2 4 8	Artificial respiration after stoppage of heart; unsuccessful.
37	Full-grown, powerful pariah dog.	1 4 0	1 5 0	1 5 45	1 5 55	1 6 10	1 10 43	1 13 33	..	Artificial respiration after stoppage of pulse; successful.
38	—	1 14 30	No record.	1 23 12	1 23 18	1 25 45	..	..	1 25 42	Artificial respiration after stoppage of heart; unsuccessful.
39	Full-grown, fairly nourished pariah dog.	1 38 0	1 39 58	1 52 30	1 54 13	1 54 15	..	..	1 58 30	Artificial respiration after stoppage of pulse; unsuccessful.
40	Pariah pup, six months old.	2 36 0	2 38 22	2 41 8	2 41 20	2 41 30	2 44 10	2 45 48	..	Artificial respiration after stoppage of pulse; successful.
41	—	2 47 0	No record.	2 53 43	2 54 10	2 56 10	..	..	2 56 10	Artificial respiration after stoppage of heart; unsuccessful.
42	Pariah pup, eight months old.	3 5 30	3 8 12	3 21 0	..	3 21 5	..	3 23 8	..	Artificial respiration after stoppage of respiration; successful.
43	—	3 24 0	No record.	3 26 12	3 26 18	8 29 0	..	..	3 28 13	Artificial respiration after stoppage of heart; unsuccessful.
44	Full-grown pariah slut, well-nourished	11 40 0	11 42 55	11 46 25	11 47 33	11 47 35	11 48 12	11 50 10	..	Artificial respiration after stoppage of pulse; successful.
45	—	11 53 45	No record.	11 57 18	11 57 25	12 1 10	..	..	12 1 8	Artificial respiration after stoppage of heart; unsuccessful.
46	Powerful, full-grown pariah dog.	12 22 0	12 23 40	12 24 0	12 24 50	12 24 50	12 28 0	12 28 35	..	Artificial respiration, after stoppage of pulse; successful.
47	—	12 33 17	12 34 45	12 40 38	12 40 47	12 42 55	12 44 20	..	..	Ditto
48	Pariah slut, full grown.	1 10 30	1 12 0	1 19 15	1 19 40	1 19 50	1 23 25	..	1 25 0	Natural respiration was thought to have been re-established as the dog breathed for a minute after stoppage of artificial respiration; but the respiration suddenly ceased again, pulse again stopped, and could not be restored. Artificial respiration after stoppage of pulse; unsuccessful.
49	Powerful, full-grown pariah dog.	1 35 0	1 39 45	1 40 10	..	1 40 20	..	1 43 20	..	Artificial respiration after stoppage of respiration; successful.
50	—	1 50 45	1 52 35	2 4 30	2 6 45	2 6 45	2 9 30	2 11 10	..	Artificial respiration after stoppage of pulse; successful.
51	Healthy, full-grown pariah slut.	2 25 0	2 26 8	2 29 7	2 29 30	2 9 45	2 31 25	2 33 55	..	Ditto ditto
52	—	2 37 41	..	2 38 40	2 38 55	..	..	..	..	Artificial respiration after stoppage of heart; no effect.
53	Full-grown, powerful pariah dog.	11 29 0	14 30 48	11 33 20	..	11 33 40	..	11 37 40	..	Artificial respiration after stoppage of respiration; successful.
54	Healthy pariah pup, six months old.	11 41 0	11 42 30	11 54 5	11 54 20	11 54 20	..	..	11 55 10	Artificial respiration after stoppage of pulse; unsuccessful.
55	—	12 4 30	12 5 40	12 7 5	No record.	12 8 45	..	..	12 8 40	Artificial respiration, after stoppage of heart; unsuccessful.
56	Strong pup, nearly full grown.	12 16 44	12 18 46	12 19 45	12 20 25	12 20 35	12 2 60 Flicker'd and then stopped entirely.	..	?	Artificial respiration after stoppage of pulse; unsuccessful.
57	Healthy, full-grown slut.	12 39 23	12 41 46	12 43 0	12 43 20	12 43 40	12 44 40	12 45 0	..	Artificial respiration after cessation of pulse; successful.
58	Healthy, full-grown pariah slut.	12 59 0	1 1 15	1 4 25	..	1 4 30	..	1 7 25	..	Artificial respiration after stoppage of respiration; successful.
59	—	1 9 30	1 10 40	1 13 0	1 13 5	1 16 15	..	..	?	Artificial respiration after stoppage of pulse; unsuccessful.
60	Healthy pariah pup, three months old.	1 27 30	1 28 10	1 29 30	1 29 40	1 29 45	..	..	?	Artificial respiration after stoppage of pulse; unsuccessful.
61	Lean, but full-grown pariah dog.	1 47 0	1 49 5	1 54 30	1 55 0	1 55 5	1 55 55	1 59 45	..	Artificial respiration after stoppage of pulse; successful.
62	—	2 2 0	2 3 40	2 12 10	2 13 5	2 15 32	..	..	2 15 30	Artificial respiration after stoppage of heart; unsuccessful.
63	Strong, full-grown pariah slut.	2 25 0	2 27 35	2 30 30	2 31 40	2 31 55	2 32 25	2 34 30	..	Artificial respiration after cessation of pulse; successful.
64	—	2 35 50	2 36 55	2 41 15	2 42 0	2 43 0	2 47 45	2 48 0	..	Artificial respiration commenced on heart being barely audible; stethoscope successful.

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart ceased beating.	Remarks.
65	Powerful, full-grown pariah dog.	H. M. S. 11 35 30	H. M. S. 11 37 10	H. M. S. 11 40 50	H. M. S. 11 41 8	H. M. S. 11 41 15	H. M. S. 11 46 30	H. M. S. 11 47 12	H. M. S. ..	Artificial respiration after stoppage of pulse; successful.
66	—	11 47 30	11 50 0	11 51 15	11 51 30	11 51 45	..	..	11 53 30	Artificial respiration after cessation of pulse; unsuccessful.
67	Strong, full-grown pariah slut.	12 12 30	12 14 25	12 16 10	12 16 38	12 17 0	12 17 45	12 18 53	..	Artificial respiration after stoppage of pulse; successful.
68	—	12 23 0	12 25 5	12 29 0	12 29 45	12 30 8	12 31 5	12 32 40	..	Ditto Ditto
69	Powerful, full-grown pariah dog.	12 46 30	12 49 6	12 50 10	12 50 24	12 51 0	..	A few spasmodic contractions of abdominal muscles.	1 3 50	Artificial respiration after pulse stopped; unsuccessful.
70	Healthy, full-grown pariah dog.	1 11 15	1 13 7	1 18 55	1 19 10	1 19 45	1 35 55	1 38 20	..	Artificial respiration after pulse stopped; successful. Extraordinary case. Hot water thrown over chest.
71	Healthy, full-grown pariah slut.	1 49 16	1 51 11	1 52 5	1 54 16	1 54 17	1 57 2	1 58 5	..	Artificial respiration after pulse stopped; successful.
72	—	2 0 45	2 1 50	2 3 30	2 4 0	Artificial respiration not tried.	..	..	2 8 45	—
73	Full-grown, powerful pariah dog.	2 37 20	2 38 25	2 40 15	2 40 38	2 42 17	..	..	No record; died.	Artificial respiration after pulse stopped; no effect.
74	Full-grown, healthy pariah dog.	2 50 10	2 51 45	2 52 50	2 54 56	2 54 25	2 55 40	2 55 50	..	Artificial respiration after cessation of respiration; successful.
75	—	2 58 0	5 59 40	3 6 0	3 6 30	Artificial respiration not tried.	..	..	3 8 30	—

SERIES III.—(17 EXPERIMENTS.)

APPENDIX NO. III.—Dogs chloroformed very gradually with 2-dr. doses.

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart stopped.	Remarks.
1	Full-grown, healthy pariah dog.	H. M. S. 12 30 0	H. M. S. 12 33 20	H. M. S. 12 48 50	H. M. S. 12 49 20	H. M. S. ..	H. M. S. ..	H. M. S. ..	H. M. S. 12 51 40	½ oz. of CHCl ₃ used.
2	Ditto.	12 53 0	12 53 50	12 55 0	..	..	..	..	..	Spontaneously breathed again after inhalation was stopped and allowed to revive.
3	—	12 57 0	No record.	12 57 40	12 57 50	12 58 45	..	..	12 58 25	Artificial respiration after heart stopped; unsuccessful.
4	Full-grown, healthy pariah dog.	1 8 0	1 11 10	1 17 10	1 17 20	..	..	..	1 19 42	3 drs. of CHCl ₃ used.
5	Strong, full-grown pariah dog.	1 26 45	1 27 30	1 35 38	1 35 48	..	..	..	1 37 45	½ oz. of ditto used.
6	Ditto.	1 51 45	1 53 35	2 7 2	2 7 15	..	..	..	2 9 40	3 drs. of ditto used.
7	Strong, healthy pariah slut.	2 19 30	2 24 40	2 33 50	2 34 28	..	..	..	2 36 10	½ oz. of ditto used.
8	Full-grown, large-sized pariah dog.	11 50 30	11 54 22	12 0 43	12 1 0	12 2 0	..	..	12 1 59	2½ drs. of chloroform. Artificial respiration after stoppage of heart; no effect.
9	Ditto.	12 10 6	12 13 57	12 17 50	12 17 58	..	..	..	12 21 35	2½ drs. of chloroform.
10	Ditto.	12 30 5	12 31 50	12 39 39	12 43 0	12 44 0	..	..	12 43 54	3 drs. of chloroform. Artificial respiration after heart stopped; no effect.
11	Powerful, full-grown pariah dog.	1 52 45	1 55 34	1 57 55	1 58 42	..	..	..	1 59 20	3 drs. of chloroform with stethoscope. Artificial respiration commenced when heart's beat about to stop and barely audible.
12	Ditto.	2 7 35	2 8 12	2 12 15	2 12 35	2 13 45	..	..	2 14 10	3 drs. of chloroform used. Artificial respiration; no effect after pulse stopped, and heart barely audible.
13	Lean, full-grown pariah dog.	2 22 30	2 25 0	2 28 55	2 29 10	3 31 45	..	..	2 33 15	3 drs. of chloroform used. Artificial respiration; no effect after pulse stopped, and heart barely audible.
14	Lean pup, eight months old.	11 54 0	11 55 12	12 7 40	12 8 32	12 9 20	Returned at 12.10.50 for a few seconds and stopped entirely.	Gasped thrice.	12 12 25	2½ drs. of chloroform. Artificial respiration; no effect after pulse stopped, and heart barely audible.
15	Powerful, full-grown pariah dog.	12 25 30	12 29 24	12 32 28	12 32 36	12 36 0	12 38 2	12 39 20	..	3 drs. of chloroform. Artificial respiration successful after pulse stopped, and heart barely audible.
16	—	12 42 0	12 44 2	12 55 18	12 56 27	..	..	..	12 58 45	2½ drs. of chloroform.
17	Pariah slut, nearly full grown.	1 6 0	1 8 45	1 11 51	1 12 32	1 13 15	..	..	1 17 20	3 drs. of chloroform used. Artificial respiration; no effect after pulse stopped, and heart barely audible.

SERIES IV.—(41 EXPERIMENTS.)

APPENDIX NO. IV.—*Rapid poisoning of dogs with large doses of chloroform; no air allowed.*

No. of experiment.	Description of dog.	Inhalation commenced.	Fully under chloroform.	Respiration ceased.	Pulse stopped.	Artificial respiration commenced.	Pulse returned.	Natural respiration re-established.	Heart stopped.	Remarks.
		H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	
1	Large-sized, healthy pariah dog.	1 43 30	1 44 24	1 46 22	1 46 48	..	..	..	1 50 30	2 oz. of chloroform.
2	Large-sized, full-grown, healthy pariah dog.	11 44 0	11 46 20	11 48 20	11 48 45	..	..	..	11 52 8	3½ oz. of chloroform.
3	Healthy, full-grown pariah dog.	12 7 0	12 8 5	12 8 40	12 9 14	For a few seconds (10) the pulse returned and then ceased altogether.	Spasmodic action of abd. muscles took place at 12-10-50.	..	12 12 10	3½ oz. of chloroform (nearly 4), after stoppage of respiration.
4	Large-sized, healthy, full-grown pariah slut.	12 21 30	12 22 32	12 23 45	12 24 48	..	..	..	12 27 50	6 drs. used in one dose.
5	Full-grown, healthy pariah dog.	1 54 45	1 55 53	1 56 30	1 57 48	..	..	..	1 59 30	6 drs. ditto.
6	Old, but healthy pariah slut.	2 5 30	2 6 40	2 7 47	2 7 55	..	..	..	2 11 12	6 drs. ditto.
7	Small-sized, but full-grown pariah slut.	2 16 45	2 17 52	2 19 35	2 19 40	..	Pulse returned feebly at 2-21-40 for a few seconds.	Spasmodic action of abd. and thoracic muscles occurred.	2 24 10	6 drs. ditto.
8	Ditto ditto	3 0 0	3 1 20	3 5 15	3 6 25	..	..	..	3 9 42	6 drs. do.
9	Healthy pup, eight months old.	12 27 23	12 28 9	12 29 0	12 29 15	..	..	..	12 31 0	6 drs. of chloroform.
10	Lean pup, eight months old.	12 42 45	12 43 20	12 44 20	12 44 25	..	..	..	12 46 20	6 drs. of chloroform.
11	Full-grown, healthy pariah dog.	12 50 18	12 51 11	12 54 55	12 55 30	12 55 50	12 59 25	1 0 20	..	Artificial respiration after stoppage of pulse; successful.
12	Full-grown pariah dog.	1 3 55	1 5 3	1 5 13	1 6 40	..	..	..	1 8 7	6 drs. of chloroform.
13	Healthy pariah, eight months old.	1 13 0	1 14 30	1 15 40	1 15 59	..	..	..	1 17 17	1½ oz. of chloroform used.
14	Ditto ditto	1 27 18	1 27 48	1 28 50	..	..	..	..	No record taken; died.	Galvanism tried from the time respiration ceased till 1:33-0; no effect; 6 drs. of chloroform used.
15	Healthy, full-sized pariah dog.	1 35 11	1 35 37	1 36 38	1 36 53	..	..	..	Do.	Galvanism tried from 1-36-33 for five minutes; no effect; 6 drs. of chloroform.
16	Healthy pariah pup.	1 43 39	1 44 0	1 44 50	1 45 7	..	..	..	Do.	Galvanism tried for five minutes; no effect; 6 drs. of chloroform used.
17	Ditto ditto	1 49 8	1 49 39	1 50 40	1 50 50	..	..	..	1 52 9	1 oz. of chloroform.
18	Full-grown, healthy pariah dog.	1 52 45	1 53 20	1 54 32	1 54 58	..	..	..	1 56 6	5 drs. of chloroform.
19	Large-sized, full-grown pariah dog.	1 2 10	1 4 8	1 5 45	1 6 30	..	..	..	1 9 10	1 oz. of rum and 1 oz. of water given, 10, before inhalation; 6 drs. of chloroform.
20	Old, but healthy pariah slut.	1 31 30	1 33 17	1 36 4	1 38 5	..	..	..	1 45 6	Same quantity of rum and ½ oz. of chloroform used.
21	Powerful, full-grown Binjari dog.	2 5 15	2 6 28	2 11 36	2 12 4	..	..	..	2 14 33	Same quantity of rum, ½ oz. of chloroform.
22	Healthy pariah pup, five months old.	2 29 10	2 31 22	2 34 20	2 42 12	..	..	..	2 45 12	Same quantity of rum, 1½ oz. of chloroform.
23	Healthy pariah pup, five months old.	2 47 40	2 48 28	2 49 20	2 49 25	..	..	..	2 52 6	No rum given; 2 drs. of chloroform.
24	Healthy, full-grown pariah slut.	2 53 20	2 53 52	2 55 2	2 55 18	..	..	..	2 57 48	No rum; 2 drs. of chloroform.
25	Large-sized Binjari dog.	12 49 14	12 50 30	12 52 5	12 53 51	..	..	..	12 56 30	1 oz. of rum given with water; 6 drs. of chloroform.
26	Full-grown, healthy pariah dog.	1 12 0	1 13 42	1 23 10	1 24 5	..	..	..	1 25 42	Same quantity of rum; 1 oz. of chloroform in 1 dr. doses.
27	Large-sized, healthy pariah dog.	1 40 9	1 42 40	1 46 30	1 49 3	..	..	..	1 52 9	Same quantity of rum; 5 drs. of chloroform.
28	Healthy, full-grown pariah slut.	2 11 0	2 13 30	2 15 30	2 17 52	..	..	..	2 18 45	½ oz. of rum given; 7 drs. of chloroform.
29	Ditto ditto	2 24 15	2 25 10	2 27 0	2 28 45	..	..	..	2 30 15	2 drs. of rum given; 6 drs. of chloroform.
30	Healthy, nearly full-grown pariah dog.	2 41 50	No record taken.	2 51 20	2 52 55	..	..	..	2 54 48	½ oz. of rum, 1 oz. of chloroform.
31	Healthy, large-sized pariah slut.	11 52 45	11 53 32	11 56 37	11 57 12	..	..	..	11 59 35	2 drs. of rum, 2½ drs. of chloroform.
32	Powerful, full-grown pariah dog.	12 15 10	12 16 30	12 21 48	12 22 15	..	..	..	12 25 40	½ oz. of rum, 7 drs. of chloroform.
33	Old, large-sized pariah dog.	12 47 0	12 48 18	12 48 40	12 50 16	..	..	..	12 51 15	½ oz. of rum, ½ oz. of chloroform.
34		1 5 35	1 7 22	1 10 0	1 10 40	..	..	..	1 12 33	2 drs. of rum, 6 drs. of chloroform.

No. of experiments.	Description of dog.	Inhalation commenced.			Fully under chloroform.			Respiration ceased.			Pulse stopped.			Artificial respiration commenced.			Pulse returned.			Natural respiration re-established.			Heart stopped.			Remarks.
		H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.				
35	Lean, full-grown pariah dog.	11 23 0	11 24 6	11 26 40	11 27 15	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 drs. of rum, 3½ drs. of chloroform.
36	Full-grown, healthy pariah dog.	11 52 10	11 55 7	11 55 17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 drs. of rum, 3 drs. of chloroform. Artificial respiration after stoppage of respiration; successful; 3 drs. of chloroform used.
37	Full-grown, powerful pariah dog.	12 5 19	12 6 34	12 7 28	12 8 8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	—
38	Ditto ditto	12 20 10	12 21 30	12 24 6	12 24 38	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3 drs. of chloroform used.
39	Lean, small-sized pariah dog.	12 32 40	12 34 18	12 37 40	12 39 19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	½ oz. of chloroform used.
40	Healthy, small-sized pariah slut.	12 45 45	12 46 22	12 49 2	12 49 55	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3½ drs. of chloroform used.
41	Full-grown, healthy pariah dog.	12 55 8	12 56 50	1 0 34	1 1 17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	½ oz. of chloroform used.

REPORT OF THE LANCET
Special Sanitary Commission
 ON
**PUBLIC ACTION IN RESPECT OF
 COMMON LODGING-HOUSES.**

PRIVATE ENTERPRISE AND COMMON LODGING-HOUSES AT GLASGOW.

No. III.

THE building at the public expense of seven common lodging-houses in Glasgow has had a beneficial effect upon private enterprise in this particular line of business. The trustees, acting under the Glasgow City Improvement Act, have given an example which has been followed. There are in Glasgow common lodging-houses of the vilest description, and as bad as anything that can be found in London, but there are also some lodging-houses that are nearly as good as those built and managed by the trustees. The principal of these latter are known as Burn's model lodging-houses, and have been organised by Mr. Robert Burn with great intelligence and enterprise. We visited the largest, and found a recreation hall which was, if anything, better provided with newspapers and amusement than were those under the trustee management. Here, also, there is a platform for entertainments, and every Friday an amateur concert is given by the lodgers. Mr. Burn offers prizes to the best singers or reciters, and these consist of such sensible articles as woollen socks or stout shirts. The audience itself decides by vote to whom the prizes shall be given. These entertainments are useful in maintaining health, for they help to keep a large number of men away from the public-house, while giving to the successful performers useful clothing they can ill afford to purchase. There is here, also, a provision shop on the premises, and a post-office, together with stamps and stationery. The kitchen, scullery, and dining rooms are large and well-fitted with every requisite. The lavatories are also well arranged. There are several little cabinets where footbaths, soap, and towels are provided free of charge. The closets and urinals are in a back yard roofed over with glass, raised a little above the wall, so that the air passes out without hindrance. The walls are of enamelled bricks, the whole being clean and well ventilated. The stone stairs leading to the dormitories have on one side a stair-carpet, so that the men at night need not tread with bare feet on the stone when going from the dormitories to the closets. The bunk system of beds has also been adopted here, and there are twelve small private rooms let at 6s. a day. The dormitories have good windows, good light, and a through draught can be established; but we failed to notice any system of ventilation, which depends on the accidental opening of doors and windows, and ceases to exist when these are all closed. To the

superficial and casual observer this common lodging-house may seem as commodious, as clean, as well-organised, and as well kept as those built by the city trustees; but, from a scientific and technical point of view, it is naturally inferior. Nor can it be expected that persons who make it their business to keep common lodging-houses should possess the scientific knowledge, and have at their command the technical engineering skill, which is at the disposal of a body of trustees, such as that governing the city of Glasgow. The State or an enlightened local authority may build and ventilate with some success barracks, hospitals, and in the same manner, the problem being in many respects similar, common lodging-houses; but it is hardly to be expected that the ordinary common lodging-house keeper will bring to bear the same amount of scientific research combined with technical experience.

The question is to house for a minimum cost, in a minimum space,—four hundred cubic feet at the outside,—a population of extremely poor, disorderly, and dirty people. The discipline imposed must be such as shall not cause them to rebel and resist, and yet which shall instil orderly and cleanly habits totally foreign to their nature. In the dormitories, the ventilation must be automatic and to a great extent mechanical or artificial. This can only be provided by such architects or engineers as have specially studied the subject; and, for so vast an enterprise as the construction of seven common lodging-houses at a cost of £91,068, this special, expensive, and technical knowledge could be and was obtained. Hence the very satisfactory result, and hence the conviction forced upon us that the problem can only be solved when dealt with in a wholesale manner. Burn's common lodging-houses are admirable, are probably among the best that have ever been built for profit by a private individual; still they do not possess the advantages described in our last report when dealing with the Clyde-street Common Lodging-house and its prototypes built for the City Trustees. Then when we crossed the street and went to another of Burn's lodging-houses, we found that we had already seen the best that could be seen. For instance, at this second house the closets ventilated on the stairs, and from the stairs of course the dormitories derived a large proportion of their air supply.

Having visited what was best in Glasgow, we now attempted to discover what might be considered the worst common lodging-houses in the town. These are for the most part in the neighbourhood of the Saltmarket. The first we entered had oil-painted walls and was clean throughout. There were waterclosets with a good flush out, but not ventilated. The rooms had no means of ventilation, not even a fire-place, and the windows are all shut when the lodgers enter. The entrance to another lodging-house was down a narrow passage leading to a small filthy yard, where an overflowing midden was situated, and was evidently not large enough for the great number of inhabitants of the surrounding houses. The windows immediately above the staircase door had each a sink outside, into which all manner of slops and filth is poured. Of course the sink leaks and the slops overflow, saturating the house and dripping on the heads of the people who pass the staircase door. In a dark space between two day rooms on the ground floor is a rough sort of washing place, with

loose uneven flagstones that in an unequal manner partially cover the floor sink under the tread in the damp sloppy earth. This place is abominably dark, and on one side in the recess underneath the staircase, where there is no air and no light, are situated three closet seats. The pans are provided with a good flush of water, but there is no light, no ventilation, no privacy. The three seats are not separated one from the other. In the floors immediately above, receiving the emanations from this damp, dark washhouse and the closets, are small rooms containing three or four filthy double beds where men sleep in couples. The bedding is black, and the accommodation so scant, the habits of the lodgers so degraded, that they sometimes even urinate on the floor, and there were pools of urine still stagnating on the dormitory boards. Of course vermin abounded on all sides. In one of the dormitories we found a half-naked lad hiding himself under one of the beds. He had, it appears, mistaken us for School Board inspectors. It was a wretched old house, that, of course, had never been intended for a common lodging-house. Two little shops on the ground floor had been converted into common kitchens. Here women, who lodged in single apartments close by, came and associated with the men during the daytime. Bed sheets and nondescript articles of clothing were hanging on all sides to dry, adding a sour dampness to the close, heated atmosphere of these wretched kitchen day rooms.

The next place we entered was a tenement which had been converted into a small common lodging-house. This was a little cleaner and had a watercloset which certainly did not lack ventilation, for it was only separated from the street by a few boards so loosely put together that great open spaces remained between them. Another closet, at the head of the stairs, had no ventilation, was dark, and a lamp had to be kept burning within all day long. Finally, we went to a lodging-house which was in a state of transition. For many years it had been allowed to exist without any closet whatsoever. It was a very old house, with heavy wooden doors four inches thick. When this house was built closets were considered superfluous luxuries. A pail answered all purposes, and it had to be carried downstairs to the midden in the yard. Now, however, a watercloset was in course of construction; and, pending its completion, it would seem as if the pail was not always provided, for we noticed the stairs were soiled with faecal matter. We had now seen enough; enough to show to what depth of darkness, dirt, degradation, and unwholesomeness may degenerate the common lodging-houses of the poor when left in the hands of persons who ignore the laws of health and the claims of decency.

INFLUENZA.

REPORTS ON THE DISEASE.

Now that the epidemic of influenza has practically left the Continent, reports of its progress and features are the order of the day. The *Journal de Médecine* (Feb. 5th) contains one such on the epidemic in Brussels from Dec. 20th, 1889, to Jan. 20th, 1890, drawn up by Drs. Spehl, Gratia, and Verneuil. The report opens by mention of some of the more important epidemics in Europe in past times; and it is pointed out that, together with certain common features, some of these epidemics had special characteristics. "In the epidemics of 1560 and of 1762 there were no catarrhal phenomena; in 1799 the disease took a hæmorrhagic form; in 1830 the dominant signs were cramps and intestinal derangements; whilst during the epidemic of 1837 a large number of patients were attacked with hæmaturia." The report then proceeds to analyse the features of the late epidemic under the heads of (1) general symptoms; (2) special symptoms, which do not require to be regarded as different forms of *grippe*—they are nervous, respiratory, and gastro-intestinal; (3) frequent but inconstant signs; (4) exceptional signs, as delirium, syncopal tendency, gastralgia, epistaxis, eruptions, sudamina, scarlatiniform, or rubeolar; (5) incubation, in a few cases from three to four days; (6) modes of onset; (7) duration, the acute symptoms two or three days, pain occasionally for a week, headache generally disappearing some days before the lumbar pains, the respiratory symptoms lasting mostly from eight to ten days, the digestive often several weeks; (8) intensity of the disease very variable; (9) convalescence,

in which the anorexia and extreme weariness are specially noticed; (10) relapses frequent, especially in the gastric cases; (11) duration of the epidemic, about a month; (12) climatic conditions preceding, accompanying and following the epidemic; (13) modification of symptoms from the beginning to the end of the epidemic, the latter cases showing a slower evolution; (14) influence on other affections; (15) the most frequent complications; (16) analogy to other diseases; (17) classes; (18) professions; (19) ages, mostly adults, about thirty out of a thousand children; (20) sex, equally attacked; (21) immunity; (22) contagiousness—no fact for or against absolutely determined; (23) morbid anatomy; (24) mortality in Brussels during the epidemic; and (25) dominant characters of the epidemic, which are summed up as follows: 1. The symptom "pain" has been constant and very intense. 2. The morbid manifestations have been numerous and varied (respiratory and gastro-intestinal catarrhs, eruptions, fetid sweating, pains in knees, syncope, &c.). 3. The disease by itself has been benign, but certain complications have imparted to it a grave character. 4. Complications have been mainly those of the respiratory system (pneumonia principally).

The questions issued by the committee formed in Berlin, at the instance of Professor Leyden, for a collective investigation upon the recent outbreak of influenza, are as follow:—1. When and where did you observe the first case of influenza? 2. When did the epidemic in your locality reach its height? 3. When did you consider that the epidemic had ceased? 4. What proportion of the population in your locality were attacked, according to your calculation? 5. What age, sex, or profession has seemed to have been predisposed to the attacks? 6. What symptoms worthy of note have you observed (a) in the nervous system? (b) in the respiratory and circulatory? (c) in the digestive? (d) in the cutaneous? 7. What complications and sequelæ have you seen? 8. With what frequency have you seen pneumonia coincide with influenza, and what characters did those cases of pneumonia observed by you present? 9. How many cases of relapse of influenza have you seen? 10. What has been the course of convalescence? 11. What influence has the pandemic exerted on prevalent diseases? 12. What were the causes of death? 13. What mode of treatment has given you the best results? 14. Do you consider influenza contagious or not? It was, we understand, the intention to appeal to other countries to join in this collective medical inquiry, and it would be an opportunity for promoting the cause of international collective investigation which should not be missed. This movement, initiated under high auspices at the Copenhagen Congress, was a failure, owing to the difficulty of finding funds, and only last year the committee organised throughout Great Britain by the energy of the late Dr. Mahomed in connexion with the British Medical Association announced the termination of its career.

In addition to the above-named German collective investigation (to which already upwards of 1000 practitioners have furnished replies), there have been instituted inquiries by continental boards of health similar to those of the Local Government Board. Thus the Bavarian Government has issued circulars inviting information upon the first appearance of the epidemic in different districts, the manner of its diffusion, the types it presented, the differences, if any, in the type of the disease according to class and age, the immunity of certain localities, and also as to prophylaxis and treatment. The information is asked to be sent to the Bavarian Home Office by March 15th. A similar inquiry has been initiated in Vienna, reports being asked for upon all cases treated between Dec. 17th and Jan. 17th. The *Allgemeine Wiener Med. Zeitung* of Feb. 11th fears that the inquiry will be imperfect, owing to the lack of observation and of inclination to record their experience on the part of some practitioners.

THE BACTERIOLOGY OF INFLUENZA.

Dr. E. Levy, of the University of Strasburg, reports¹ his researches into the bacteriology of influenza, which he instituted in the medical clinic as soon as cases were admitted. The sputum yielded, in addition to staphylococci and streptococci, large quantities of Fraenkel's diplococcus pneumoniae; and since all these forms are known to be met with in the sputa of healthy individuals, their detection was not very significant. But more conclusive information was yielded by the examination of the diseases following on the epidemic affection. Among these at Strasburg the

¹ Berliner Klin. Woch., Feb. 17th.

most notable was otitis media, and Dr. Levy therefore examined the secretion from the ear in seven such cases, making cultures and inoculating mice in all cases. In the first six examined the diplococcus occurred in pure culture, but in the seventh, in which the membrana tympani had been perforated for some days, there was in addition the staphylococcus albus. He also examined the fluid in five cases of empyema, and in one of sero-purulent and three of serous pleuritic effusion, which had supervened on influenza. Of these nine cases eight yielded the diplococcus once together with staphylococcus albus (a serous exudation), and in one case (also serous), the staphylococcus was found alone. He obtained, by puncture of the affected lung, a culture of diplococcus from a case of broncho-pneumonia, and in one of lobar pneumonia the hepatized portion (grey) yielded this organism and the staphylococcus albus. He points to the remarkable fact that in seventeen out of these eighteen cases the diplococcus was found, and states that there is no question at all as to its identity with the organism discovered by Fraenkel in pneumonia. There were minor points of difference—as, for instance, that it did not seem so virulent to mice as the “pneumococcus,” and the culture in agar was smaller and clearer. Moreover, Leyden and Guttman have also noted the diplococcus in influenza-pneumonia. Dr. Levy states that in Strasburg the general impression was that there was some connexion between the prevailing epidemic and the exceptional prevalence of croupous pneumonia. So far as the diplococcus may be held to take a chief share in the production of pneumonia, it is possible that it may play the same part in influenza. But it is by no means proved that pneumonia is excited by a solitary organism, and possibly in influenza also there may be various forms of fungi capable of causing it, and that they attack the pulmonary organs when there is a predisposition to lung affection. In connexion with these investigations, it may be well to recall the similarity to the diplococcus noted by Dr. M. Jolles, and also by Prof. Weichselbaum, in the microbes they found in influenza cases. Dr. H. Neumann² reviews the results of all these inquiries in another paper.

THE INFLUENZA IN HUNGARY.

At the meeting of the Society of Physicians at Buda-Pesth on Jan. 25th, Dr. Angyan gave an account of the recent epidemic,³ which commenced in that city with a few sporadic cases in the middle of December, and assumed an epidemic form at the end of the month. By the first half of January it was calculated that about 50 per cent. of the population had been attacked. He distinguished three forms—the nervous, the catarrhal, and the gastric. In certain cases an incubation stage of about two days' duration had existed. The attack began with shivering or rigors, articular pains, headache, and severe depression. This stage lasted only a few hours. It was followed by the symptoms peculiar to each type. In cases where profuse diarrhoea occurred, Dr. Angyan had found albumen and hyaline casts in the urine. In each form there might be cutaneous complications—as urticaria, herpes, erythema nodosum, and scarlatiniform eruptions. Otitis media was a not uncommon complication. Some patients had hæmoptysis. The gravest complications were pulmonary inflammations. He had ascertained that there had been an enormous increase in the number of such cases in Buda-Pesth during the epidemic. The pneumonia arose concomitantly with the influenza, and its form was atypical; that is, the fever was often intermittent, bronchial breathing and crepitation were not always marked, and rusty expectoration was only observed in about 50 per cent. of the cases. In spite of complications and the tendency to relapse, the epidemic was a mild one. The affection was chiefly dangerous to those already suffering from pulmonary or cardiac disease. The drugs employed to control fever and relieve pain were antifebrin, phenacetin, and especially antipyrin and quinine. The respiratory and gastric troubles required their special treatment. For the paroxysmal cough turpentine inhalations were found useful. Great importance was attached to diet and to the necessity of the patient keeping to his room until convalescence was well established. Dr. Angyan held that, although influenza was for the most part miasmatic and spread by atmospheric agency, in small degrees it was contagious. The discussion on the paper was adjourned to the next meeting of the Society.

STATISTICS OF INSANITY IN ENGLAND, WITH SPECIAL REFERENCE TO ITS ALLEGED INCREASING PREVALENCE.

THE following is an abstract of a paper read before the Royal Statistical Society on Tuesday evening, the 18th inst., by Mr. Noel A. Humphreys.

At the outset of the paper the author freely admitted that the statistical data now existing did not admit of a thoroughly satisfactory answer to the question “Is insanity increasing?” The object of the paper was quite as much to call attention to the nature of the defects of our present statistical data as to urge that, at any rate, conclusions as to increase of insanity based upon the constantly increasing numbers of the registered insane dealt with in the reports of the Lunacy Commissioners are entirely untrustworthy. It was obvious, and had been freely admitted by the commissioners, that there existed a large though unknown number of the insane outside their official knowledge, their information as to the insane not under treatment in asylums and workhouses being practically confined to those in receipt of pauper relief. At the same time there was good ground for believing that a constantly increasing proportion of the aggregate insane in the country came within the cognisance of the commissioners. It was pointed out that at the last two censuses (1871 and 1881) information concerning all persons of unsound mind was obtained from the householder. The total number exceeded by no less than 12,264 and 11,390 respectively the registered number of cases of insanity reported to the commissioners on Jan. 1st in each of those census years, forming a source which supplied no inconsiderable proportion of the so-called new cases registered from year to year. It was shown that in 1871 the commissioners' numbers represented only 82.1 per cent., and in 1881 86.5 per cent., of the respective totals of the enumerated cases. The census information on this point, being supplied by heads of families, was far more likely to understate than to overstate the true number of the insane. According to the census numbers, the increase of cases of existing insanity between these years (allowing for increase of population) was 7 per cent., instead of 12 per cent., as shown by the commissioners' figures, and, on the hypothesis of the greater accuracy of the census numbers in 1881, even the smaller increase was probably apparent rather than real, especially as some increase of existing cases was undoubtedly due to the effect of reduced mortality causing accumulation. Thus, while the mean annual rate of insanity increased 12.9 per cent. between the five-year periods 1859-63 and 1864-68, the increase between succeeding quinquennia declined successively to 11.7, 7.6, 5.0, and 2.8 per cent. respectively. Moreover, it was shown that, in spite of constantly increasing accuracy of registration, there has been no increase in the rate of admissions to population during the last ten years, and that the rate in 1884-88 showed an actual decline. The increase in the proportion of insanity to the population was due partly to accumulation and partly to more complete registration. There had been a marked increase in the mean age of the inmates of asylums; and while the proportion of those living under the age of forty-five years had constantly declined, the proportion living over that age had increased. Considerable difficulties stood in the way of estimating the amount of true accumulation, or survivorship, from the undoubted reduction that had recently taken place in the mortality of the insane. The Lunacy Commissioners' tables show, however, that the annual rate of mortality in asylums declined from 10.31 per cent. in 1859-68 to 9.55 in 1879-88. The improved tables recently issued by the Statistical Committee of the Metropolitan Asylums Board rendered it possible to calculate the effect of reduced mortality upon the numbers of the inmates of the asylums for imbeciles at Leavesden, Caterham, and Darenth. The actual inmates of these metropolitan asylums increased from 1344 at the beginning of 1871 to 4919 at the end of 1888; and the annual death-rate steadily declined from 16.63 per cent. in 1871 to 6.85 in 1886. Again, if it be assumed that the high death-rate in 1871-73 had since been maintained, and if no extra admissions had taken place to balance the extra deaths, the number of surviving inmates of these asylums at the end of 1888 would have been but 3346, instead of the 4919 actually then in

² Ibid ³ Wiener Med. Wochensch., No. 7.

residence. Thus no fewer than 1573 of these inmates owed their survival to the marked decline in the death-rate during the last fifteen years. Similar calculations, showing the effect of reduced mortality, would be possible with regard to the whole of the registered cases of insanity if the Lunacy Commissioners published similar data to those furnished by the Metropolitan Asylums Board. The paper dealt with the improvements of statistical data necessary for a true solution of the problem, and mentioned points on which further information was necessary. The author thought provision should at once be made for obtaining trustworthy statistics concerning the annual admissions, discharges, and deaths occurring among the pauper insane retained in workhouses or receiving out-door relief. No real difficulty stood in the way of obtaining these. The responsibility for collecting and utilising them rested between the Local Government Board and the Lunacy Commissioners. The hope was expressed that at the approaching census no retrogressive step would be taken in the direction of omitting from the householder's schedule the requisition for information on this subject, information which had afforded considerable assistance in examination of the validity of the alleged increase of insanity in England; and as householders had at the last two censuses been accustomed to supply this information, and as there was good ground for believing that it was now given with an increasing accuracy at each census, there seemed no sufficient ground for surrendering this subject of inquiry, although it was admitted on all hands that the numbers enumerated did not fully and accurately represent the true numbers of the insane. It was obvious that the enumerated numbers at any rate more nearly represented the true numbers than those obtained under the present system of registration by the Lunacy Commissioners.

Dr. HACK TUKE rejoiced to find the conclusions of Mr. Humphreys so much in accordance with what was to be regarded as a satisfactory and encouraging mode of viewing the alleged increase of insanity. He admitted that there might be a considerable amount of nervous disorder not registered, which might mislead them. They should be a little reserved as to the possible increase of those affections on the boundary line of actual insanity. The statistics before them to-night did not at all authorise them in stating that they were on the increase in England and Wales. Regarding the class outside asylums, he had recently made inquiries in Yorkshire, and found a strong feeling with county superintendents that there existed a number of cases never perhaps likely to go into the asylum for mental degeneration. Nevertheless he thought that statistical proof of any increase was entirely wanting. Statistics in Yorkshire went contrary to the assertion that insanity was increasing by accumulation, and he found the mortality rate in Wakefield in the first decennium 16'02, whereas in the last decade it was 11'5; evidence distinctly in favour of the view of Mr. Humphreys, and the average of recoveries had been 42 per cent. up to the present time. They were fully justified in stating that the accumulation was due to the lower mortality rate. With regard to the apparent increase in asylums from 59'4 per cent. in 1861 to 72 per cent. in 1889, that was founded on a statement by medical men that we had reason to feel very much alarmed at the increase of insanity. If we took the numbers in workhouses at 26 per cent., and with relatives at 14 per cent., we found in 1889 the numbers in workhouses reduced to 22 per cent., and with relatives to 5'5 per cent., so that it rather seemed a transference than an increase to the asylums. On eliminating these fallacies, they were still far from having before them all the data for an exact conclusion.

Dr. SAVAGE said his experience in Bethlem threw him into relationship with a changing disease. It seemed to be one of the bugbears of the age that lunacy was running like wildfire through the population, and it was satisfactory to have this impression removed by the facts brought before them to-night. A large number of people were on the borderland of insanity, and it was questionable on which side they should be reckoned, it depending in many cases on the length of the purse of their friends. The forms of insanity differed very much; and he thought it would be more alarming if, though there was no actual increase in the numbers of the insane, it could be shown that the form of the insanity in England had become worse. There was no end of statistics of insanity, and he thought little more could be done than had been done; and that if the commissioners

were obliged to provide all the statistics spoken of, that hard-working body would be obliged to strike.

Dr. G. B. LONGSTAFF thought it was conceivable that while insanity as regards the mass of the population might be increasing, it diminished as regards certain classes, and might be explained as the personal equation of the committee of management of the asylums—namely, the discharge of patients through changes in that committee. If Mr. Martineau had been present to-night, he would have told them that, from whatever the cause, the increase in the number of lunatics chargeable to the rate-payers of London was 250 per annum, which meant that asylums containing accommodation for 1000 inmates would have to be erected every four years, each one more costly both to erect and to maintain than any one which preceded it.

Dr. RICHARDS (Hanwell) accounted for the increase in the City of London by the number of people coming from the outlying districts who gravitated to London and became insane, but were shortly afterwards sent back to their own parishes. He had looked back to the records of Dr. Farr in Hanwell in 1831 and 1833, and found none on which these statistics could be based. The statistics regarding first attacks could only be derived from the friends who visited them, as the statements of the relieving officers were absolutely untrustworthy; and in the absence of such history they sent up every year a very elaborate return of all the cases of transfers, many of whom got the benefit of the doubt, and were spoken of as "first attacks."

Dr. NEWINGTON (President of the Medico-Psychological Association) thought the evidence of increase was entirely negative, and gave some interesting statistics on the subject, which led him to believe that whatever evidence was procurable seemed to favour the view that insanity occurring year by year was almost stationary.

Mr. HUMPHREYS having briefly replied, a vote of thanks to him was proposed by the Chairman, and carried.

HEALTH OF THE NAVY.

No. I.

THE statistical report on the health of the Navy for 1888 states the average strength to have been 50,060 officers and men. The cases of disease and injury entered on the sick list during the year amounted to 987 per 1000 of the strength, the deaths to 5'71, the proportion discharged as invalids to 16'06, and the mean daily sick to 41'96 per 1000. These results are very satisfactory, showing a marked reduction upon those of the preceding year, and comparing favourably with the average of the last ten years. The death-rate was lower than in any of the thirty-two preceding years, with the single exception of 1883, when it was the same as in the year now under review. The great reduction in the deaths compared with 1887 occurred in those by injuries and suicide, for if they be omitted the death-rate by disease amounted to 3'99 in 1888 and 4'91 in 1887, both evidence of a very satisfactory condition of health.

The average strength on the home station was 24,000. The cases amounted to 762, the deaths to 4'83, the discharges by invaliding to 21'33, and the mean daily sick to 40'16 per 1000, all lower than in the preceding year. The groups of diseases which gave rise to the highest proportion of cases were—syphilis and gonorrhoea 162 per 1000, diseases of connective tissue and skin 158, and injuries 149 per 1000. Diseases of the respiratory system were the most fatal, the death-rate by them being 1'12 per 1000. Four cases of small-pox occurred in the Channel squadron at Gibraltar; they were all modified by previous vaccination and made good recoveries. The disease was contracted at Lisbon, where it was epidemic at the time. The cases occurred in four different ships, and it did not spread among the crews. There were 53 cases of measles, chiefly in the *St. Vincent* and *Impregnable* training ships and *Excellent* gunnery ship; 2 cases terminated fatally, but the cause of death in one of them appears to have been acute tuberculosis developed subsequently to the measles. There were 31 cases of scarlet fever, all of which did well; 8 occurred in the *Ganges* training ship, the others were pretty well scattered. In all cases where practicable the patients were

treated in hospital on shore, and every care was taken to disinfect clothing, bedding, &c. "When it is considered what a very favourable field exists for the spread of such diseases in the relatively dense populations on board ship, the success attending these preventive measures may be considered very satisfactory." A fatal case of typhus occurred on board the *Excellent*; the disease was contracted in Galway by a seaman on leave. There were 27 cases of enteric fever, with 8 deaths; it does not appear in any case to have been traced to an insanitary condition of the vessel. Mumps prevailed as an epidemic in several of the training ships, chiefly at Dartmouth, Devonport, Portsmouth, and Greenock. Five cases of diphtheria occurred, of which 1 proved fatal; 3 of them contracted the disease at Portsmouth and 2 at Devonport; they were all in different ships. There were 26 cases of erysipelas distributed among sixteen ships; one man, who was taken ill when on leave at Portsmouth, died. No information is given as to the probable cause in any of these cases. As already stated, venereal diseases furnished 162 cases per 1000 of strength; of these 63 were of primary syphilis, 23 of secondary, and 76 of gonorrhœa and its sequelæ. The proportion constantly non-effective by these diseases respectively were 6·5, 2·6, and 5·6 per 1000. These ratios are all lower than in the preceding year, but all above the average of the last ten years. Diseases of the respiratory system furnished 83 cases and 1·12 deaths per 1000 of strength. Of the 27 deaths by this group, 5 were caused by bronchitis, 11 by pneumonia, and 11 by pneumonic phthisis. The prevalence of these diseases is greater, but the mortality less, among the boys of the training ships than in the rest of the force. The deaths from general injuries were 21, the same number as in the preceding year, and of these 14 were by drowning. Of local injuries, 11 proved fatal, but only 3 occurred on duty; 5 were on leave, and 3 were under the influence of drink on return from leave. There were 3 suicidal deaths, all by hanging.

The average strength of the force in the Mediterranean was 5800, among whom the cases were in the proportion of 1066, the deaths of 6·37, the invaliding to England of 40·68, and the daily sick of 40·04 per 1000, all of them lower than in 1887, and also under the decennial average. The class of injuries furnished 259 per 1000 of strength, or very nearly one-fourth of the whole; diseases of connective tissue and skin, 249; those of the digestive system, 141; venereal diseases, 109; and continued and malarial fevers, 90. Enteric fever was the most fatal disease, giving a ratio of 1·55 deaths, nearly one-fourth of the total, and to these should be added 2 returned under the head of peritonitis, but which appear to have been typhoid; these would increase the ratio to 1·89 per 1000. Of 47 cases returned as enteric fever, 19, with 4 deaths, occurred in the *Racer*, stationed at Suakim; the disease appears to have been caused by the insanitary condition of Custom House Creek, where, for strategic reasons, the ship was unavoidably anchored. Six cases occurred on board the *Grappler* at Gibraltar, and were attributed by the medical officer "to bilge effluvia, arising at the time from an inaccessible part of the bilge beneath the small-arm magazine." As soon as this was opened up and cleared the disease ceased. In none of the other ships which had cases could local causes be traced. There were 152 cases of remittent fever, being less than half the number of the preceding year. They occurred chiefly at Malta. The reduction in the numbers was attributed to the improved sanitary condition of the island, improved water-supply, and the departure of the fleet prior to the summer heats. Under the head of "Multiple Injury" a case is noted of a man who, surprised by the enemy near Fort Hudson, Suakim, received fourteen wounds, seven of a severe nature, but ultimately recovered, and was pronounced fit for duty. Only one death from drowning occurred during the year, and that in the case of a man not on duty. There was also only one suicidal death, that of an assistant sick-berth attendant, caused by swallowing strong sulphuric acid.

On the North American and West Indian stations the average strength was 2600; the cases amounted to 996, the deaths to 6·15, the invaliding to 23·46, and the daily sick to 39·2 per 1000, all except the mean sick lower than in 1887, and all under the average of the last ten years. One-fourth of the cases was the result of injuries; of the classes of diseases, those of the connective tissue and skin, and of the digestive system, and venereal cases, were the most prevalent, causing collectively about one-half of the

admissions. Eight cases of enteric fever occurred, with 3 deaths, all at Port Royal, Jamaica. The Deputy Inspector-General attributed them to the place where the vessels were moored, "a bend of the harbour, close off the dockyard, where a peculiar eddy of wind always blows, and where filth and refuse collect." After the ships were removed to the other end of the harbour, no more cases occurred. Two cases of yellow fever were reported on board the *Ready* at Port-au-Prince, Haiti, the sanitary condition of which is described as "deplorable." They were taken to Port Royal, where they died in the Naval Hospital; the ship was ordered to proceed at once to Halifax, and no further cases occurred on board. In the class of injuries 2 deaths were recorded by drowning, and 1 by asphyxia while engaged in diving operations.

The average strength on the south-east coast of America was 550; the cases were in the ratio of 824, the deaths of 7·27, the invaliding of 23·63, and the daily sick of 28·56 per 1000, all higher than in the preceding year. Two cases of yellow fever, of which one ended fatally, occurred in the *Swallow* at Rio de Janeiro where the disease was prevailing. All the ships anchored in the harbour "proceeded to sea, running south to cooler latitudes," and no more cases occurred in them. One death from drowning occurred when the man was on leave.

On the Pacific station the average strength was 1480; the cases amounted to 1110, the deaths to 4·05, the invaliding to 19·59, and the daily sick to 37·66 per 1000; all, except the cases, showing a decrease upon the previous results. Of the 6 deaths 1 only was caused by disease; of the other 5, 2 were by drowning, 1 by the premature explosion of a breechloading gun, 1 by accident on a railway-trolley, and 1 by a stab in a street brawl. The very low death-rate from disease, 0·67 per 1000, is remarkable. One case of enteric fever was recorded, contracted at Lima. The admissions for venereal diseases were 147 per 1000 of strength, and the proportion constantly non-effective from this cause was 9·85 per 1000.

Correspondence.

"Audi alteram partem."

THE HYDERABAD CHLOROFORM COMMISSION.

To the Editors of THE LANCET.

SIRS,—The comparative shortness of the time available, and the number of other speakers, prevented me joining in the debate on this subject at the meeting of the Medical Society on the 10th inst. On the other hand, the interest taken in the matter is so great, and its importance so obvious, that I feel justified in asking you to grant me a space in your next issue, in order that I may express my views. The Commission have performed a very large number of experiments, from which they have deduced certain opinions as to the action of chloroform on animals, and have used these opinions as a basis for formulating certain rules for the administration of this anæsthetic to human beings. It is impossible, of course, to attempt to criticise the whole of the work of the committee, and I shall therefore limit my remarks to the most important features of their work.

The Hyderabad Commission agree with all other observers, in finding that the blood pressure is rapidly reduced by the inhalation of chloroform; this was generally accepted, and does not appear to have required re-investigation. They do not, however, seem to have laid any particular stress upon the movements of the pulse, or have not at any rate recorded any opinions as to its relation to descending arterial pressure and heart beat. This is a most important point, for on such observations are founded the opinions expressed by the Chloroform Committee of the Medico-Chirurgical Society, in these words: "It has been observed in all instances of poisoning with the smaller doses of chloroform that the pulse is imperceptible for some time before the heart ceases to beat"; and I would add, it is precisely these cases of death from small doses which cause the greatest anxiety, and to explain which any information would be most acceptable. Such information cannot be found in the report of the Commission.

Physiologists tell us that, in asphyxia experiments on dogs, the heart continues to beat for about three minutes

after respiratory movements cease, but that so long as the heart is beating the animal is capable of being resuscitated. The Commission inform us that, in their experiments, the hearts generally continued to beat for from two to six minutes after cessation of breathing, but that the animals could only be revived if artificial respiration were commenced within thirty seconds of the respiratory failure. From this fact they conclude that the respirations and not the heart are at fault; but surely it is equally capable of explanation on the supposition that the heart itself had been poisoned, and was, therefore, no longer capable of healthy action. Further, I cannot find in the report any observations as to the temperature under which the experiments were conducted—a not unimportant point, if we consider the variable diffusibility of the drug; and the only attempt at estimating the percentage of vapour inhaled is contained in the vague statement that it was “given in every conceivable way,” yet the Commission do not hesitate to draw important conclusions from administrations conducted under abnormal conditions, and apply them to ordinary and careful inhalations.

Next, as to the regulations for human administrations which the commission have drawn up. These are, to my mind, utterly inconsequent, utterly fallacious. I cannot possibly admit that any number of experiments upon animals ought to outweigh the results of prolonged clinical experience. As Mr. Braine very aptly remarked, one positive experience should and does invalidate a thousand or more experiments.

The Commission tell me that I ought only to watch the respirations, a dictum which appears to me at best, and upon whatever laboratory experiments it may be founded, about as scientific and rational as if the physician were directed to diagnose typhoid fever *only* by the temperature, or *only* by the presence or absence of the diarrhoea. They ask the profession to withhold their judgment until the details of their experiments have been published and fully considered, and express their hope that if errors have been made they will be set right *by and by*. At the same time they have not themselves hesitated to draw conclusions from their experiments, to give authority for opinions which are confessedly at variance with those usually taught by nearly all practical anaesthetists, and to revert to what I maintain was the erroneous teaching of some forty years ago. They do not appear to have reflected that, as far as human administrations are concerned, the only practical way by which they can be proved to be right or wrong is by watching the chloroform death-rate after their opinions have been promulgated. Surely a far better plan would have been to have submitted their results to criticism and discussion *before* expressing such emphatic opinions. The repeated reiteration of such an earnest (and apparently sincere) desire to arrive at the truth may appear to some as being almost an acknowledgment of a feeling of weakness—either in the constitution of the committee itself, or in the difficulty they have themselves experienced in endeavouring to reconcile the results of laboratory experiments with those of clinical experience. I must apologise for the length of this letter, but I feel that it is of vital importance to have the whole subject discussed as fully and freely as possible.—I am, Sirs, yours faithfully,

J. FREDK. W. SILK,
 Anaesthetist to Guy's Hospital (Dental School), to the
 Great Northern Central Hospital, &c.
 Chandos-street, W., Feb. 1890.

RELATIVE SAFETY OF ANÆSTHETICS.

To the Editors of THE LANCET.

SIRS,—As a contribution to the discussion raised by the report of the second Hyderabad Chloroform Commission,¹ the two cases of syncope during the administration of that anæsthetic which I bring forward are of considerable importance. The patients did not die, but it seems to me that the cases do not lose weight as evidence against Section 9 of the practical conclusions of the committee on that account. According to this section “the administrator should be guided as to the effect entirely by the respiration; his only object while producing anæsthesia is to see that the respiration is not interfered with.” In neither of these cases could the symptoms be ascribed to shock from the operation, which was in each of a minor character. The symptoms developed some time after the administration of the chloro-

form had been commenced, suddenly and without warning. Both patients had been prepared, and the chloroform was given on a double layer of lint.

CASE 1.—J. A. S.—, aged forty-five, was under the care of Sir W. MacCormac for chronic ulcer of the leg, which remained after various operations for the removal of necrosed bone. This necrosis was the result of a severe compound comminuted fracture of the tibia received in 1880. He had undergone operations previously, both in the hospital, at Guy's, and at Southampton, and had taken chloroform on more than one occasion without ill effect. On the evening of May 17th, 1883, the ulcer was scraped by the house-surgeon; his colleague, who had had experience in the giving of anæsthetics, administered the chloroform. As I entered the room, the lint with a fresh supply of chloroform was being again placed over the face, but *before it reached the face* there was a rapid change of colour, the lips and cheeks becoming of ashen hue. I placed my finger on the nearer wrist, but could feel no pulse, nor could any be felt on the right side. The chloroform was stopped; no cardiac impulse could be felt, *and the respiration, which had continued, now ceased*. Cold wet towels were used to splash the chest, and ice placed over the cardiac region, while artificial respiration was carried out. The pulse came back slowly, and resort had to be had to these remedies again, when he appeared nearly recovered, on account of relapse. He was almost conscious before an ether injection was given, and resented it.

CASE 2.—On April 14th, 1887, I was performing the operation of division of the right sterno-mastoid for congenital torticollis on a boy aged six, Mr. Mackellar having kindly given me charge of the case. After the patient was well under the influence of the anæsthetic, which was given by a qualified man, and as the division of the sternal attachment of the muscle was almost completed, the face of the patient became blanched, the pulse could not be felt at the wrist, nor could the impulse of the heart be felt. *The respiration was continuing, and had shown no signs of failure*. The pupils dilated. The tenotomy knife was immediately withdrawn, a finger placed over the puncture, the patient held up by the legs, and measures taken, as in the other case, to restore the circulation. For a time it seemed as if they would prove unsuccessful, but the pulse gradually returned, and the operation was completed.

A special note was made by me of the sequence of events in Case 1, and the fact that the respiration continued after the cessation of evidence of circulation caused much comment at the time. In the second case as I was facing the patient and my hands were steadied on the upper part of the boy's chest, the sudden pallor was very striking. The man was lying on his back with his head on a low pillow, the boy's shoulders were more raised and his head thrown back to place the muscle on the stretch. The man was alcoholic and had suffered from “rheumatics,” but in neither patient was there evidence of heart disease. It is worthy of note that the boy, who had previously been dull and very dirty in his habits, became cleanly and more intelligent from this time. Had the lint been over the faces of these patients when the change of colour took place and so prevented its being seen, and the anæsthetist only taken warning when respiration ceased, it is probable that they would have failed to respond to treatment applied after the loss of valuable time. I feel convinced that treatment in such cases, to be of use, must be prompt and energetic. The occurrence of syncope in cases such as these has led me to advise close attention to the pulse as well as to the respiration, and oppose the performance of any other duty by the anæsthetist than close observation of the patient during the operation.

I am, Sirs, yours faithfully,
 Harley-street, W., Feb. 17th, 1890. WILLIAM HY. BATTLE.

To the Editors of THE LANCET.

SIRS,—In Dr. Lauder Brunton's very interesting account before the Medical Society of the valuable experiments on Anæsthetics at Hyderabad, he is reported to have said that ether “could not be used in very hot climates.” This assertion is somewhat too sweeping. I had the advantage of being Anæsthetist to the Base Hospital at Snakim during the campaign of 1885, and gave ether for every operation. On the day following the fight of Tofrek I was giving ether in the operating tent from early morning till nearly midnight, with only the short intermissions necessary for getting food.

¹ THE LANCET, vol. i. 1890, p. 149.

The temperature—always hot during the day—reached over 100° F. in the shade on some of the days in which I gave ether, and I never had any difficulty worth noting. The effect of this anæsthetic as a stimulant on the men suffering from exhaustion or shock was very marked, and helped many of them through the operation; it is therefore most valuable in military surgery. There is certainly the difficulty of keeping the ether when once the bottle has been opened, but this can be counteracted by the use of small bottles. Some short notes of mine on "Anæsthetics at Suakim" were published in the *Medical Times* for Nov. 7th, 1885.

I am, Sirs, yours, faithfully,

Seymour-st., W., Feb. 18th, 1890.

J. EDWARD SQUIRE.

OXFORD UNIVERSITY AND MODERN MEDICINE.

To the Editors of THE LANCET.

SIRS,—I believe that no person possessing any but the crudest acquaintance with the history of medical education in England and free from gross prejudice can fail to be impressed, instructed, and touched by the remarkable letter of Sir Henry Acland referred to in your leading article of Feb. 15th. This letter seems to me unique of its kind. It is not my intention to do more than refer to one or two points in connexion with it. In the first place, it must be granted that scientific and preliminary medical education at Oxford has hitherto received very little fostering care from the University, and that such care as has been granted has been the result of the foresight and affection of a very few men—chiefly of Sir Henry Acland. The more ancient faculties have, as is right and natural, taken precedence; and, as is natural, but not right, have taken a narrow view of those schools in the University which, properly following as a complement to them, should be regarded as younger offspring, to be carefully tended and reared. Much of this may be due to unfortunate controversies about religion and science, which simply have raised the dust, which time only and faith on both sides can lay, and which have represented science and religion (for the promotion of which the universities were founded) as deadly enemies, rather than as explorers of truth from different sides. Ponderous and timid apprehension, on the one hand, and juvenile irritability on the other, have resulted from this state of mind; and science, as the younger, less wealthy, and weaker, has been starved. The liberality of the University of Cambridge is in contrast with this, but yet it must be allowed that the Oxford Museum, with the scientific part of the Radcliffe Library under the same roof, and with its excellent physiological and chemical laboratories, leaves little to be desired.

The writer of the article speaks of the "medical school" of Cambridge as if it were something which Oxford had not. This word has been made a shibboleth, and is used in a variety of ways to suit various arguments. A complete medical school Oxford does not possess, or intend to acquire, unless it should violently and unexpectedly change its mind. The opportunities of such towns as Oxford or Cambridge for clinical work can never compare with those available in London for students; nor are the opportunities for clinical research and teaching ever likely to entice many really promising clinical teachers and practitioners to leave London for either. It is not too much to hope that men of wide views, great learning, and ample means may be found to occupy the Regius Professorship as they are required, but we are scarcely entitled to expect more than this.

A preliminary general culture, followed by a preliminary scientific training, should be available in Oxford and Cambridge, with a perfection scarcely to be found elsewhere; but it is this, and this alone, that we wish for. If this constitutes a "medical school," we have such a school, and it is increasing; if by a "medical school" is meant a complete medical school, Cambridge has it not, and, I believe, never intends to have it; for no man, I understand, expects to get at Cambridge the clinical knowledge necessary to pass his final examination at Cambridge; practically, all go elsewhere, mostly to London. "The success of Cambridge cannot be questioned," says the article, and I am the last to wish to detract from it; but it seems to me that it should be put on some better ground than that of numbers, which might be explained by various reasons, such as less prolonged curriculum, especially in general education, and consequently

less expense. Curiously enough, the ancient Conservatism of Oxford has lately had grafted upon it a twig of Radical or even revolutionary character, which has endeavoured to grow rapidly, if not fiercely, and that is the attempt to attract men to the University simply as medical students. This would, in the opinion of all those best acquainted with the matter, be disastrous, not to the University so much as to men so attracted. Whatever prestige either University enjoys is the result of the calibre of the men whom she has sent out in the past, and has depended principally on the general culture, grafted on which any subsequent study has borne good fruit. In this respect Oxford has no need to blush before her sister University. Such a proposal as that above is simply an attempt to debase the coinage, which will inevitably recoil on itself, for gilded shillings cannot long pass as sovereigns.

One sentence in the article is beyond my understanding: "Unfortunately the Universities are still *licensing* bodies, and they compete with the corporations for the *licensing* of students who desire to practise." (The italics are not mine.) Against which University is this innuendo directed? It cannot be Cambridge, which meets with the writer's approval; it cannot be Oxford, which is so "narrow" that it does not make its curriculum easy enough. Can it be London? So far from thinking the universities less to be trusted than other bodies in this respect, I think their rights are not only the most ancient but the best deserved. I have hope in the future for Oxford, and believe that in many respects her policy, chiefly guided by her medical graduates, has been the most far-seeing and the most liberal of all. The only fear is that those interested in increasing the number of intending students of medicine should succeed in substituting for the present sound, if somewhat elaborate, course a rapid, cheap, and superficial curriculum. Our aim has been rather quality than quantity, and I hope it will remain so. No two universities are alike, and slavish copying of Cambridge will be far more likely to destroy the character of Oxford graduates than to attract numbers of desirable students. Moreover, it must not be forgotten that the present popularity of Cambridge is largely due to the work of two men—Professors Humphry and Michael Foster. I may add that the criticisms of Cambridge graduates are not always directed against their sister University.

I hope that Sir Henry Acland's letter will be widely read. The history contained in it is such as he alone of all men living could furnish, and it is full of serious thought for the future.

I am, Sirs, your obedient servant,

Feb. 17th, 1890.

M. D. OXON.

ANKYLOSTOMIASIS AND BERI-BERI.

To the Editors of THE LANCET.

SIRS,—The case of ankylostomiasis, to which you refer in THE LANCET of Feb. 1st, is very interesting, inasmuch it teaches once more the necessity of microscopic examination of the alvine dejections in certain cases of obscure diseases. Had that examination been made at first, when the gentleman referred to fell ill in India, he would have saved time, trouble, and money. But similar cases happen very often from the omission of that regular examination; I could quote many from my own practice both in Egypt and here, if I did not fear to occupy too much of your space. I will only add that in the last Congresso di Medicina Interna held at Rome last October, I communicated a paper in which I insisted on the importance of the examination of the excreta for the diagnosis and effective treatment of the diseases resulting from entozoa. But allow me also to refer to another point raised in your article. You say "that it is well known that beri-beri or some forms of it own this origin" (viz., ankylostoma). In my opinion this is not quite correct. Beri-beri is now well known as a kind of polyneuritis, endemic in many countries where ankylostoma too is frequently found. Now, it is clear that in those countries it happens frequently that this worm is found in individuals affected with that disease, but this is merely a coincidence. Indeed, there are countries (as Italy and others) of Europe where ankylostoma is common, but beri-beri is not found. There is no doubt that ankylostomiasis combining with beri-beri must greatly aggravate the case, as the anæmia induced by ankylostoma is added to the cachectic and anæmic condition proper of beri-beri. You will remember that beri-beri has been said to be dependent upon trichocephalus dispar. This statement, however, is not more accurate. As trichocephalus is a very frequent and widespread parasite

throughout the world, it has happened that it has been found very frequently at the necropsies of persons dead from beri-beri; but this, too, is only a coincidence. The symptoms of the anæmia induced by ankylostoma have nothing to do with the beri-beri disease, as I had reason to be assured both in Egypt and Italy. I had in Cairo a case in an apothecary of a form that closely resembled chronic beri-beri, in which I found *filaria sanguinis* &c., published in the *Medical Times and Gazette* of May 13th, 1882. But I am of opinion that the presence of the hæmatozoon in the beri-beri-like disorders was merely a coincidence, and that *filaria sanguinis* has no connexion with beri-beri any more than has ankylostoma or trichocephalus. Let me say also that I think the so-called African cachexia and Griesinger's Egyptian chlorosis cannot rightly be identified with ankylostomiasis, inasmuch as they are the combined result of different morbid conditions into which frequently, but not constantly, ankylostomiasis enters as an element.

I am, Sirs, very truly yours,

P. SONSINO.

Pisa, Feb. 15th, 1890.

* * Dr. Sonsino's contribution to a vexed question is of much value. The alleged relationship between beri-beri (some forms) and ankylostomiasis was specially pointed out in the report on the former disease issued by the Ceylon Government in 1887, and noticed in these columns in our issue of Oct. 21st, 1887, p. 821.—ED. L.

DISEASE NOTIFICATION AND COMBINATION OF SANITARY DISTRICTS.

To the Editors of THE LANCET.

SIRS,—Whilst the main body of general practitioners will endorse the essential principles of the memorial to the Local Government Board and other authorities signed by the Chippenham doctors, but few will subscribe to the timorous threat contained in it. Powerful as a well-organised "strike" is, perhaps a matured consideration may bring the determination of these gentlemen to a different issue—consonant with the spirit of the Act of Parliament which has excited their protest, and to the accomplishment of the principle they seek to establish.

Without further criticism of the memorial I venture to think that, apart from their ultimatum, yet attaching due weight to their arguments, the Chippenham doctors have initiated a movement for the combination of sanitary districts for purposes of medical officer of health administration which should become general in the country. The most useful protective measure of notification has now been adopted by sanitary authorities for fully three-fourths of the population of this country. Good as this is in principle, in practice it is to be feared that many causes may shear it of the success which should attend its application. First, amongst these is what has found expression in the Chippenham memorial, and the natural jealousies (by no means of necessity unfriendly) which prevail amongst rival practitioners in regard to their respective patients. And next may be noticed detail in routine, by which failure may likely occur. Such may be instanced in that a defined infectious disease may break out in a house, and its existence may be known, and continue there unreported to the medical officer of health. Or a medical man may be in charge of such a case and yet it may be unreported. For omissions of this kind the Notification Act imposes penalties; but the Act does by no means so clearly say who is to set a prosecution on foot for the recovery of these penalties. In the prescribed duties of medical officers of health it is not laid down that such officers should do such work as that of common informers, but, rather, that they should act as advisers of the authorities engaging them. The medical officer of health, however, is or should be the chief moving spirit in the public health affairs of his district, and obviously may be expected to appear in the initiative in the proceedings of his authority.

The disagreeables of differences of opinion, of friction in administration, and especially of litigious differences, require no comment. Occurring amongst neighbours and professional brethren, their prejudicial influences upon the social and professional standing and worldly success of one whose misfortune it may be to have to participate in such is too obvious. The expectation, then, is that in those districts in which the medical officers of health are paid insignificant salaries, ranging from £10 to £100, and in

which the development of private practice is the object aimed at by the officers as a means of livelihood and money-making, so long as notification (like former sanitary administration) works without pressure, it will continue to do so, but when pressure becomes necessary, then it will become overlooked, a failure, perhaps a dead letter. Comparisons of the sanitary histories of sanitary districts since 1872, and especially of small districts, too clearly point to this expectation.

With the experience that the Local Government Board have had of sanitary administration by local authorities, it is strange that the Notification Act should have been made optional in adoption by authorities. The small and what one may call "cheap" authorities have done but little in the way of, or have even resisted, sanitary improvements; their districts will doubtless profit in the same measure by notification. And yet the other districts which have been put into proper sanitary conditions and have adopted precautionary and preventive measures against the invasions of diseases are to be sacrificed to the whims of their inactive neighbours, and be exposed to risks from the neighbouring centres of infection and breeding-places of diseases. An anomalous form of legislation this is for the wrong-doer.

So far County Councils have shown no disposition to appoint medical officers of health. When they get flooded with reports from various medical officers of health they may awake to the necessity. It is said in some reliable political quarters that the Government, which has so far brought about local government in counties, will complete its scheme of local administration by the creation of District Councils. The time is at hand for the creation of these Councils. When the District Councils Bill is before Parliament it should be seen to that administrative measures which are now optional should be made compulsory; and that for administrative purposes proper combinations of sanitary districts should be made, to be placed under the charge of efficient and properly paid medical officers of health—such as the Chippenham memorialists demand for Wiltshire.

One word more. The common argument used against combination has been that of expense. To overcome this I would suggest to the "powers that be" that no additional rating expense need be incurred on account of salaries. Whilst combining sanitary districts, other appointments which bear upon public health (and which of course carry emoluments) should also be combined under the medical officer of health. Such offices would be those of the certifying factory surgeon, the superintendent registrar of births and deaths, and that of the coroner. The combination of such existing salaries with those of present ones given to medical officers of health would provide adequate salaries for medical officers of health appointed to any districts which might be combined for sanitary and administrative purposes. Without combination progress in sanitation will come to a standstill; and notification will become a half measure, applicable chiefly to that section of the community whose domestic affairs the least require regulating, and in which the Chippenham memorialists most dread the interference of the competing medical officers of health.

I am, Sirs, your obedient servant,

J. LLOYD ROBERTS, M.B., D.P.H.

Denbigh, Feb. 7th, 1890.

"WHAT IS A 'STONE' IN THE BLADDER?"

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 15th Sir Henry Thompson calls attention to the fact that in the third Lettsomian lecture I have misrepresented his views upon the question as to what is the lowest weight admissible for a "stone" in the bladder. To my regret, I find that when reading his reply to Dr. Freyer (*Brit. Med. Jour.*, Feb. 18th, 1888), the words "in the adult" escaped my notice. (They were not, however, in italics, as quoted by Sir Henry Thompson last week.)

At the close of the correspondence which his original letter called forth, I was not the only surgeon who was left in the belief that Sir Henry would recognise nothing as a stone which did not reach his arbitrary standard of "twenty grains." The sentence which gave me that erroneous impression—which, indeed, seemed incapable of any other construction than that which I put upon it—was this: "Thus in my cabinet of calculi, now numbering about 950 cases removed by operation, there is not one weighing less than twenty grains, and I have never accepted or reported an example beneath that weight as a 'stone.'" (The italics are mine.) There is nothing to suggest that

Sir Henry had another cabinet for boys' calculi or a separate scale for weighing them.

Again, in his second letter (*loc. cit.*, July 21st, 1888), without making any exception for children, Sir Henry writes:—"To close a paper already too long, I think there is little doubt that the common sense of the profession will exclude a trifling concretion of two or three grains from taking rank under the well-known and time-hallowed term, 'a stone in the bladder.' In my own collection there is nothing less than twenty grains." If Sir Henry Thompson has, then, fixed the lowest weight for a man's calculus at twenty grains, what, I would ask, is to be the lowest weight acceptable in the case of a child or of an infant? This was the matter which interested the Lettsoman lecturer, and to it I do not think a satisfactory answer can be forthcoming. My contention is that any concretion which has to be removed by operation—no matter how small it may be—is a stone.

I think that Sir Henry must admit that he, a master of English, and speaking *ex cathedra*, should not have left the statement of his opinions in such a form as to mislead even a dull reader. That I have misrepresented his views there is no manner of doubt, and I beg that you will give me this opportunity of assuring him that I much regret it, though, at the time, I was speaking in perfect good faith.

I am, Sirs, truly yours,

Seymour-st., Feb. 17th, 1890.

EDMUND OWEN.

OUTBREAK OF SMALL-POX AT CRESSING.

To the Editors of THE LANCET.

SIRS,—A serious outbreak of small-pox has occurred at Cressing, in the Braintree Rural Sanitary District, under somewhat unusual circumstances. The first case was reported to the sanitary inspector on Jan. 29th, and when visited that morning the patient was found in bed in the fourth stage of small-pox, the eruption being general non-confluent, suppurating. The man belongs to the sect called "Peculiar People," and had no medical adviser. A child of seven weeks occupied the same room at my visit. This child has since died of the hæmorrhagic variety of the disease. The patient had been visited by his employer and friends during the week preceding my visit, the affection being called "running erysipelas." From this cause the disease has spread to at least four other persons, one resident at White Notley. Some of the residents near the infected cottage have been revaccinated, and all the inmates of the cottage have been protected by revaccination. The case is now under the care of the district medical officer. In my capacity as the medical officer of health a nurse has been procured from London. This was done on Feb. 1st, and the usual precautions have been taken to prevent the spread of infection. No means of isolation exist in the rural or urban district, though I have urged the provision of such for the past eight years. The urban authority now, under the influence of panic, propose to set about providing means of isolating cases in the event of the disease spreading to the urban district. They propose to act jointly with the rural authority. The success of this plan and the further spread of the affection shall be communicated to you. The inhabitants have suffered extensively from the influenza epidemic, which is now on the decline.

I am, Sirs, yours faithfully,

C. E. ABBOTT, M.R.C.S., L.K.Q.C.P.I.,

Medical Officer of Health, Braintree Urban and Rural Districts.

Braintree, Feb. 11th, 1890.

* * Whilst we would not incur the responsibility of urging the two authorities mentioned above to postpone taking joint action as suggested, we would remind them that a hospital erected under the influence of a sudden emergency has never, to our knowledge, either properly served its immediate purpose or the future requirements of the district. Many such hospitals have never received a single patient attacked during the outbreaks for which they were erected, and nearly all have been of such a sort as to hinder rather than favour isolation after the emergency has passed. If a house is available, it might be temporarily made into a hospital; but a new construction should, if it is to succeed, be made deliberately and uninfluenced by panic. In the case of small-pox much can fortunately be secured by vaccination.—ED. L.

EFFECTS OF THE ELECTRIC CURRENT WHEN APPLIED TO THE FEMALE PELVIC ORGANS.

To the Editors of THE LANCET.

SIRS,—Under the above heading Dr. McMordie, in your issue of Jan. 11th, says he has instituted some experiments to show the effect of the electric current on uterine hæmorrhage and fibroids. His experiment was as follows:—He got a one-celled electric battery, and for some months made a series of observations on the effects produced in uterine hæmorrhage and on fibroid tumours. He applied it as follows: One pole attached to a conductor in the form of a uterine sound in the uterus and the other to a flat conducting surface placed over the abdominal parietes corresponding to the fundus uteri. He tells us that this had no effect on the fibroids, even after frequent applications; its effect upon the hæmorrhage he does not state. I therefore presume that also was *nil*. Now, it is a fair question to ask, What effect did he expect to produce? Did he for a moment think he was testing Apostoli's methods, as in a previous sentence of his paper he says, "The facts adduced and proved by Apostoli and others who have been engaged in these experiments are very few." It is a legitimate conclusion that Dr. McMordie's experiment was to test the value of Apostoli's methods. Dr. McMordie's one-celled battery at the outside possessed an electro-motive force of 1.5 volts, and, leaving out the resistance the current would have to encounter in the conductors and electrodes, the body alone would offer a resistance of between 4000 to 6000 ohms. According to the well-known law of Ohm, the electro-motive force of such a battery meeting such a resistance would give in current intensity the merest fraction of a milliampère. Now, when we know that the arrest of hæmorrhage or any effect to be produced on a fibroid depends on electrolysis, or, as Apostoli expresses it, of chemical galvano-caustic action produced by a current having an intensity of from 60 to 250 milliampères, necessitating the employment of a battery of 30 to 50 cells, one sees the absurdity of such an experiment as Dr. McMordie's. Moreover, I have yet to learn that electricity according to Apostoli's methods has ever been used to produce the extrusion of a uterine fibroid; such a result is exactly what we wish to avoid. The shrinkage of the tumour is the result aimed at. I would recommend Dr. McMordie in his next experiment to leave out of the circuit altogether his one-celled battery, and I have no doubt he will achieve the results he describes.—I am, Sirs, yours faithfully,

Cromer, Jan. 1890.

HENRY M'CLURE.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Royal Southern Hospital.

AT the annual meeting of the Royal Southern Hospital, held on the 18th inst., the committee gratefully acknowledged the gift by Dr. Cameron of a pathological laboratory to adjoin the new post-mortem room. Dr. Alexander had also offered a scholarship of £20, open to students in microscopic and bacteriological researches; Dr. Carter a prize of £5 for the best series of clinical reports; and Mr. Robert Jones a similar prize for the best series of clinical surgical reports. These generous gifts from members of the medical staff, in addition to their other valuable services, are thus fully acknowledged. It was also stated that the horse ambulance had been used in 344 cases, and that a friend had borne the cost of affixing rubber tires to the wheels, which would afford much ease to those conveyed in it.

Death of Thomas Dale, L.R.C.P. Edin. & M.R.C.S.

Mr. Thomas Dale, who died on the 16th inst., was a native of Moor in Cheshire. He came to Liverpool at an early age and received his medical education at the local school of medicine. After obtaining his diplomas he commenced practice here, and for many years enjoyed a very considerable practice, obtaining much reputation as an accoucheur, and attending a very large number of obstetric cases. He was a prominent member of the Wesleyan Methodist body, and a regular attendant at the Brunswick Chapel, near which he resided. He was in his sixty-sixth year, and, being in failing health, he in May last

consulted Dr. W. Carter, under whose care he remained. On Saturday serious symptoms set in, and on Sunday he breathed his last. He leaves a widow and several children to mourn his loss, and many old fellow-students and professional friends will learn of his death with regret, he having always been distinguished by his genial disposition and pleasant manners.

The Eye and Ear Infirmary Post-graduate Class.

Mr. Edgar Browne's lectures on ophthalmoscopy are largely attended. Bearing in mind those details which are most practically useful to general practitioners, the subject is treated from this point of view. An ample supply of interesting cases has been furnished from the out-patient room, and the gentlemen attending the class have had the opportunity of studying some rare diseases as well as the normal condition.

Liverpool, Feb. 20th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Queen's College and Durham University.

It has been a cherished idea for some time past that the students of Queen's College should be able to present themselves for examination at Durham without the previous necessity of residence at the University. A deputation from the Council went to the Northern University some weeks ago and interviewed the authorities there, with the view of ascertaining if and how this could be arranged. Their hopes are now at a discount, and, for the present at all events, the end they sought to obtain is nowhere in view. The following communication has been received: "The Senate of the University regret that the time does not appear to them to have arrived when it would be desirable to affiliate the medical department of Queen's College with the University, especially as the connexion of the medical colleges with universities is now the subject of a Parliamentary report, the proposals of which have not been considered."

Infant Mortality at Warwick.

At a meeting of the Warwick Town Council an important report by Dr. Wilson, the medical officer of health, was presented on this subject. From a return of the death certificates granted by the registrar in cases of infant life insurance, it appeared that eleven of these certificates were given for deaths of infants insured under one year of age and eleven for deaths of children over one and under five years. In the discussion which followed it was suggested that the charities of the borough should be placed under one representative body, so as to aid in preventing abuses which fostered the tendency to their indiscriminate use; that the laws of health should be taught in the elementary schools, and that medical men should refuse to give certificates in cases where they had reason to believe that there had been parental neglect. When these good objects are carried out I shall expect to see Warwick a model borough, and the infants thriving under the protection of such auspices.

Singular Provision of Will.

The late Colonel Vyner, of Leamington, in his will made a curious bequest, that £10 be given to his regular medical attendant to personally examine him after his death, and certify in writing to the executors that he was really and undoubtedly dead, and the doctor was authorised to use whatever means he might think fit to make himself absolutely certain of the death of the testator. The horror of being buried alive is not uncommon, though the expression of it in this practical form is rare.

The Post Office Medical Staff.

Mr. George Jones, who for twenty-seven years has held the appointment of medical officer to the local post-office, has just resigned his appointment. The Postmaster-General has sanctioned the creation of five districts, to each of which a medical officer has been appointed, and it is thought that this plan will conduce to the interests of the *employés*, and render the work more advantageous to all concerned.

Birmingham, Feb. 19th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Influenza in Newcastle and Districts.

It is stated in to-day's papers that the influenza extends from Tynemouth in the east to Carlisle in the west, from Berwick in the north to Durham in the south. One colliery owner alone has 500 men away from work from this cause, and this will make a difference in the production of about 1000 tons a day. There is scarcely a school of any size in Newcastle where most of the teachers and scholars have not been attacked, and there is scarcely a medical man in Newcastle or Gateshead who has escaped an attack personally or in his household. Some curious facts are coming out as to its mode of propagation; for instance, in one dispensing establishment, employing eighteen assistants, the managing partner remarked that of his nine assistants at the front counter all but one were attacked in turn, but of the nine others in the same shop who did not serve customers all escaped. Some very sudden and fatal cases of pneumonia have taken place within the last few days consequent on the influenza wave which is now passing over us. I regret to note the death from this cause on the 8th inst. of a very promising student, Mr. Charles Henry Humble, who succumbed after three days' illness. Mr. Humble, who was only in his twenty-second year, had passed his first and second M.B., and was a diligent student, losing no opportunity of improvement in his profession. He was an only son, and his funeral at Sunderland on Wednesday was attended by many of his classmates and teachers, who deeply regretted his early death.

Newcastle Hospital Sunday Fund.

The final lists of collections for this Fund are out, and show that the amount collected is the largest aggregate yet reached. Under both heads it amounts to £4205. In places of worship the collections amounted to £2080, against £1956 last year. The collections from factories and workshops reached the very satisfactory amount of £2124, being £320 more than last year. The workmen's subscriptions have for this year exceeded those of the churches and chapels, and altogether there is an improvement of £445 upon the total of last year.

Newcastle Chest Hospital.

The annual meeting of the Northern Counties Hospital for Diseases of the Chest has been held, and the report shows that this charity has, as far as its means allowed, been of great use in the city. There had been 758 out-patients, and 28 had been treated in-doors. The financial position was good, but its efforts were greatly cramped for want of room.

Durham.

The financial position of the Durham Samaritan Society is satisfactory, the annual report showing that it had nearly £100 to carry forward. This favourable state of affairs is stated to be due to the proceeds of a *conversazione* held in the Durham Town Hall. The Society had relieved 411 patients of the County Hospital during the year, and its nurses had paid over 700 visits in a year marked by much sickness in the city, caused (the report says) by the insanitary and overcrowded condition of many of the dwellings.—The University of Durham Medical Society's ball was held last week in Newcastle, and passed off as a brilliant success, the company numbering upwards of 500.

The late Mr. John Hope.

A handsome stained-glass window has just been placed in St. Andrew's Church, Newcastle, as a memorial of the late John Hope, M.R.C.S., of that city. The window has been erected by a few friends. Mr. Hope's early death at Grange-over-Sands a few years ago, followed in less than a year by that of his young widow, will still be remembered by many of your readers. Mrs. Hope is also commemorated in this window.

Newcastle-on-Tyne, Feb. 18th.

TUNBRIDGE WELLS HOSPITAL.—The sixty-first annual report notices the satisfactory condition during the last year in the three main sources of income—viz., the subscriptions, donations, and collections,—the total amounting to £2169 0s. 5d. The number of in-patients (454) was the largest admitted in any one year.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

EDINBURGH.

Edinburgh Medico-Chirurgical Society.

THIS week the first of a series of discussions is to be opened at the meeting of the Edinburgh Medico-Chirurgical Society. Dr. Strachan is expected to lead off with a paper on the Physiology of Education, a full report of which will probably be published in the *Edinburgh Medical Journal*. A number of physiologists and educationists will take part in or benefit from the discussion; and it is to be hoped that the outcome will not be similar to that recorded of the article on Chinese Metaphysics, the author of which based his observations on two other articles in the same Encyclopædia—viz., China and Metaphysics. If the subject is tackled rationally and fairly, nothing but good can be the result of the discussion of such a subject, especially when discussed from the different standpoints of the physiologist and the educationist. The next of the series of special discussions is to be on the recent influenza epidemic. There are certainly plenty of data on which to work; but how far any valuable general deductions will be obtained still remains to be seen. Whatever may be the result of the discussions, the subject itself will be a popular one, as many members of the Society who do not usually participate in the work of the meetings will feel quite competent to discuss a disease they have so recently had such ample opportunities of studying.

County Councils and Medical Officers of Health.

During the last few days the columns of the local papers have been the media for the airing of a subject in which the health of the community is very closely concerned. There can be little doubt that it is opposed to the best interests of the community and against the sound administration of the Public Health Act to allow private practitioners to hold the post of medical officer of health. The permission to continue in private practice is merely an excuse on the part of the County Councils to cut down to as low a point as possible the remuneration for the performance of the duties of public medical officer. Every medical officer of health who has had experience of private practice knows how difficult, or even impossible, it is for anyone combining the two functions to carry out the necessary reforms. In his lectures on public health Dr. Littlejohn, it may be remembered by his students, used to insist that the interests of a private practitioner and those of the medical officer of health, although actually the same, are nominally different; that the hands of the latter are practically tied; and in many cases he feels that his public duties may interfere with his private practice, or his private practice with his public duties. If the salary be small, the work of the office must suffer in the interests of private practice; and if it be large, it should be large enough to enable him to live without having on his shoulders the cares of private work. It would of course be necessary to combine, in some cases, several of the counties or districts; but there is no doubt that an ideal public health service is that in which the remuneration offered is sufficient to ensure the application of thoroughly trained men for the various appointments. In no country are there more sanitary experts, thoroughly well trained, than there are in Scotland at the present time, and it would be a great pity were these to be lost to the service of the public.

The Edinburgh New Town Dispensary.

It is a matter of considerable regret that this, the famous "N. T. D.," is likely to be crippled somewhat from the diminution in the subscription list, with an increased number of patients during the year to the extent of 600. It is certainly to the interest of the Edinburgh Medical School that such a capital field as this dispensary affords for clinical students should not be allowed to languish for want of funds, as with nearly 7000 patients in attendance at the dispensary during the year and nearly 2000 attended at their own homes, there is scope for clinical work such as cannot be obtained in a hospital, and which is of immense value to the student whose future work lies chiefly amongst such patients. Whatever may be the cause of the falling off of subscriptions, every effort should be made to increase them in future years. Dr. Stockman, Lecturer on Materia Medica, Minto House School of Medicine, has been chosen to fill the vacancy in the staff of medical officers in the institution.

The Weather.

Mr. Lindsay, the curator of the Royal Botanic Garden, reports that during January the weather has been unusually mild, and that vegetation at the end of the month was considerably in advance of what it was at the same period last year. During the past week, however, very changeable weather has been experienced in Edinburgh. The death-rate is still high, 27·88 per 1000, or 10 per 1000 more than during the corresponding week of last year.

The late Nurse Porter.

The high respect in which the late Nurse Porter was held was evidenced by the large attendance at her funeral on Thursday afternoon. The funeral service was held in the Infirmary Chapel, when there were present Professor Annandale, Surgeon-Major Fasson, Dr. Cathcart, Dr. Affleck, Professor Chiene, the residents in the infirmary, a number of nurses, and many others. Nearly the whole of the surgical staff and several from the medical side of the house, with a number of senior students, joined the procession to the Grange Cemetery.

Edinburgh, Feb. 18th.

ABERDEEN.

Health of the City.

DURING last week the following cases of zymotic diseases were notified to the medical officer of health—viz., measles, 16; scarlet fever, 2; diphtheria, 2; typhoid fever, 5; and whooping-cough, 39. In his report for the month of January, Dr. Hay states that the mortality for the month was unusually high. Among the aged the death-rate was higher than it had been for many months. As compared with the mortality in the same month during the previous ten years, the total death-rate (26·19 per 1000) during the last month was higher by 2·9 per 1000 than the average, and had been exceeded only in 1881 and 1883. The death-rate from diseases of the respiratory organs was greatly above the average, as was that from miasmatic diseases. This is said to be due chiefly to influenza, typhoid fever, and measles. The mortality from tubercular diseases was the lowest on record. Eleven deaths from influenza were reported during the month; three were outside the municipal area. The ages of the persons that died ranged chiefly between twenty-four and fifty-seven years. The disease was complicated in eight cases with inflammation of the lungs, in one case with diarrhoea, in another with senile debility. The duration of the illness varied from three to twenty-two days, but was mostly under a week. Dr. Hay says: "It is interesting to note that in January, 1881, when, as already mentioned, the mortality from respiratory diseases exceeded even that of last month, influenza was not prevalent nor was any other zymotic disease unusually abundant; but the mean temperature of the month was nearly 10° below the average, and was the lowest ever chronicled for the same month or any other month in all recorded years. The excessive cold, therefore, was in 1881 the apparent cause of the high mortality. No such cause existed during last month, for the weather was exceptionally mild and equable."

Air Space in Lodging-houses.

At a recent meeting of the Public Health Committee of the Town Council, the sanitary inspector submitted a representation suggesting that the rules regarding common lodging-houses be altered so that 400 cubic feet of air space, in place of 300, as at present, shall be provided for each person over eight years who sleeps in these houses. It was stated that in Edinburgh and Dundee this provision is in operation, and Glasgow is about to promote a Bill making it compulsory in dwelling-houses of all kinds. The Committee resolved to recommend the Council to apply to the Board of Supervision to sanction the change.

Aberdeen, Feb. 18th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

DUBLIN.

South Dublin Union.

AN election for a medical officer to the Peter-street Dispensary, consequent on the resignation of Dr. C. F. Moore, took place last week. There were thirteen candidates for the post, Dr. Cope being ultimately successful by a majority of eight votes. The emoluments are about £180 per annum.

Mullingar District Lunatic Asylum.

There are at present in this institution 584 patients, a number in excess of the ordinary accommodation, amounting to 152. The asylum is, therefore, overcrowded by fully 30 per cent.; but notwithstanding, the inmates, according to a recent report of Dr. Nugent, Inspector of Lunatic Asylums, are as a body comfortably circumstanced. It is a matter of regret that up to this so little progress has been made in constructing the proposed addition to the asylum, but Dr. Nugent has promised to bring the matter under the prompt consideration of the Board of Control.

Infectious Diseases (Notification) Act.

The Cork Corporation, at a recent special meeting, acting as the Cork Urban Sanitary Authority, have unanimously adopted the Infectious Diseases (Notification) Act, 1889. The Act will come into operation on April 1st, and its provisions will apply to the Cork Urban Sanitary District; all notices and certificates of infectious disease are to be sent to the Medical Superintendent Officer of Health. As institutions which receive cases of infectious diseases are not bound to report in accordance with the Act, the two institutions in Cork which admit patients suffering from diseases of this nature have been requested by the Town Council to co-operate with the corporate offices.

Barrington's Hospital, Limerick.

The annual ball in aid of this hospital was held in the Athenæum last Friday, and was well attended. It is believed that, as a result, a very substantial addition to the funds of a deserving charity has been obtained.

The late Sir Robert Kane.

On Tuesday last the remains of Sir R. Kane, who died the previous Sunday, were interred in the family vault at Glasnevin. The funeral was largely attended by members of the learned professions. Representatives were present on behalf of the College of Physicians, Royal Irish Academy, Royal University of Ireland, University of Dublin, &c.

Death of George W. Hatchell, L.K.Q.C.P.I.

This gentleman died on Wednesday at his residence in Dublin, aged eighty years. For thirty years he acted as Inspector of Lunatic Asylums in Ireland, and only resigned office last year. He acted as physician to the Vice-regal household for upwards of half a century.

Dublin, Feb. 19th.

BELFAST.*The Royal University.*

The President of Queen's College, Belfast (the Rev. Thos. Hamilton, M.A., D.D.), has been appointed a senator of the Royal University, in room of the late Right. Hon. A. M. Kavanagh. At the last meeting of the Senate of the University two teachers of the Belfast Medical School were reappointed examiners: Dr. Byers in Midwifery and Dr. Whitla in *Materia Medica*.

The Thompson Memorial Home, Lisburn.

The fifth annual meeting of the committee and trustees of this Home was held on Feb. 10th. This institution, which is for incurables, was erected in memory of the late well-known Dr. Thompson of Lisburn, by his daughter, Mrs. Bruce, and his son-in-law, Mr. Bruce, D.L., of Belfast. The latter, who presided, said that the total income from investments, bank interest, and refunded income-tax was £1849 8s. 7d. for the year, but that the outlay exceeded this sum by £32 9s. 4d. The daily average of patients during the year in the Home was fifty-six, and the cost per head was £33 4s. 5d. They were aware, Mr. Bruce said, that the General Committee had empowered the Board of Management to admit sixty patients, and in order to give the Board ample means to support an increased number of people he had been requested by his wife to present the trustees with £4000. A very hearty vote of thanks was passed to Mrs. Bruce, who has given altogether £79,000 for the building and endowment of the Thompson Memorial Home.

The Belfast Medical Students' Association.

The annual conversazione, under the auspices of this Society, was held in Queen's College on Feb. 12th, and was in every respect a great success. This was the second social reunion of the Society, which has an existence of three years, and the object of which is to promote the interests of local medical students as regards their professional training. The President of Queen's College, several of the Professors

and Teachers in the Medical School, and an immense number of the public were present. The College halls were very artistically decorated, and the general arrangements were most admirably carried out by the committee. After tea a number of interesting experiments with soap bubbles were shown by Professor Letts in the chemistry room, and through the kindness of Professor Everett a variety of apparatus used in teaching natural philosophy was exhibited in his class room. At nine o'clock the company crowded the great hall of the College, where a very fair concert was given by several well-known musical amateurs. The last and most amusing of the entertainments at the conversazione was the performance of Artemus Ward's new wax "Figgers," in which Dr. W. N. Watts made a capital showman and lecturer. Dr. McKisack took charge of the musical programme, Mr. Morrow the refreshments, and Mr. Hugh Heron, B.A., the popular secretary of the Association, had charge of the decorations.

Belfast, Feb. 18th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Bacteriology of La Grippe.

PROFESSOR JACCOUD made a very interesting communication to the Academy of Medicine last week on some cases of *la grippe* observed in his ward at La Pitié Hospital. The following was drawn up by Dr. Duflocq, his "chef de clinique." The number of patients amounted to forty-two, thirty-four men and eight women. In thirteen cases there was simple *la grippe* without any complication. Twice symptoms of intestinal catarrh were observed, seven times symptoms of simple bronchitis, six times pulmonary congestion, once capillary bronchitis, twelve times pneumonia or broncho-pneumonia, and once dry bilateral pleurisy. Two women who died had pneumonia with fibrinous exudation, and in one man capillary bronchitis supervened. In a case of capillary bronchitis, the pneumococcus of Fraenkel and the microbe of Friedländer were found. In the cases of simple pulmonary congestion, pneumococci were never found in the sputa. These results are analogous to those observed by Dr. Ménétrier, and described by him in his thesis in 1886. The presence or absence of the pneumococcus in the sputa constitutes an important element of diagnosis between pulmonary congestion and pneumonia.

A Case of Erysipelatous Broncho-pneumonia.

Dr. Mosny read a note on a case of erysipelatous pneumonia, in a woman aged thirty-seven, a domestic, who, while attending her master affected with erysipelas of the face, fell ill, and was sent to the hospital, presenting all the symptoms of primary pneumonia, without any morbid manifestation either on the skin or in the respiratory mucous membranes. The disease proved fatal, and at the necropsy the streptococcus erysipelatis was found in the exudation from the lungs. Three drops of a recent culture injected under the skin of the ear of a rabbit produced the ordinary experimental erysipelas, and it was concluded that this case was one of primary erysipelatous broncho-pneumonia.

Statistics of Insanity.

In a report to the Society of Medical Jurisprudence, Dr. Paul Garnier pointed out the alarming increase of mental affections in Paris. He stated that in the last fifteen years it had increased more than 30 per cent. The principal causes were alcoholism and intellectual strain. Mental aberration was a little more common in men than in women, the proportion being 56 men and 54 women out of 100 lunatics; but this proportion tended to become equalised, as the progression of insanity was more rapid in the female than in the male sex.

Chloride of Sodium and Wine.

The Consultative Committee of Public Hygiene, having been requested by the Minister of Commerce to give its opinion as to the proportions of the addition of common salt to wine that might be tolerated without having the effect of falsifying or deteriorating a natural wine, decided that, in any case, the quantity contained in the wine should not exceed one gramme per litre. Any infringement of this new law will be severely punished.

Foreign Medical Men and French Practice.

As the reciprocity of advantages appertaining to medical

qualifications has recently occupied the attention of the authorities on both sides of the Channel, it might interest your readers to know that the Minister of Public Instruction, in his report to the Commission appointed by the Chamber of Deputies to investigate the subject, expressed his opinion that reciprocity could not be admitted among nations whose diplomas and medical degrees were not of equal value. Foreign medical men should not practice in France unless they had obtained the diploma of Doctor of Medicine from a French faculty, after having undergone the final series of tests imposed on the students of medicine in this country. Foreign doctors who resorted to health stations on French territory would be exceptionally authorised to practise, but only among members of their own nationality.

Reciprocity in Medical Diplomas.

I have just received a circular from the Royal College of Physicians of London, in which are set forth the conditions on which French doctors may practise in England. These conditions ought to be translated into French and forwarded to the authorities and all the medical journals of this country.

Pasteur's Treatment of Hydrophobia.

Since Aug. 21st last—that is to say, during six months—850 persons bitten by rabid dogs have been treated at the Pasteur Institute. Of this number only one has died. These results are certainly very encouraging, and may be explained in different ways. In the first place, the patients generally apply much earlier for treatment, and there are also some modifications in the *technique* of the inoculations. For instance, the quantity of liquid injected is larger than formerly. Moreover, when the wounds are particularly dangerous, such as multiple and deep bites, bites in the face and on the skull, the spinal marrow of the most virulent character is injected on two consecutive days.

Hypnotism and the French Army.

Owing to the abuse of hypnotism in certain quarters, the Minister of War has interdicted the military medical officers from practising it in the Army.

Paris, Feb. 19th.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In twenty-eight of the largest English towns 6103 births and 4723 deaths were registered during the week ending Feb. 15th. The annual rate of mortality in these towns, which had been 22·8 and 23·0 per 1000 in the preceding two weeks, further rose last week to 25·3; the rate was 21·3 in London and 28·7 in the twenty-seven provincial towns. During the first seven weeks of the current quarter the death-rate in the twenty-eight towns averaged 25·1 per 1000 (it was 26·1 in London and 24·6 in the twenty-seven provincial towns), and was 1·5 above the mean rate in the corresponding periods of the ten years 1880–89. The lowest rates in these towns last week were 21·3 in London, 21·7 in Derby, 22·3 in Bradford, and 22·8 in Brighton. The rates in the other towns ranged upwards to 33·1 in Wolverhampton, 33·8 in Bolton, 34·4 in Plymouth, and 38·6 in Manchester. The deaths referred to the principal zymotic diseases, which had been 328 and 345 in the preceding two weeks, further rose last week to 419; they included 189 from whooping-cough, 67 from diphtheria, 53 from scarlet fever, 49 from measles, 31 from “fever” (principally enteric), 30 from diarrhoea, and not one from small-pox. No death from any of these zymotic diseases was recorded during the week in Norwich, whereas they caused the highest death-rates in Manchester, Salford, and Bolton. The greatest mortality from whooping-cough occurred in London, Hull, Bristol, and Bolton; and from measles in Liverpool. The death-rate from scarlet fever and from “fever” showed no marked excess in any of these great towns. The 67 deaths from diphtheria in the twenty-eight towns included 39 in London, 4 in Liverpool, 4 in Manchester, 4 in Salford, 3 in Preston, 2 in Bolton, 2 in Sheffield, and 2 in Hull. No death from small-pox was registered in any of the twenty-eight great towns. Five cases of this disease were under treatment on Saturday last in the Metropolitan Asylum Hospitals, and one in the Highgate Small-pox Hospital. The number of scarlet fever patients in

the Metropolitan Asylum and London Fever Hospitals further fell last week to 1265, from numbers declining in the preceding six weeks from 1609 to 1297; 63 cases were admitted to these hospitals during the week, against 99 and 75 in the preceding two weeks. The deaths referred to diseases of the respiratory organs, which had declined in the preceding five weeks from 1069 to 485, further fell last week to 439, and were 86 below the corrected average. The causes of 118, or 2·5 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Sunderland, Portsmouth, and in four other smaller towns. The largest proportions of uncertified deaths were registered in Huddersfield, Blackburn, Cardiff, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had declined in the preceding five weeks from 29·0 to 25·0, rose again to 28·7 in the week ending Feb. 15th; this rate exceeded by 3·4 that which prevailed during the same week in the twenty-eight English towns. The rates in the eight Scotch towns ranged from 18·8 in Perth and 22·5 in Leith to 31·6 in Aberdeen, 32·5 in Glasgow, and 34·4 in Paisley. The 742 deaths in the eight towns showed an increase of 96 upon the number in the previous week, and included 34 which were referred to measles, 29 to whooping-cough, 10 to diarrhoea, 8 to “fever” (typhus, enteric, or ill-defined), 8 to diphtheria, 6 to scarlet fever, and not one to small-pox. In all, 95 deaths resulted from these principal zymotic diseases, against 90 and 85 in the preceding two weeks. These 95 deaths were equal to an annual rate of 3·7 per 1000, which exceeded by 1·5 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of measles, which had been 36, 18, and 24 in the previous three weeks, rose again last week to 34, of which 18 occurred in Edinburgh and 12 in Glasgow. The 29 deaths from whooping-cough corresponded with the number in the previous week, and included 13 in Glasgow, 9 in Edinburgh, and 5 in Dundee. The 8 deaths referred to “fever,” of which 4 were returned in Glasgow and 2 in Aberdeen, also corresponded with the number in the previous week. Of the 8 fatal cases of diphtheria, 4 were returned in Edinburgh and 2 in Glasgow. The 6 deaths from scarlet fever showed a decline of 7 from the number in the previous week, and included 2 in Glasgow and 2 in Leith. The highest death-rates from the principal zymotic diseases last week were 4·0 in Leith and 6·9 in Edinburgh. The deaths referred to diseases of the respiratory organs in the eight towns, which had been 187 and 162 in the preceding two weeks, rose last week to 195, and exceeded by 77 the number returned in the corresponding week of last year. The causes of 85, or nearly 12 per cent., of the deaths registered in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 48·8, 43·5, and 33·4 per 1000 in the preceding three weeks, rose again to 37·8 in the week ending Feb. 15th. During the first seven weeks of the current quarter the death-rate in the city averaged 41·5 per 1000, the mean rate during the same period being 26·1 in London and 27·3 in Edinburgh. The 256 deaths in Dublin last week showed an increase of 30 upon the number in the preceding weeks; they included 5 which were referred to measles, 5 to “fever,” 1 to whooping-cough, 1 to diarrhoea, and not one either to small-pox, scarlet fever, or diphtheria. Thus the deaths from these principal zymotic diseases, which had declined from 24 to 12 in the previous three weeks, were again 12 last week; they were equal to an annual rate of 1·8 per 1000, the rate from the same diseases being 2·5 in London and 6·9 in Edinburgh. The fatal cases of measles, which had been 1 and 2 in the preceding two weeks, further rose to 5 last week; the 5 deaths referred to “fever” (typhus, enteric, or ill-defined) were within one of the number recorded in the previous week; and the mortality from whooping-cough showed a further decline. The deaths referred to influenza, which had been 6 and 7 in the preceding two weeks, were again 7 last week. Four inquest cases and 5 deaths from violence were registered; and 44, or nearly one-fourth, of the deaths occurred in public institutions. The causes of 44, or more than 17 per cent., of the deaths in the city were not certified.

Obituary.

SIR ROBERT KANE, F.C.P., F.R.S., M.R.I.A.

AFTER a short illness Sir Robert Kane died at his residence, Wellington-road, Dublin, on Sunday last, at the mature age of eighty. This distinguished chemist and illustrious Irishman pursued his medical studies at the Meath Hospital and Trinity College, where he graduated in Arts in 1835. In the following year he visited Germany and worked under Liebig, and in 1840 under Dumas of Paris. He obtained the licence of the College of Physicians in 1832 and the Fellowship in 1841. Prior to this latter date he lectured on Chemistry, and examined in the same subject at the Apothecaries' Hall of Ireland. He also held the post of Professor of Natural Philosophy at the Royal Dublin Society from 1834 to 1847, and in the last-named year was awarded the Cunningham gold medal by the Royal Irish Academy for researches on "Ammonia Compounds," and in 1840 the medal of the Royal Society for a paper on the Colouring Matters of Lichens. For some years he acted as President of the Queen's College, Cork, but resigned that position in 1873. He was knighted in 1846, and appointed in the same year one of the Irish Relief Commissioners, and in 1875 was elected a member of the Academic Council of the University of Dublin, and the following year President of the Royal Irish Academy. The deceased published in 1842 "The Elements of Chemistry," and two years afterwards an important work on the "Industrial Resources of Ireland." Sir Robert Kane was an LL.D. of the University of Dublin, a Justice of the Peace, and a member of many scientific societies.

THE SERVICES.

ARMY MEDICAL STAFF.—Surgeon-Major William Taylor, M.D. (ranking as Lieutenant-Colonel), to be Brigade Surgeon, vice T. H. White, M.D., retired (dated Feb. 5th, 1890).

MILITIA MEDICAL DEPARTMENT.—Surgeon-Major J. W. Cavanagh, 3rd and 4th Battalions, the King's (Liverpool Regiment), resigns his commission; also is permitted to retain his rank, and to wear the prescribed uniform on his retirement (dated Feb. 19th, 1890).

ADMIRALTY.—The following appointments have been made:—Fleet Surgeon Thos. H. Atkinson, to the *Wildfire*, additional, temporarily (dated Feb. 17th, 1890); Fleet Surgeon Henry D. Stanistreet to the *President*, additional, temporarily (dated March 3rd, 1890), and then to Royal Victoria Yard, Deptford (dated March 26th, 1890); Staff Surgeon Alfred Patterson to the *Vivid*, temporarily (dated Feb. 15th, 1890); Surgeon Sidney H. Youel to the *Pigeon* (dated Feb. 18th, 1890); and Mr. Thomas Hope Lewis to be Surgeon and Agent at Auckland, New Zealand (dated Feb. 17th, 1890).

Medical News.

UNIVERSITY OF DUBLIN.—At a meeting of the Senate held on the 18th inst. the following degrees were conferred:—

Bachelor in Medicine.—George Hollies.

Bachelor in Medicine, Surgery, and Obstetrics.—David North Emerson, John Neilson Eustace, Francis Turnley Gage, Theophilus Percy Jones, Alfred Vigne, Joseph Charles Worthington.

Doctor in Medicine.—Alan Bell, George Hollies, Robert Henry Johnston, Joseph Charles Worthington.

THE SANITARY INSTITUTE.—At a meeting of the Council held on the 12th inst., Sir Douglas Galton, K.C.B., F.R.S., in the chair, an invitation was received from the Town Council of Brighton inviting the institute to hold its annual congress and exhibition in that town in the autumn.

CEYLON CENTRE OF THE ST. JOHN AMBULANCE ASSOCIATION.—The report of this Centre shows that forty-two men and forty-seven women passed the examination for "first aid," and twenty-six women qualified for the nursing department, during the past year. The committee expressed their appreciation of the energy and zeal of the medical officer, Dr. Lees Hall. The Centre is altogether in a flourishing condition.

DOWNPATRICK WATER-SUPPLY.—An inquiry has been held by the Local Government Board as to the propriety of assenting to a petition of the Downpatrick Board of Guardians for a loan of £10,500 for the purpose of providing a proper supply of water for that town. Drs. Maconchy and Nelson have given evidence that the present supply of water is of bad quality. The drainage area will comprise 360 acres.

CAVENDISH COLLEGE, CAMBRIDGE.—An examination will be held on July 8th and following days at which one scholarship of £50 and six of £30 will be offered for competition to candidates who have not commenced residence and who will be under eighteen years of age on Oct. 1st. One or more of the following subjects may be offered for examination:—Classics, mathematics, natural science, modern languages. Particulars may be obtained from the Master.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—Sir Hedworth Williamson, in the presence of a large assembly, opened, on the 8th inst., the new ward and extensions of this hospital, which consist of a ward, an operating room, and connecting corridor, rendered necessary by the large increase in the number of accident cases treated at the institution. The ward is named the Canon Miles Ward, in honour of the late rector of Monkwearmouth, who had always taken great interest in the hospital.

METROPOLITAN HOSPITAL SATURDAY FUND.—At a special meeting of delegates, held on Saturday last, resolutions were adopted to the effect that, the Hospital Saturday Fund being incorporated under the Companies Act, all property belonging to or held in trust for the board of delegates be transferred to the Association so incorporated, and that the business of the fund be conducted in compliance with the articles of association, and the existing governing body was declared to be dissolved.

EASTBOURNE MEMORIAL HOSPITAL.—The sixth annual report, just issued, shows an increase in the number of in-patients. There were thirty-three accident cases. Twelve major and many minor operations were performed. The hospital, as enlarged, was opened in March last. The total income amounted to £1301 4s. 5d., and the expenses to £1247 18s. 2d. It may be observed that Mr. A. B. Wrangham has recently offered to give £400 towards a new wing to the hospital, for the use of children.

ROYAL FREE HOSPITAL, GRAY'S-INN-ROAD.—This institution is doing most useful work, and is in sound working condition. The medical and surgical treatment of the patients, and the general care and management of the resources of the hospital are satisfactory. The committee are impressed with the importance of rebuilding the front of the building in accordance with the admirable arrangements of the other three sides, and ask for the support of the public towards the completion of the work.

BRADFORD INFIRMARY.—The annual report for 1889 shows that altogether 14,000 persons were assisted in the course of the year by the institution. There had been a steady increase in the number of patients, especially of in-patients, the new cases being 138 more than in the preceding year. The appeal in September for donations towards the liquidation of the accumulated debt, estimated at £2200, had been liberally responded to, and the debt was cleared off. But the revenue still falls short of what is required to avert a recurrence of the financial difficulty.

THE SANITARY ASSURANCE ASSOCIATION.—The fifth annual meeting of the members of the Sanitary Assurance Association was held on Feb. 17th at 5, Argyll-place, W., Sir Joseph Fayer, K.C.S.I., F.R.S., in the chair. Mr. Joseph Hadley, secretary, read the annual report, which referred to the work of the Council in promoting the Sanitary Registration of Buildings Bill, and to the disclosure of serious sanitary defects in Board schools and other places which had been inspected by the Association during the past year. The income for the year was £398 8s. 10d. The Chairman proposed, and Alderman Sir Vincent Kennett Barrington seconded, the adoption of the report. General Burne, C.B., and Dr. Danford Thomas were re-elected members of the Executive Council, and Sir Joseph Fayer and Professor T. Roger Smith, F.R.I.B.A., were re-elected president and vice-president respectively.

BRITISH MEDICAL TEMPERANCE ASSOCIATION.—

The council of the Association have just admitted twelve new members (abstaining medical men) and fourteen new associates (abstaining students). A meeting, to which visitors are invited, is to be held on Tuesday next, at 4 o'clock, at the room of the Medical Society of London, 11, Chandos-street, at which the report of a committee, consisting of Drs. Moir, Morton, and Pearce, will be presented, entitled "An Analysis and Comparison of the Consumption of Alcohol in Hospitals in 1863 and 1888."

PROPOSED NEW HOSPITAL AND DISPENSARY,

SCARBOROUGH.—Dr. J. W. Taylor, the president, occupied the chair on the 14th ult., at a private meeting of the governors of this institution, to consider, chiefly, the selection of a new site for a hospital and dispensary, the locality and fabric in Elders-street being unsuitable and inadequate for the requirements of a hospital. A site, on King's Cliff, having an extensive and uninterrupted frontage to the sea, had been offered for £14,000. It was resolved to convene a general meeting of the subscribers, with the view of coming to a final decision on the question.

THE CHILDREN'S HOSPITAL, PENDLEBURY.—

The Mayor of Manchester, Mr. Alderman Mark, presided at the annual meeting, held on Jan. 22nd. The report of the medical officers gives a careful analysis of the various cases of disease treated by them in the dispensary and hospital, and again renews the subject of insurance of very young children, based upon an additional year's experience, commenting on the need of further legislation on the question. A cot had been endowed by the liberality of Mr. and Mrs. William Agnew with £1000. The general financial statement showed a balance due to the bank of £147 19s. 2d., the accumulation of several annual deficits.

PROPOSED NEW BUILDINGS FOR THE YORKSHIRE

COLLEGE.—The council of the Yorkshire College are appealing to the public for £40,000, half of which has been already collected, to enable them to erect new buildings for the medical department, a college library, and examination hall. The council are prepared to devote £25,000 of this sum to the buildings and equipment of the department of medicine, and £15,000 to the erection of the college library and hall. The College is now in receipt from the Treasury of an annual grant of £1400—subject, however, to revision at the end of five years, when its continuance will depend on the efficiency of equipment and the number of students and other conditions which alone can secure liberal local support.

BURNING OF THE TORONTO UNIVERSITY.—

The Toronto University, the finest educational building in Canada, and the opening of the Biological department of which our correspondent announced last week, was almost entirely destroyed by fire on the 16th inst. Preparations were being made for a public reception, the walls hung with flags and evergreens, and the rooms lighted by petroleum lamps, when an accident occurred to one of the lamps and the floor caught fire. The flames spread up the staircase and caught the decorations, and the whole of the interior of the building was soon in a blaze, and shortly afterwards completely destroyed. The scientific apparatus, and the library, with 33,000 volumes, many of which cannot be replaced, were consumed. The loss is estimated at 500,000 dollars.

COTTAGE HOSPITALS.—

Clevedon: During the past year more patients had been admitted than in any previous year. The large majority were cured, and able to resume their occupations after a few weeks. After payment of the year's disbursements a small balance remained in hand.—*Wallingford*: The report for 1889 is very satisfactory. By a recent arrangement it comprises a period of fifteen months. During that period 101 patients had been treated in the hospital, and the number of out-patients was 104. The income had been well maintained, and the financial position showed a small credit balance.—*Ashburton and Buckfastleigh*: The general committee congratulate the subscribers on the improved working of the hospital in the new buildings formally opened in August last, the whole cost of which had been defrayed. Forty-six patients were under treatment during the past year. The total receipts were £213, and the expenditure £206.—*Tetbury*: The annual report for 1889 (the twenty-second) shows that the usefulness of the hospital had been fully sustained. Thirty-eight patients had been treated. The ordinary income still fails to meet the expenditure, and a small debit balance is shown.—*Mold*: The annual report states that by the recent

alteration of the rules workmen had during the past year contributed £57 to the funds, without any corresponding increase in the number of patients, as had been anticipated. By the generosity of two ladies a mortuary had been built, which supplied a long-felt want. The balance in hand was £226, against £191 last year.—*Blackheath and Charlton*: The sixth annual report, just issued, is of a very gratifying character, alike as to the past year's work of the hospital and its financial condition.—*Budleigh Salterton*: The first report of this hospital, which was erected mainly through the benevolence of a gentleman, who anonymously contributed £520 towards its erection and £1000 towards its endowment fund, shows that the institution has been doing good work since its opening at the beginning of last year. The committee believe that the subscribers will be satisfied with the financial statements submitted to them in the report, and they are much encouraged by the support accorded to the hospital. The furnishing account (the money for which was raised by the bazaar held at Dr. Brushfield's in 1888) shows a balance in hand of £70 16s. 8d., and the maintenance fund of £8617s. 3d., facts which plainly point to the nature of the assistance received by the institution.

PROVINCIAL SATURDAY HOSPITAL COLLECTIONS.—

The Chester Hospital Saturday collections last year amounted to £300 11s. 10d., against £291 16s. in 1888.—The workmen of Sir W. G. Armstrong, Mitchell, and Co., at Elswick, have contributed £393 6s. 6d. to the medical charities for the quarter ending December, 1889. Of this sum £359 4s. was apportioned to the Royal Infirmary, Newcastle-upon-Tyne.—The Shrewsbury Hospital Saturday collection for 1889 amounted to £211 13s. 6d., of which £105 has been given to the Salop Infirmary, and £53 each to the Eye, Ear, and Throat Hospital and the Dispensary.—The workmen's collection committee of various works connected with the Warrington Infirmary and Dispensary collected for that institution during the past year £700.—The sum raised by the workers in the shipbuilding department of the Fairfield Shipbuilding and Engineering Company, Glasgow, for the medical charities in the year 1889 was £314 7s. 3d., of which £204 7s. 3d. was apportioned to the Western Infirmary.

BEQUESTS AND DONATIONS TO HOSPITALS.—

Lord Bute has contributed £500 to the fund for the extension of the Cardiff Infirmary.—Under the will of the late Mrs. Edward T. Lucas of Albert Lodge, Victoria-square, Bristol, £1500 has been bequeathed to the Bristol General Hospital.—The late Mr. Samuel Fielden, of Centre-vale, Todmorden, bequeathed to the Manchester Royal Infirmary £3000, to the Brompton Hospital for Consumption £2000, and to the National Orthopedic Hospital £2000.—The late Mr. H. Highway, J.P., bequeathed £200 to the Walsall Cottage Hospital.—Sir Edward Guinness has contributed £100 to the Royal Victoria Hospital, Bournemouth.—The Goldsmiths' Company has given £500 towards the extension and building fund of the Royal London Ophthalmic Hospital.—Mr. Thomas F. Gibson, late of Fitzjohn-avenue, Hampstead, bequeathed £500 to the University College or North London Hospital, and £200 to the Tunbridge Wells Infirmary.—The committee of the London Charity Football Association has distributed to various metropolitan medical and other charities £175.

THE FRENCH HOSPITAL AND DISPENSARY.—

The twenty-first annual dinner on behalf of this institution was given on Saturday last at the Hôtel Métropole, his Excellency the French Ambassador in the chair, supported by the Right Hon. the Lord Mayor, the Sheriffs, and representatives of the Corps Diplomatique, together with some 250 friends and supporters of the charity. His Excellency insisted upon the cosmopolitan nature of the charity, and on the constantly extended sphere of its activity. He announced that the new premises in Shaftesbury-avenue were now rapidly approaching completion, and made an urgent appeal for funds to meet the balance (£8000) still required to cover the cost of building and fitting up the new premises, towards which the Minister of the Interior had that day promised a subscription of 2000 fr. The Lord Mayor insisted upon the friendly feelings of the English towards their French neighbours, and suggested that an application to the Corporation for financial assistance would probably meet with their favourable consideration. The report showed the large amount of work done by the hospital in alleviating the sufferings of the French-speaking poor, and the treasurer announced that £2000 had been subscribed during the evening.

WEST NORFOLK AND LYNN HOSPITAL.—The fifty-fifth annual report states that the board had remodelled the nursing staff, and the nurses had been augmented in number by the appointment of probationers. The average number of beds occupied was thirty-six, and the average cost per head £58 4s. 2d. The year closed with a deficiency of £961 19s. 1d., including a debt of £478 2s. 10d. brought over from 1888.

ESSEX AND COLCHESTER HOSPITAL.—During the past year, the number of in- and out-patients was largely in excess of the year 1888. The annual subscriptions remained about the same. The public interest in the institution had never flagged, but was increasing. £1000 had been received as a gift from an unknown donor, and the work of the hospital staff continued to be most efficiently performed.

ROYAL PORTSMOUTH, PORTSEA, AND GOSPORT HOSPITAL.—At the annual meeting of the subscribers, held at Southsea on the 12th inst., Mr. J. Pares, the senior vice-president, occupied the chair. On opening the proceedings he congratulated those present on the great increase in nursing receipts. They had now a hundred beds. The finances showed a deficiency of £461 2s. 11d., and while the income was £300 better than four years ago, the expenditure was £500 more. The average cost of each bed occupied during the year was £43 6s. 6d., and the daily average of in-patients was 111·33 against 98·47 in 1888.

MEDICAL NOTES IN PARLIAMENT.

Lunacy Laws.

In the House of Commons, on Monday, Mr. W. H. Smith, in answer to Mr. Salt, replied that a Bill relating to lunacy laws would shortly be introduced. It would be one of simple consolidation only. No fresh legislation would be introduced. The Lunacy Laws Amendment Act of last session comes into force on April 1st, and it was hoped that the Consolidation Act, as a code for the guidance of those concerned in the administration of the law, might be passed before that date.

Vaccination Returns.

In reply to a question by Mr. Bradlaugh, the Home Secretary said that the bulk of the returns of vaccination prosecutions ordered last year had been ready for some time, but there had been great difficulty in obtaining replies from some places. Returns from three towns were still outstanding, and as soon as these were collected the return would be presented.

Medical Certificates.

On Thursday, in answer to a question by Sir G. Campbell relating to the case of Mr. Clifford Lloyd, the Chancellor of the Exchequer said that neither under the new nor the old rules could a man take up or put aside a medical certificate. It was the duty of the Government to employ one who had left the service through ill-health as soon as his health was sufficiently restored. Mr. Clifford Lloyd was appointed to a permanent post in the Civil Service, and would drop the pension formerly awarded to him. He would continue to serve in this appointment till he was sixty years of age, or had become incapacitated to discharge the duties of his office.

BOOKS ETC. RECEIVED.

APPLETON & Co., New York and London.

A Text-book of Animal Physiology, with introductory Chapters on General Biology, and a full Treatment of Reproduction. For Students of Human and Comparative (Veterinary) Medicine and of General Biology. By W. Mills, M.A., M.D., L.R.C.P. Eng. With 500 Illustrations. 1889.

BLACK, ADAM & CHARLES, Edinburgh.

The Collected Writings of Thomas De Quincey. New and enlarged Edition. By Dr. Masson. Vol. IV. Biographical and Biographic Sketches. 1890. pp. 439.

CHURCHILL, J. & A., New Burlington-street, London, W.

A Manual of the Practice of Medicine. By Frederick Taylor, M.D., F.R.C.P. pp. 895.

The Bradshaw Lecture on Colotomy, Lumbar and Iliac, with special reference to the choice of Operation. By Thos. Bryant, F.R.C.S. 1890. pp. 47.

CLARENDON PRESS, Oxford and Amen-corner, London, E.C.

Essays upon Heredity and Kindred Biological Problems. By Dr. August Weismann. Authorised Translation. Edited by E. B. Poulton, M.A., F.L.S., F.G.S., Sehmar Schönland, Ph.D., and A. E. Shipley, M.A., F.L.S. 1889. pp. 455.

COURIER COMPANY, Buffalo.

Struggles and Triumphs, or Sixty Years' Recollections of P. T. Barnum. Written by himself. Illustrated. 1889. pp. 360.

DAVIS, F. A., Philadelphia and London.

Spinal Concussion: Surgically considered as a Cause of Spinal Injury, and Neurologically restricted to a certain Symptom Group. By S. V. Clevenger, M.D. With 30 Wood Engravings. 1889. pp. 359.

GRIFFIN, C. & COMPANY, Exeter-street, Strand, London.

The Flowering Plant, as illustrating the First Principles of Botany. Especially adapted for London Matriculation, South Kensington, and University Local Examinations in Elementary Botany. By J. R. A. Davis, B.A. With Illustrations, &c. 1890. pp. 181.

KEENER, W. T., Washington-street, Chicago.

Rectal and Anal Surgery, with Description of the Secret Methods of the Itinerant Specialists. By E. Andrews, M.D., LL.D., and E. W. Andrews, A.M., M.D. Second Edition, revised and enlarged, with Illustrations and Formulary. 1889. pp. 140.

Intestinal Surgery. By N. Senn, M.D., Ph.D. 1889. pp. 269.

The Dental College Series of Text-books—Dental Chemistry and Metallurgy. Being the Second Edition of the Dentists' Manual of Special Chemistry, revised and rewritten. By Clifford Mitchell, M.D. 1890. pp. 411.

Electricity and the Methods of its Employment in removing superfluous Hair and other Facial Blemishes. By Plym S. Hayes, A.M., M.D. 1889. pp. 128.

LEWIS, H. K., Gower-street, London.

Asthma considered specially in relation to Nasal Disease. By E. Schmiegelow, M.D. 1890. pp. 90.

Ambulance Lectures. First Aid to the Injured. By S. Osborn, F.R.C.S. Second Edition, with Illustrations. 1890. pp. 126.

LONGMANS, GREEN, & Co., London.

A Dictionary of Applied Chemistry. By T. E. Thorpe, B.Sc. (Vict.), Ph.D., F.R.S., assisted by eminent Contributors. In Three Vols. Vol. I.: A—Dy. 1890. pp. 715. Price 42s.

MURRAY, JOHN, Albemarle-street, London.

Journal of Researches into the Natural History and Geology of the Countries visited during the Voyage round the World of H.M.S. *Beagle*. By Charles Darwin, M.A., F.R.S. A new Edition, with Illustrations. 1890. pp. 551.

PENTLAND, YOUNG J., Edinburgh and London.

A Handbook of Diseases of Women, including Diseases of the Bladder and Urethra. By Dr. F. Winckel. Authorised translation. Edited by T. Parvin, M.D. Second Edition, revised and enlarged. With 150 Illustrations. 1890. pp. 766.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by J. B. Tuke, M.D., and G. S. Woodhead, M.D. Vol. II. 1890. pp. 279.

SAMPSON LOW, MARSTON, & Co., Fetter-lane, Fleet-street, London.

New Zealand for the Emigrant, Invalid, and Tourist. By J. M. Moore, M.D. Edin., M.R.C.S. Eng. 1890. pp. 253.

SMITH, ELDER, & Co., Waterloo-place, London.

St. Bartholomew's Hospital Reports. Edited by W. S. Church, M.D., and W. J. Walsham, F.R.C.S. Vol. XXV. 1889. pp. 376.

Transactions of the Pathological Society of London. Vol. LX. Report of the Proceedings for the Session 1888-89. pp. 478.

SWAN SONNENSCHNEIN & Co., Paternoster-square, London.

Health Troubles of City Life. By George Herschell, M.D. Lond. Second Edition. 1890. pp. 87.

Habit and Health. A Book of Golden Hints for Middle Age. Derived from the Works of eminent Medical Men, and edited by Guy Beddoes. 1890. pp. 347.

WRIGHT, JOHN, & Co., Bristol; and HAMILTON, ADAMS, & Co., London.

The Medical Annual for 1890. pp. 727. Price 6s. 6d.

The Abolition of Suffering; by S. B. G. McKimney, M.A., L.R.C.S. & P. Edin. (Elliot Stock, London, 1890).—The Effect of Town Life on the General Health, with especial reference to London; by J. P. Williams-Freeman, M.D. (W. H. Allen & Co., London, S.W., 1890).—Transactions of the State Medical Society of Arkansas, Pine Bluff, 1889 (Mitchell & Bettis, Little Rock, Arkansas).—A Handbook for Operators in Medical Electricity and Massage, containing diagrams of the chief Motor Points and concise Tables, showing the Action of the Muscles and Nerves involved; by H. N. Lawrence, A.L.E.E. (George Gill & Sons, London, price 1s.).—Les Maladies Epidémiques dans le Midi; par le Dr. J. E. Vivant, de Monaco (Octave Doin, Paris, 1890).—Lippincott's Magazine, January.—Index Medicus: Authors and Subjects, Vol. XI., No. 12, December, 1889 (Tribner & Co., and Lewis, London).—Tidsskrift for den Norske Lægeforening; redigeret af Dr. Med. H. Strom; Overlaege G. E. Bentzen; Januar, Nr. 1, 1890 (Af Alb Cammermeyer, Kristiania).—Demonstrations in Clinical Medicine; by A. Macgregor, M.D.: Case of Hemiplegia, No. 1 (Alma Mater Press, Aberdeen, 1890).—Reports of Professor Joseph Henry, Secretary of the Smithsonian Institution, for the years 1867, 1869, 1870, and 1876 (Government Printing Office, Washington).—The Medico-Legal Journal, Vol. VII., No. 2, September, 1889 (The Medico-Legal Journal Association, New York).—The Advertiser's A B C of Official Scales and Advertisement Press Directory, 1890; by T. B. Browne (Offices, Queen Victoria-street, London, price 10s. 6d.).—Liederbuch für Deutsche Aerzte und Naturforscher; Gesammelt und geordnet von Dr. Med. Korb-Döbeln (Gebrüder Lüddeck, Hamburg).—Il secondo biennio di Cura alle fonti termali Acidule, Saline, Ferruginose, Arsenicali, con Litina di Acquarossa in cantone ticino. Pel Dott. Giuseppe Soffiantini (Fratelli Rechiedei, Milano, 1889).—Published by Elliot Stock, London: The Field Club, edited by Rev. T. Wood, No. 2, Feb., 1890; A Handbook of Scientific and Literary Bible Difficulties, edited by Rev. R. Tuck, B.A. Lond., No. 2, price 6d.; Spring-tide, an illustrated Magazine for Girls and Boys, Vol. I., No. 2, February, 1890, price 1d.; The Antiquary, a Magazine devoted to the Study of the Past, No. 2, New Series (No. 123, Vol. XXI.), February,

1890, price 1s.—Transactions of the American Ophthalmological Society, Twenty-fifth Annual Meeting, New London, Conn., 1889 (published by the Society, Hartford).—Die Zuckerbildung im Thierkörper; von Prof. Dr. J. Seegen (A. Hirschwald, Berlin, 1890).—Recherches Cliniques et Expérimentales sur l'Antisepsie Médicale; par le Dr. Z. Petresco (Imprimerie Nationale, Jassy, 1889).—Verhandlungen des Medicinischen Vereins zu Greifswald; herausgegeben von Prof. Dr. Fr. Mosler und Dr. E. Hoffmann (Georg Thieme, Leipzig, 1890).—De la Dégénérescence Ascendante secondaire du Faisceau de Gowers; par le Dr. X. Francotte (F. Hayez, Bruxelles, 1889).—The Pharmacopœia of the London Skin Hospital; edited by James Startin, Senior Surgeon to the Hospital, 1889 (Harrison & Sons, London).—Little Dinners, by a Live Lord ("Society" Office, Strand, London, price 1s.).—L'Art Dentaire: Historique et Description de l'Art du Dentiste; par D. A. Tayaç; avec 59 figures intercalées dans le texte (J. B. Baillière et Fils, Paris, 1890).—The Law relating to Drunkenness and Inebriety; by J. R. McIlwraith, Esq., M.A., LL.B. (H. K. Lewis, London).—Therapeutisches Lexikon für Praktische Aerzte; herausgegeben von Dr. Anton Bam; 1 und 2 Lieferungen (Urban und Schwarzenberg, Wien und Leipzig, 1890).—The Cell Theory, Past and Present; being the Inaugural Address delivered Nov. 1st, 1889, to the Scottish Microscopical Society, by Sir William Turner, Knt., M.B., LL.D., President of the Society (Neill & Co., Edinburgh, 1890).—On the Question of Anesthetics in Operations for Adenoid Growths of the Naso-pharynx; by H. Davis, M.R.C.S. (H. K. Lewis, London, 1890).—The Review of Reviews, February.—Magazines for February: Good Words, Sunday Magazine (Isbister), Wit and Wisdom, Sunday at Home, Scribner's Magazine, Gardener's Magazine, Boy's Own Paper, Girl's Own Paper.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

ANGELL, Mr., has been reappointed Analyst for the Borough of Guildford.
 BARNETT, H., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Fourth District of the Church Stretton Union.
 BROWNE, OSWALD A., M.B. Cantab., M.R.C.P. Lond., has been appointed Assistant Physician to the Metropolitan Hospital, Kingsland-road, vice H. H. Tooth, M.D., resigned.
 BROWNING, FREDERICK WM., L.R.C.P., L.R.C.S. Edin., &c., has been appointed Assistant Physician to the London Medical Mission, St. Giles', W.C., vice H. J. Bailey, M.B., C.M., resigned.
 CLARK, W. F., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer for Cheshunt.
 COCKEY, E. P., M.D. Lond., M.R.C.S., has been appointed Medical Officer for the Eighth District of the Chelmsford Union.
 FOTHERBY, H. J., M.D., M.R.C.P. Lond., has been appointed Consulting Physician to the Metropolitan Hospital, Kingsland-road.
 GRAVELEY, H., M.R.C.S., L.S.A., has been appointed Medical Officer for the First District of the Steyning Union.
 HOLLINGS, C. E., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer for Calverley.
 JACKSON, J. B., M.D., M.Ch. R.U.I., has been appointed Medical Officer for the No. 2 District of the Coventry Union.
 LEACH, ALFRED, M.B. Aber., M.R.C.P. Edin., has been appointed Assistant Physician to the Italian Hospital, London, W.C.
 MACKINTOSH, A., M.D. Glas., L.F.P.S., L.M. Glas., has been reappointed Medical Officer for the Chesterfield Rural Sanitary District.
 PRICE, F. S., L.K.Q.C.P., L.R.C.S. Irel., has been appointed Medical Officer for the No. 2 Ward of the Holborn Union.
 STAFFORD, T. J., L.K.C.P., L.R.C.S. Irel., has been appointed Medical Inspector for Magherafelt Union.
 STEVENS, P. R., L.R.C.P., M.R.C.S., has been appointed Medical Officer for the Benenden District of the Cranbrook Union.
 SWEETING, R. D. R., M.R.C.S., has been appointed Medical Inspector to the Local Government Board.
 TABOR, CHARLES J., M.B., M.R.C.S., L.R.C.P., has been appointed Public Vaccinator for the Illogan District of the Redruth Union, Cornwall.
 TOOTH, HOWARD H., M.D. Cantab., F.R.C.P. Lond., has been appointed Physician to the Metropolitan Hospital, Kingsland-road, vice H. J. Fotherby, M.D., resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement

ADDENBROOKE'S HOSPITAL, Cambridge.—Resident House Surgeon. Salary £65 per annum, with board, lodging, and washing in the hospital.
 CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician.
 COUNTY OF WORCESTER.—County Medical Officer of Health. Salary £800 per annum, with such allowances for travelling expenses as may be sanctioned by the Council.
 CROYDON UNION.—Assistant Medical Superintendent and Dispenser at the Infirmary, Mayday-road, Croydon. Salary £125, increasing £5 per annum, up to £150, with furnished apartments, rations, and washing, and (if preferred) £3 10s. per annum in lieu of beer.

DURNESS, Sutherlandshire.—Medical Officer. Salary £150 (with practice, population 1000), and free house. (Apply to the Inspector of Poor).
 KENT COUNTY ASYLUM, Barming Heath, Maidstone.—Third Assistant Medical Officer. Salary £150 a year, with furnished quarters, attendance, fuel, lighting, washing, garden produce, and milk.
 KING'S COLLEGE, London.—Professor of Physiology.
 LIVERPOOL DISPENSARIES.—Assistant Surgeon. Salary £80 per annum, with board and apartments.
 LIVERPOOL NORTHERN HOSPITAL.—House Physician. Salary £80 per annum, with residence and maintenance in the house.
 LONDON COUNTY ASYLUM, Banstead.—A Senior Assistant Medical Officer. Salary £250 per annum, rising £10 annually to £300, with board, furnished apartments, and washing.
 LONDON HOSPITAL MEDICAL COLLEGE, Turner-street, Mile-end, E.—Two Assistant Demonstrators of Anatomy. Salary £90 per annum each.
 NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Senior and Junior House Physicians respectively. Salary of the former £100 per annum, and of the latter £50 per annum. In each case board and apartments are provided in the hospital.
 WEST LONDON HOSPITAL, Hammersmith-road, W.—House Surgeon for six months. Board and lodging are provided.
 WOLVERHAMPTON EYE INFIRMARY.—Resident Assistant. No salary, but rooms, with board and washing.

Births, Marriages, and Deaths.

BIRTHS.

ARNOLD.—On Dec. 15th, at Nagasaki, Japan, the wife of Dr. Arnold, of a daughter.
 BARNES.—On Jan. 29th, at the Public Asylum, Berbice, British Guiana, the wife of W. Stanley Barnes, M.D., of a daughter.
 DIACK.—On Jan. 15th, at Fort Beaufort, Cape Colony, the wife of Alex. D. Diack, M.D., of a daughter.
 FOWLER.—On Feb. 13th, at Finsbury-pavement, E.C., the wife of Walter Fowler, M.A., M.B., F.R.C.S., of a son.
 GIMBLETT.—On Feb. 4th, at Amhurst-road, N.E., the wife of W. Harry Gimblett, L.K.Q.C.P.I., &c., of a daughter.
 HUTCHINSON.—On Feb. 15th, at Brook-street, Grosvenor-square, W., the wife of S. John Hutchinson, M.R.C.S., of a daughter.
 MASON.—On Feb. 15th, at Abbey Lodge, Barking, Essex, the wife of Hugh Herbert Mason, M.R.C.S., of a son.
 TAYLOR.—On Feb. 13th, at Surbiton-hill, the wife of Arthur S. Taylor, B.A., M.B., B.C. Cantab., F.R.C.S., of a daughter.
 TIDEY.—On Feb. 17th, at Territet, Montreux, the wife of Stuart Tidey, M.B. Lond., Swiss Fed. Med. Dip., of a daughter.

MARRIAGES.

DICKINSON—OXLEY.—On Feb. 13th, at Christ Church, Linnet-lane, Liverpool, by the Rev. T. W. M. Lund, M.A., assisted by the Rev. Robert Irving, M.A., Edward H. Dickinson, M.A., M.D., to Emma, widow of the late Martin G. B. Oxley, M.D., of Liverpool.
 MACKENZIE—TAYLOR.—On Feb. 12th, at the Parish Church, Bolas Magna, Allan Grant Mackenzie, F.R.C.S. Edin., to Fannie, youngest daughter of Thos. Taylor, Esq., of Burleigh, Wellington, Shropshire.
 SHEARS—JEVONS.—On Feb. 18th, at the Ancient Chapel of Toxteth-park, Liverpool, by the Rev. J. P. Jacks, M.A., Charles H. Shears, M.R.C.S. and L.R.C.P. Lond., of Liverpool and Birkenhead, to Susan, fifth daughter of Henry Jevons, J.P., of Liverpool.
 WOOD—ROBERTS.—On Jan. 28th, 1890, at St. Luke's, Redcliffe-square, South Kensington, by the Rev. Herbert Maitland, cousin of the bridegroom, assisted by the Rev. W. Fraser Handcock, Vicar, and the Rev. H. H. Bartrum, Percy Moore Wood, M.R.C.S., L.R.C.P. Lond., late Government Medical Officer at Port Darwin, South Australia, son of the late Charles William Wood, Q.C., to Janet Sophie, younger daughter of Richard Willett Roberts, of 34, Redcliffe-square, and Gray's Inn.

DEATHS.

BAYNES.—On Feb. 17th, at Courtland-terrace, Kensington, W., William Wogan Baynes, R.N., Deputy Inspector-General of Hospitals, aged 76.
 BUSH.—On Feb. 14th, at Gloucester-terrace, Hyde Park, suddenly, Richard Hake Bush, M.D., last surviving son of Col. Richard Yeats Brown Bush, Bengal Army.
 CAM.—On Feb. 17th, at his residence, St. Owen-street, Hereford, Thomas Cam, F.R.C.S., J.P., aged 77.
 COLLAMBELL.—On Feb. 16th, at 148, Lambeth-road, Charles Collambell, J.P., F.R.C.S., aged 76.
 DALE.—On Feb. 16th, at Islington, Liverpool, Thomas Dale, L.R.C.P. Edin., M.R.C.S., aged 65.
 LILLEY.—On Feb. 14th, at his residence, High Cross, Milverton, Leamington, James Harley Lilley, M.D., aged 65.
 POWER.—On Feb. 14th, at Fant, Torquay, Francis James Power, M.A. Cantab., L.R.C.P. Edin., &c., eldest son of the late Dr. Power, Maidstone.
 SPILSBURY.—On Feb. 11th, suddenly, at 43, Cornwall-road, Westbourne Park, Thomas Hamilton Spilbury, late Colonial Surgeon of the Gambia (Bathurst), aged 56.
 WALKER.—On Feb. 13th, at Westbourne Villas, West Brighton, William Newman Walker, F.R.C.S. Eng., &c., aged 69.
 WILSON.—On Feb. 12th, at Langham-street, W., George John Marris Wilson, M.D., M.R.C.S., aged 76.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

Monday, February 24.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M.
 ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
 ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
 CHELSEA HOSPITAL FOR WOMEN.—Operations, 2.30 P.M.; Thursday, 2.30 P.M.
 ST. MARK'S HOSPITAL.—Operations, 2.30 P.M.; Tuesday, 2.30 P.M.
 HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
 METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
 ROYAL ORTHOPEDIC HOSPITAL.—Operations, 2 P.M.
 CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
 UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
 LONDON POST-GRADUATE COURSE (Royal London Ophthalmic Hospital, Moorfields).—1 P.M. Mr. W. Lang: External Diseases of the Eye.
 THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—3 P.M. Dr. A. T. Schofield: The Training of Children. (For Ladies.)
 LONDON POST-GRADUATE COURSE (Hospital for Sick Children, Great Ormond-street, Bloomsbury).—4 P.M. Dr. Angel Money: Rickets.
 THE THROAT HOSPITAL (Golden-square, W.).—5.30 P.M. Dr. James W. Bond: Nasal Polypus.
 SOCIETY OF ARTS.—8 P.M. Mr. T. Bolas: Stereotyping. (Cantor Lecture.)
 MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Evening. Mr. Davy: A case of Double Talipes Equino-varus after Operation.—Dr. Beevor: (1) Ossified Scalenus Medius; (2) Erb's Paralysis.—Mr. Allingham: Elephantiasis.—Dr. Sidney Phillips: Erb's Paralysis.—Dr. Seymour Taylor: Severe Valvular Disease of Heart.—Dr. Stephen Mackenzie: Lead Paralysis.

Tuesday, February 25.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
 GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
 ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
 CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
 WESTMINSTER HOSPITAL.—Operations, 2 P.M.
 ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.
 ROYAL INSTITUTION.—3 P.M. Prof. G. J. Romanes: The Post-Darwinian Period.
 BRITISH MEDICAL TEMPERANCE ASSOCIATION (Rooms of the Medical Society of London).—4 P.M. The Report of a Committee (Drs. Moir, Morton, and Pearce) will be presented, entitled "An Analysis and Comparison of the Consumption of Alcohol in Hospitals in 1863 and 1888." Discussion will follow.
 LONDON POST-GRADUATE COURSE (Hospital for Diseases of the Skin, Blackfriars).—4 P.M. Mr. Jonathan Hutchinson: Morphea and Ichthyosis.
 ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. Arthur Ransome: Etiology and Prevention of Phthisis. (Milroy Lecture.)
 ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Dr. Bastian: On the Symptomatology of Total Transverse Lesions of the Spinal Cord, with special reference to the Conditions of the various Reflexes.

Wednesday, February 26.

NATIONAL ORTHOPEDIC HOSPITAL.—Operations, 10 A.M.
 MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
 ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
 ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
 LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
 SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
 GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
 ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
 CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.
 LONDON POST-GRADUATE COURSE (Hospital for Consumption and Diseases of the Chest, Brompton).—4 P.M. Dr. Percy Kidd: Tubercular Affections of the Throat.
 THE THROAT HOSPITAL (Golden-square, W.).—5.30 P.M. Mr. T. Mark Howell: Some Affections of the Middle Ear.
 HUNTERIAN SOCIETY.—8 P.M. President's Address. Dr. Hingston Fox: Notes and cases illustrative of Glycosuria.
 LONDON POST-GRADUATE COURSE (Royal London Ophthalmic Hospital, Moorfields).—3 P.M. Mr. Quarry Silcock: Ophthalmoscopic Cases.
 SOCIETY OF ARTS.—8 P.M. Mr. A. Montenegro: The English in Florida.

Thursday, February 27.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
 CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
 LONDON POST-GRADUATE COURSE (National Hospital for the Paralyzed and the Epileptic, Queen-square, Bloomsbury).—2 P.M. Mr. R. Brudenell Carter: Ocular Symptoms in Nervous Diseases.
 ROYAL INSTITUTION.—3 P.M. Rev. Canon Ainger: The Three Stages of Shakespeare's Art.
 LONDON POST-GRADUATE COURSE (Hospital for Sick Children, Great Ormond-street, Bloomsbury).—4 P.M. Dr. Angel Money: Rickets.
 CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, VICTORIA-PARK, E.—4.30 P.M. Dr. Tylden: Mitral Stenosis.
 ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. Arthur Ransome: Etiology and Prevention of Phthisis. (Milroy Lecture.)
 SOCIETY OF ARTS.—5 P.M. Mr. William Sherriff: The Northern Shan States and the Burma-China Railway.

Friday, February 28.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
 LONDON POST-GRADUATE COURSE (Hospital for Consumption and Diseases of the Chest, Brompton).—4 P.M. Dr. Percy Kidd: Tubercular Affections of the Throat.
 THE CANCER HOSPITAL (FREE), FULHAM-ROAD, BROMPTON, S.W.—4 P.M. Dr. Purcell: Cancer of the Tongue.
 CLINICAL SOCIETY OF LONDON.—8.30 P.M. Mr. Butlin: Two cases of Glandular Tumour of the Tongue.—Dr. Dickinson: Injection of Saline Fluid into the Veins in Diabetic Coma.—Dr. Samuel West: Case of Cheyne Stokes Breathing in the course of Granular Kidney of three months' duration.—Dr. Pye-Smith: A case of Acute Unilateral Dermatitis apparently due to the administration of Chloralamide.
 ROYAL INSTITUTION.—9 P.M. Prof. C. H. H. Parry: Evolution in Music.

Saturday, March 1.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
 UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.
 LONDON POST-GRADUATE COURSE (Hospital for Diseases of the Skin, Blackfriars).—2 P.M. Dr. Payne: Parasitic Diseases of the Skin other than Ringworm.
 ROYAL INSTITUTION.—3 P.M. Lord Rayleigh: Electricity and Magnetism.
 ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8.30 P.M. Annual Meeting. President's Address.
 THE SANITARY INSTITUTE (Parkes Museum, Margaret-st., W.).—3 P.M. Dr. A. T. Schofield: Flesh and Blood. (For Ladies.)

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, February 20th, 1890.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Rain-fall.	Remarks at 8.30 A.M.
Feb. 14	29.86	N.W.	39	37	47	42	34	..	Overcast
" 15	29.56	E.	35	35	..	42	35	.52	Raining
" 16	29.70	S.W.	38	36	82	48	35	.34	Cloudy
" 17	29.84	S.E.	41	39	62	50	37	..	Overcast
" 18	30.01	S.E.	41	40	73	43	40	..	Cloudy
" 19	30.26	E.	41	39	61	44	39	..	Cloudy
" 20	30.11	E.	39	38	..	41	38	..	Overcast

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "To the Publisher."

We cannot undertake to return MSS. not used.

HOSPITAL APPOINTMENTS IN DUBLIN.

Mr. Laján (Cashel).—We trust our correspondent is more accurate in his information than he is in his speculations as to the authorship of our articles or what he terms the illiberal nature of our views. We know no party politics, and, without agreeing to the competitive examination method, hold with him that in making appointments to hospitals the best candidates should be elected, irrespectively of creed. We entirely disclaim sectarianism in our treatment of such matters, or of any matters. Our correspondent would better justify his boast of superior liberality by according similar virtues to others than those of his own way of thinking. Medicine is a liberal profession.

Hydrophobia.—Certainly the method is known in England, but the means of carrying it out are more complete in France than in this country.

TREATMENT OF ACNE.

To the Editors of THE LANCET.

SIRS,—In the report of my lecture on Acne, published in your last issue I find I have erroneously ascribed the recommendation of bromide of potassium in certain cases of acne to Dr. Jamieson of Edinburgh, instead of to Dr. Arthur Jamison of London, to whom the suggestion is really due. By allowing me to make this correction you will oblige

Your obedient servant,

Feb. 13th, 1890.

J. F. PAYNE.

ADVERTISEMENTS BY THE CROSS.

AN enterprising manufacturer of Manchester, in advertising his porous plasters, intimates that the names of physicians and surgeons purchasing a gross can be printed upon the wrapper and back cloth of the plaster. What a fine sense he must have of professional methods! Alas, that some medical men give too much reason to such persons to believe that they are open to such offers.

Mr. Clarence Beesley.—Parkes' Hygiene, Ganot's Physics, Baldwin Latham's Sanitary Engineering, and the Public Health Acts. A practical knowledge of chemistry and microscopical analysis of water is required, as well as of the manner in which a sanitary report should be written.

Medical Student will find the information he desires in our Students' Number, published in September last.

Dr. Hatton (Church).—*Berliner Klinische Wochenschrift* and *Le Progrès Médical*, which can be obtained through Messrs. Williams & Norgate, Covent-garden.

TOOGOOD v. WILKES.

To the Editors of THE LANCET.

SIRS,—This action (*vide* THE LANCET, Dec. 7th, 1889, p. 1183) was instituted by the plaintiff against Mr. W. D. Wilkes, senior surgeon to Salisbury Infirmary, for having, some twelve months previously, signed one of the certificates of lunacy by virtue of which plaintiff was placed under treatment in an asylum. Mr. Wilkes applied to a judge at chambers to stay the action, under Section 12 of the Lunacy Law Amendment Act, 1889. The application was successful, but the judge in giving his decision reserved the question of costs, stating that he should give the defendant his costs if the plaintiff appealed. Plaintiff did not appeal, and the result was that defendant, although successful in his application, had to pay costs amounting to a sum not far short of £100. It was thought by Mr. Wilkes' professional friends in this neighbourhood that this was a burden which neither he nor any other medical man similarly placed ought in fairness to be called on to bear single-handed, and an indemnity fund has been started with the object of recouping the amount of his costs. As probably other members of the profession who are not resident in this neighbourhood may wish to assist, we ask you to be so kind as to give this letter a place in your next issue. I am acting as treasurer to the fund, and shall have much pleasure in acknowledging any sums that may be sent to my address. I enclose a list of the whole amount received thus far, which kindly publish with this letter. I am, Sirs, yours faithfully,

H. J. MANNING.

Laverstock House, Salisbury, Feb. 15th, 1890.	
Mr. Finch	£10 10 0
Mr. Manning	1 1 0
Mr. Darke	1 1 0
Mr. Hinton	1 0 0
Dr. Gordon	2 2 0
Mr. Ensor	1 1 0
Mr. Davis	0 10 6
Mr. Shorland	0 10 6
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Dr. Blackmore
Dr. J. Finch (Leicester)
Mr. Chadwick
Dr. Macdonald (Dorchester)

FELLOWS OF THE EDINBURGH COLLEGE OF SURGEONS IN LONDON.

To the Editors of THE LANCET.

SIRS,—Kindly allow your columns to be the medium of conveying to the Fellows of the Royal College of Surgeons of Edinburgh residing in London (of whom there are about ninety) a suggestion as to the advisability of forming a society of their own in this metropolis. The Fellows of the sister College of Surgeons here have their association; the Brussels medical graduates, the St. Andrews graduates, the Irish medical schools and graduates, and others, have theirs. Why should we not combine also? The doors of some of the largest metropolitan hospitals are closed against us. For instance, the surgery of my nearest hospital—the Great Northern Central in Holloway-road—can only be obtained by a Fellow of the Royal College of Surgeons of England. I shall very willingly do anything and everything in my power to aid the formation of such a society, and hope for an early public expression of opinion from those interested.

I am, Sirs, your obedient servant,
London, Feb. 15th, 1890. A NORTH LONDON FELLOW.

VACCINATION GRANTS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers who may happen to hold the appointment of public vaccinator inform me whether they have received the Government grant for efficient vaccination during the past nine months, or whether, as in my own case, the said grant is still remaining unpaid, although it is very much overdue? I received a communication from the Local Government Board nearly five months since, stating that I have been recommended by the Board's inspector to receive the grant, and that arrangements were being made to pay the same through the County Council, in accordance with Section 24 of the Local Government Act, 1888. The grant in my case is now nearly nine months overdue, and there seems as much likelihood of obtaining it as though the money had never been voted by Parliament for the purpose.

I am, Sirs, your obedient servant,
Feb. 15th, 1890. PUBLIC VACCINATOR.

MULTIPLE BIRTH.

THE *Revista Médica* of Bogota publishes "without comment" an official document, dated Nov. 8th, 1889, emanating from the Prefecture of the Province of Santander, Colombia, stating that a woman belonging to Jambaló, a small town where the people are almost all pure Indians speaking a special dialect, had just given birth to four children in the following manner. On Oct. 26th last she gave birth to a boy, and on the 29th to a girl, both of whom lived sufficiently long to be baptised. On Nov. 4th she gave birth to a boy and a girl. The boy was still-born, and the girl died a few minutes after birth.

M.O.H.—Assuming that our correspondent's district is a provincial one, he should procure the following Acts and books, adding to them from time to time as occasion requires:—The Public Health Act, 1875; the Public Health (Water) Act, 1878; the Rivers Pollution Act, 1876; the Local Government Act, 1883; the Diseases Notification Act, 1889; Shaw's Manual of the Vaccination Law, 5th edition; Knight's Annotated Model Bye-laws; Knight's Manual as to Dairies, Cowsheds, &c.; Knight's Sanitary Regulations as to Bakehouses; The Orders of the Local Government Board as to the duties (a) of Medical Officers of Health and (b) of Inspectors of Nuisances. As standard reference works we may name Wilson's Handbook of Hygiene (Churchill), Parkes on Hygiene and Public Health (Lewis's Series), and Vital Statistics by Newsholme (Sonnenschein); the annual reports of the Medical Officer of the Local Government Board should also be procured, as containing information on public health questions up to current date.

Mr. John Law.—We cannot insert our correspondent's letter. Our opinion of the contents of the book was given without any prejudice, and in strict accordance with the impressions called up by its perusal.

Freemason.—It is impossible to give to the question an answer which could have any practical value, as so much depends on the characteristics and qualities of the individual.

THE DUTIES RESPECTIVELY OF MEDICAL OFFICERS OF HEALTH AND FACTORY SURGEONS.

To the Editors of THE LANCET.

SIRS,—Perhaps you or some of your readers may be able to enlighten me on the following matter.

A factory surgeon and medical officer of health knows that he has no authority over the sanitary condition of the works by reason of the former office. Is he, or is he not, responsible for the same by virtue of his appointment as medical officer of health? And has he the right to enter, inspect, and report thereon, notwithstanding that the mills are under the supervision of the factory inspector, in which case he has always read the Act to say not? The point having arisen for argument between members of the profession, a reply is awaited in decision. The visiting, inspecting, and reporting referred to are on behalf of the local board, to whom the medical officer of health is responsible, and who act on his advice in monthly and yearly reports.

I am, Sirs, yours obediently,
February, 1890. RUSTIC.

INCOME TAX.

To the Editors of THE LANCET.

SIRS,—My salary as a district medical officer is, with extras, about £52 per annum. I am assessed on my income derived from my practice on £350, and yet, *mirabile dictu*, I am further asked for £1 8s. on my parish appointment. I fail to see, having to provide drugs &c., where the profit comes from, as this is a poor neighbourhood, and I have always between twenty and fifty paupers on my list every week. Perhaps some of your correspondents could tell me whether it is customary to pay income tax, separately, on parish appointments, and, if not, what I ought to do to obtain redress.

I am, Sirs, yours obediently,
Feb. 17th, 1890. C. F.

* * * Our correspondent might refer with advantage to a letter published in THE LANCET of Dec. 6th, 1884, p. 1030.—ED. L.

Bournemouth.—Much depends on the actual wording of the prohibition. Within ten miles of a certain place means, in an ordinary sense, as the crow flies; but this interpretation may be governed or modified by the context or by surrounding circumstances. Legal advice should be taken.

A CORRECTION.

To the Editors of THE LANCET.

SIRS,—I shall feel obliged if you will kindly insert in your next issue the following correction of an omission occurring in Case 4, line 6, of my article on "The Range of Temperature in Influenza" (page 342 of your last issue). The text should run thus: "... and this, together with the fact that she had been nursing her sister-in-law through her illness, might account for her not feeling quite the thing; anyway, she had appeared quite well up to midday." My intention was to emphasise the fact that in all these cases the commencement of the attack was sudden and well defined; but the omission of the italicised words has rendered the text quite unintelligible.

I am, Sirs, yours faithfully,
Hyde-park-street, W., Feb. 17th, 1890. G. CHARLES WILKIN.

FRENCH FAMILIES.

ACCORDING to the *Lyon Medical* the inquiry made by the Administration in order to carry out the new law giving certain advantages to fathers of more than seven children has shown that in France at present there are 2,000,000 households in which there has been no child; 2,500,000 in which there was one; 2,300,000, two children; 1,500,000, three; about 1,000,000 four; 550,000, five; 330,000, six; and 200,000, seven or more.

Dr. F. L. Benham.—The paper will appear very shortly.

Electric is referred to proceedings of the Medical Council reported in THE LANCET of Nov. 30th, 1889.

DOUBLE DISLOCATION OF THE SHOULDER.

To the Editors of THE LANCET.

SIRS,—As attention has recently been drawn to the rare occurrence of the above-mentioned injury, allow me to say that a case of this kind was reported by me in THE LANCET of July 17th, 1875. The dislocations, which were into the axilla and easily reduced, had been caused by a fall from some scaffolding. The patient was supposed to have struck the ground with both elbows at the same time.

I am, Sirs, your obedient servant,

D. CHARLES DAVIDSON,

Jan. 30th, 1890. Surg.-Maj. I.M.S.; Acting Civil Surg., Satava.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Howard Murphy, Twickenham; Dr. T. Oliver, Newcastle-on-Tyne; Mr. Henry Lee, London; Mr. Bryant, London; Dr. Herman, London; Mr. Fitzroy Benham, London; Prof. Sansino, Pisa; Mr. E. Owen; Mr. Christopher Heath, London; Dr. J. F. Payne, London; Dr. Mapother; Mr. John Law, London; Dr. Herschell, London; Mr. Shaw, London; Dr. J. E. Squire, London; Mr. Hadley, London; Mr. McGill, Leeds; Mr. W. K. Dermott, Newry; Mr. A. C. Hartley, Edinburgh; Dr. Lankford, Norfolk, Va.; Dr. A. Hill, Cambridge; Mr. A. Christen, Turin; Mr. L. E. Hill; Mr. Warran, Eastbourne; Messrs. Clarke, Son, and Platt, London; Dr. McClure, Cromer; Messrs. Merryweather and Son, Greenwich; Mr. Greenwood, Clapham; Messrs. Hopkinson and Co., Notts; Mr. Jeaffreson, Newcastle-on-Tyne; Dr. Davies, North Wales; Mr. A. Fournet, London; Mr. Flather, Cambridge; Dr. Carlo Gangitans, Naples; Dr. E. W. Clarke, Chesterfield; Messrs. Wood and Co., New York; Mr. Ellison, London; Messrs. Smith, Elder, and Co., London; Mr. Farstein, Hull; Mr. Baily, Hanwell; Dr. Beavan Rake, Trinidad; Mr. T. Evans, Sydney; Messrs. Thurbers, Gates, and Co., London; Mr. Swain, Plymouth; Mr. P. Fyfe, Glasgow; Mr. J. Clark, Street; Surgeon-Major D. C. Davidson, Satara; Mr. G. C. Wilkin, London; Dr. F. L. Benham, London; Dr. Parkinson, Sacramento; Dr. McLeod, Calcutta; Mr. W. H. Brown, Maffra, Vic.; Dr. G. Thompson, Stapleton; Dr. T. F. Pedley, Rangoon; Messrs. Mertens and Co., London; Surgeon-General Marstan, London; Messrs. Bush and Co., London; Dr. H. Mygind; Mr. Poland, London; Mr. Buxton Browne, London; Mr. J. E. Trevor, Ashburton; Messrs. Wright and Co., Bristol; Dr. Hutton, Church; Mr. A. Duke, Dublin; Messrs. Cox and Co., Brighton; Mr. Manning, Salisbury; Messrs. Mason and Son, London; Mr. Gilruth, Edinburgh; Mr. L. Hill; Messrs. Hertz and Collingwood, London; Dr. Paterson, Cardiff; Messrs. Tong and Sons, Elland; Mr. J. R. Whitley, London; Mr. Harner, Tunbridge Wells; Dr. J. Holmes, Radcliffe; Mr. Smith, Kilburn; Dr. Ambrogis Bertorelli, Milan; Mr. Somerville, London; Messrs. W. H. Smith and Son, Strand; Mr. H. Kimpton; Mr. Fry, Kent; Messrs. Wyleys and Co., Coventry; Dr. F. Trombetta, Massina; Messrs. Orridge and Co., London; Mr. Campbell, London; Mr. Vickers; Messrs. Wickoff and Co., London; Mr. C. Birchall, Liverpool; Mr. Pigott, Cambridge; Dr. Ridge, Enfield; Mr. Ellis, Oswestry; Miss Chreiman, Kensington; Dr. Rogman, Gand; Mr. Marcy, Worcester; Mr. J. B. Browne, London; Mr. Pearce, London; Mr. Jenkins, Salford; Mr. H. K. Lewis,

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NEWSPAPERS.—*Sheffield Evening Telegraph*, *Temperance Record*, *Leeds Mercury*, *Le Courier de la Presse (Paris)*, *Nature*, *Bristol Mercury*, *Surrey Advertiser*, *Public Opinion*, *Nottingham Evening Post*, *The Rock*, *Hertfordshire Mercury*, *Alliance News*, *Reading Mercury*, *Manchester Examiner*, *Christian Globe*, *Weekly Free Press*, *Eastern Daily Press*, *Mining Journal*, *Manchester Courier*, *Windsor and Eton Express*, *City Press*, *West Middlesex Advertiser*, *New York Herald (London)*, *Penny Illustrated*, *Echo (Georgetown)*, *Home News*, *Gloucestershire Echo*, *County Gentleman*, *Kentish Gazette*, *Daily Graphic*, *Vegetarian*, *Lloyd's Weekly*, *Bakers' Times*, *Scottish Leader*, *Midland Evening News*, *Trinadee Advertiser*, *Birmingham Daily Gazette*, *Norfolk News*, *Sunday Times*, *Kilkenny Journal*, *Bulldog*, *Broad Arrow*, *Chemist and Druggist*, *Metropolitan*, &c., have been received.

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